Research Papers Presented at the 2017 LSME International Conference on ‘Responsible Research and Transformation in Education’

Held on the 5th - 7th of April 2017

At the
Grange City Hotel
8-14 Cooper’s Row
London EC3N 2BQ (UK)
&
House of Lords
Palace of Westminster (UK)

www.lsme.ac.uk
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Dr. Peter Gray, Norwegian University of Science & Technology, Norway
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INTRODUCTION

The papers contained in these proceedings are those presented at the International Conference on “Responsible Research and Transformation in Education” held in London, UK, from 5th to 7th of April, 2017 organised by the London School of Management Education (LSME), UK.

A total of twenty-five (25) research papers, four keynote addresses and guest lectures from participants from twelve (12) countries that attended the conference have been compiled and presented in this book.

ABOUT THE CONFERENCE

This Conference follows on from the successful International Conferences on ‘Quality Management in Education’ and ‘Responsible Research in Education and Management and Its Impact’ which were held in January 2015 and 2016 respectively.

Approximately thirty-five (35) delegates from Africa, Europe, India, the Far East, the Middle East, the West Indies, and the USA, attended the Conference. A total of fifty-two researchers responded to the call for Abstracts and after review, twenty five (25) Abstracts were shortlisted for presentation at the conference.

The other highlights from the Conference were speeches from Lord Peter Truscott from the House of Lords, Cllr Gurdial Bhamra, Mayor of Redbridge Council, Baroness Christine Humphreys from the House of Lords, H.E Mr. Hassan Shifau, Deputy Ambassador of the Republic of Maldives to the U.K. and Dr. Peter Gray, European Research Adviser, NTNU, Norway. Keynote and special lecturers were delivered by Professor Eman Gaad, Dean of the Faculty of Education and Doctorate of Education programme at the British University in Dubai, Dr. Gale Macleod of the School of Education, University of Edinburgh and Professor Stephen McKinney, School of Education, University of Glasgow.

LSME has also co-organised, with Panjab University, a successful Conference on Responsible Research in Chandigarh, India, in August 2016. By organising these Conferences, LSME provides a platform for presentation, discussion and engagement with scholarly research and the dissemination of this research to
local and international society. In education, this process is especially important, because the effects of research may directly affect the life chances of children and young people, and the possibilities of transformation through adult learning. Currently, educational research, whilst diverse and motivated by sound intentions, is fragmented and has little impact on policy and practice. We believe that Responsible Research and Innovation in education will:

- Promote social justice, inclusion and equity
- Increase the influence of research on policy and practice
- Increase the commitment of pupils and parents, through active involvement in research.

**OBJECTIVES OF THE CONFERENCE**

The main objectives of this conference were:

- To encourage researchers, especially research students and early career researchers to develop new ways of thinking about dissemination, impact and social responsibility
- To provide examples of Responsible Research as an inspiration to others
- To recognise participants as ‘responsible and transformational researchers’.

**CRITERIA FOR ACCEPTANCE**

- Research papers were only accepted for the Conference after meeting the following criteria
- The researchers have actively engaged with their potential stakeholders, such as teachers, students, patients or workers
- The research study actively serves the needs of these stakeholders
- The study showed evidence of reflection on its own purpose and methods and demonstrates evidence of benefit for society
- The study demonstrated an inter-disciplinary approach to identify new insights and solve problems
- The study has taken a critical approach to the literature review of previous studies in the area
• The research has taken account of gender perspectives, including consideration of the cultural or economic situation in which the research is embedded.

All accepted papers were presented in plenary, in order to stimulate inter-disciplinary debate. This document is openly available on the LSME website.

MISSION STATEMENT: RESPONSIBLE RESEARCH AND INNOVATION AT LSME

Academic research could pay more attention to elements of Responsible Research and Innovation, such as public engagement, open access, gender, ethics and governance. Taking wider perspectives and creating dialogue between researchers and society is very important in democratizing the research process. All too often, very little is known outside of research circles as to what exactly is involved in research, and there is restricted access to research findings. The concept of Responsible Research and Innovation represents a transparent and interactive process by which societies and researchers co-create research agendas and discuss potential risks and benefits during the whole process of research and development. Scientist and non-scientists reflect together on the applications of research and the implications of innovations for society. This process should be inclusive, interactive, anticipatory and transparent, and should be based on societal needs, expectations and ethical values, so as to better align research and innovation outcomes. In planning any research, the following questions have to be considered: “Why do it? For what purpose and goals? Are these desirable? What are the motivations? Who could benefit and how? Who might not benefit? Is this ethical? Do I have the required competency and knowledge regarding the field of study?” The characteristics of good research include:

• A clearly defined purpose
• A clearly outlined research process
• A thoroughly planned research design
• High ethical standards
• Limitations explained
• Adequate analyses for decision makers’ needs
• Clearly presented findings
• Justified conclusions
• Good reflection on the researchers’ experiences.

**SCOPE OF RESEARCH PAPERS PRESENTED**

Papers accepted for this conference were on a wide range of topics connected to Responsible Research and Transformation in Education, including, but not limited to:

• School education
• Teacher education
• Health and social care education
• Lifelong learning and adult education
• Management education
• Professional development
• Responsible research methods
• Responsible research policy.

**ABOUT LONDON SCHOOL OF MANAGEMENT EDUCATION (LSME)**

LSME is an innovative training organisation with a global vision: “to play a leading role in the delivery of global educational services in partnership through radical Lifelong Learning training, equipping managers, health and social care professionals, tutors, teachers and trainers, with modern and transformational standards”.

Our mission is to provide affordable and high quality training for aspiring and practicing managers, health and social care professionals and educationalists, which is innovative and global in perspective. The School seeks to nurture and sustain a creative and supportive academic environment based upon an ethos of respect and transparency, high quality learning experience, developing and sharing expertise to strengthen our capacity, and valuing equality and diversity.

The institution’s philosophy is enshrined in its slogan: “transforming people with skills as we aim to facilitate in our students, the innovative skills required for their
careers in business, education or health and social care”. LSME currently delivers Further Education and Higher Education courses at undergraduate level. All qualifications are awarded by UK national awarding bodies such as Pearson. The College is regulated by Quality Assurance Agency for Higher Education (QAA). The institution works in partnership with the Department for Education (DfE), Higher Educational Funding Council for England (HEFCE) and Student Finance England (SFE) to secure government funding for UK & EU students.

LSME is also focusing on becoming a research-led institution that strives to advance knowledge about education, policy, and other relevant fields in academia. It aims to achieve this by being a facilitator for encouraging scholarly inquiries that examine education and the learning processes and human attributes, interactions, organisations and institutions that shape education and its outcomes.

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<td>Found in Translation: Empowering Chinese Students in Anglo-Centric Pedagogical Contexts</td>
<td>UK</td>
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<td>Dr. Hippu Salk Kristle Nathan</td>
<td>Correcting for ‘Missing Women’ in Gender Development Indicators: Responsible Application of Simple Mathematics in Development Studies</td>
<td>UK</td>
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<tr>
<td>Dr. Heather A.D. Mbaye</td>
<td>Responsible Research in Social Science: Academia in Service to Government School Teachers</td>
<td>USA</td>
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<tr>
<td>Prof. Margaret Solomon</td>
<td>Impacting the Cultural Capital of Children from Marginalized Communities</td>
<td>USA</td>
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The contact details of the participants are listed in Appendix 2 and an email address is also listed against those delegates who have agreed to share this information.
MESSAGE TO CONFERENCE

International Conference on Responsible Research and Transformation in Education
Dates: 5th – 7th April 2017

I welcome all delegates to the 3rd International Conference in London. Unfortunately I am unable to attend this Conference as I am away with a parliamentary delegation visiting Bangladesh. I am represented by Baroness Christine Humphreys. I have also arranged for one session of the Conference’s Plenary Session to be held in Committee Room 3 at the House of Lords. The intention is to enable some of the best research papers to be presented at this venue, which I hope in turn would serve to raise the profile of Responsible Research in the UK and beyond.

My congratulations to the Conference Organising Committee for their successful efforts in arranging this third consecutive annual Conference on Responsible Research. Once again it is heartening to note that participants from many parts of the world are attending this Conference.

I am also pleased that the Research Papers from last year’s Conference have been published on an open access basis and look forward to the publication of the Research Papers from this Conference on a similar basis.

I wish all the delegates every success in their endeavours at the Conference and I look forward to meeting you at your next Conference in 2018.

Lord Dholakia, PC OBE DL
MESSAGE TO CONFERENCE

Baroness Christine Humphreys

International Conference on Responsible Research
And Transformation in Education
Dates: 5th – 7th April 2017

This International Conference is the third such conference organised by the London School of Management Education. I am delighted to welcome all the conference delegates, a number of whom come from India, as well as other parts of the world including Canada, Europe, Hong Kong, South Africa, UK, USA and the West Indies.

One of the highlights of this conference is the plenary session that is being hosted at the House of Lords in the Palace of Westminster. A good selection of presentations based on the Abstracts that were submitted will be showcased at this venue.

Responsible Research and Innovation and the Ethics involved in the research process is of great importance to society. We are all aware of the vital role of Research and Innovation as it brings progress to human kind and solves a multitude of problems. However to ensure that Research is conducted in a Responsible and Ethical manner we need to support scientific self-correction, transparent reporting of data, promote dialogue and debate between research colleagues as well as between researchers and society.

We must ensure that research takes societal values into account. In a democratic society, everyone should have the right to participate in decisions that influence our future. The Impact of Research can have social, ethical, cultural and environmental consequences and hence all research should be carried out in a responsible and ethical manner.

I also note that many of the delegates attending this conference are early career researchers and I encourage these early career researchers to actively and constructively engage with the senior researchers and professors who are also attending so as to benefit from each others’ experiences.

I congratulate the Conference Committee of the London School of Management Education for providing a platform through these International Conferences to promote and strengthen the concept of Responsible Research.

I look forward to learning from this Conference how best Research could be carried out in a Responsible and Ethical manner.

I wish all of you every success in your Research endeavours.

Baroness Humphreys.
CONFERENCE PROGRAMME

The International Conference on Responsible Research and Transformation in Education was organized over three days, from 5th to 7th April 2017, at the Grange City Hotel, 8-14 Cooper’s Row, London EC3N 28Q, UK and the UK House of Lords, Palace of Westminster, London.

DAY ONE: OVERVIEW

The first day of the conference began with the registration of participants followed by an announcement by the MC on procedural and house-keeping protocols with respect to the events over the three days and an opening ceremony chaired by Professor Stephen McKinney.

The Welcome address was delivered by Dr. Ravi Kumar, the Director of LSME and the Conference Convener. In his address, Dr. Kumar, stated that LSME has now been actively engaged in promoting Responsible Research and Innovation as well as Responsible Research and Transformation both in the UK and in India and commended the conference committee members for their support and assistance with organizing this event. He also acknowledged the significant contributions made by the noble Lord Navnit Dholakia and Baroness Christine Dholakia who are both keen supporters of Responsible Research. He thanked Lord Dholakia for offering us the opportunity to hold some plenary sessions in the UK House of Lords. He also announced LSME’s plan to become a Centre for Multidisciplinary Research in Education, Business, as well as Health and Social Care and to establish a global network of Responsible Research scholars for which he invited all delegates join. His speech ended with, the main objectives of the conference and warm welcome to all delegates present.

Professor McKinney then introduced the Chief Guest, Lord Truscott, of the UK Parliamentary House of Lords who reiterated the need for educational research which directly engages societies and policy makers at its inception since it results in a more effective uptake and utilisation of new interventions from research and ultimately improves the quality of educational systems. Thus education could be transformed into a more dynamic and evolving process of assisting learners to develop knowledge, skills and creativity which then fuels human and social capital for greater individual and societal economic wellbeing and productivity. He praised the organisers for the opportunity provided to emerging researchers to showcase their work.
Lord Truscott’s speech was followed by an address by the Guest of Honour, Cllr Gurdial Bhamra, the Mayor of the London Borough of Redbridge. His speech focused on research impact as securing the future and acceptance of change. He suggested the need for societal and economic impact in all research activities and concluded that responsibility and innovation in research is a form of governance in which sustainable investment is secured in the future through ongoing enrolment, engagement, and acceptance of society.

The Vote of Thanks was given by Dr. Sarita Parhi. After the Opening Ceremony, the delegates assembled by the ‘Roman Wall’ for a group photograph. The delegates then convened at the Conference Hall for the Plenary Sessions, with Keynote addresses and Special Guest Lectures.

The first Plenary Session of day one was an insightful Keynote Address by Professor Eman Gaad from the British University of Dubai, entitled Three Birds with One Stone: Empower, Include and Sustain the Emirati Community Programme. This was followed after the The first set of paper presentations chaired by Dr. Peter Gray consisted of presentations from Dr. Anita Sharma on Pseudo Gender Empowerment through Education, Martin McAreavey and Dr. Katherine Brymer on Pedagogical Principles and Practice Driving Stakeholder Added Value in Multidisciplinary Leadership and Management Learning, and Dr. Takalani Mashau entitled Teacher Education in South Africa: A Worrying Factor. The Rapporteur for the session was Dr. Manjushri Sharma.

The Conference then adjourned for lunch break and delegates then returned to the Main Conference Hall for the resumption of the Plenary Sessions.

The Chairperson of the 2nd Plenary Session was Professor Suresh Sharma and the Rapporteur was Professor Tapati Mukherjee. Presenters included Dr. Sean Whittle, Dr. Hippu Salk Kristle Nathan and Dr. Malvika Rajeevan with research papers on Transformation in Catholic Education: Moving Towards and Inclusive and Socially Just Theory of Catholic Education, correcting for ‘Missing Women’ in Gender Development Indicators: Responsible Application of Simple Mathematics in Development Studies and Developing of Partnering Performance Index (PPI) for Evaluating Human Attributes to the Construction Industry respectively.

After the Chairperson’s closing remarks and a short tea break, the delegates convened for the last paper presentation session for the day. Dr Peter Gray chaired
the session and Martin McAreavey was the Rapporteur. Papers were presented by Dr. Sukmanni Mann, Professor Hue Ming-tak and Mr. Paul Loranger on Impact of Motivation on Turnover Intention Among Doctors Across Various Healthcare Setups, Promotion of Cultural Responsiveness: Student’s Negotiation of Ethnic Minority Identity and Teachers’ Multicultural Competency in Hong Kong Schools and The Long Term Impacts that Daycares are having in Transforming the Democracy within our Educational System, respectively.

The Conference then broke up into several groups for another forty-five minutes of networking.

An overview of the first day’s conference programme is shown in a schematic form below:

**DAY ONE: PROGRAMME**

Venue: Grange City Hotel, 8-14 Cooper’s Row, London EC3N 2BQ, UK

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
<th>LOCATION: Main Conference Hall – Grange City Hotel</th>
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<tbody>
<tr>
<td>09.00-09.45</td>
<td>Registration</td>
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<td>09.45-09.55</td>
<td>All Delegates Are Seated</td>
<td>Announcements by MC</td>
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<td>09.55-10.05</td>
<td>Arrival of Chief Guest &amp; VIPs</td>
<td>Introductions by Conference Chair: Professor Stephen McKinney</td>
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<td>10.05-10.45</td>
<td>Opening Ceremony Chair: Prof Stephen McKinney</td>
<td>Welcome Address: Dr. Ravi Kumar, Conf. Convener</td>
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<td>Address by Chief Guest Lord Truscott</td>
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<td>Address by Guest of Honour: Cllr Gurdial Bhamra, Mayor, London Borough of Redbridge</td>
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<td>Vote of Thanks: Dr. Sarita Parhi, Principal, LSME</td>
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<td>10.45-11.15</td>
<td>Group Photographs</td>
<td>Please Proceed to Roman Wall for Group Photographs</td>
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<tr>
<td>11.15-11.30</td>
<td>Tea Break - Refreshments Lounge</td>
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<td>Time</td>
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<td>11.30-11.55</td>
<td>Keynote Address</td>
<td>Chair: Professor Stephen McKinney</td>
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<td>11.55-12.00</td>
<td>Chairperson’s Remarks</td>
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<td>12.00-12.50</td>
<td>Paper Presentation Session</td>
<td>Chair: Dr. Peter Gray</td>
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<td>12.50-13.00</td>
<td>Q &amp; A Session and Chairperson’s Closing Remarks</td>
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<td>13.00-14.00</td>
<td>Lunch Break</td>
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<tr>
<td>14.00-14.50</td>
<td>Chair: Professor Suresh Kumar Sharma</td>
<td>Rapporteur: Professor Tapati Mukherjee</td>
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<td>14.50-15.00</td>
<td>Q &amp; A Session and Chairperson’s Closing Remarks</td>
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<td>15.00-15.15</td>
<td>Tea Break</td>
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<td>15.15-16.30</td>
<td>Paper Presentation Session</td>
<td>Chair: Dr. Peter Gray</td>
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<td>16.30-16.45</td>
<td>Q &amp; A Session and Chairperson’s Closing Remarks</td>
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<td>16.45-17.30</td>
<td>Formal Networking</td>
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The 1st Plenary Session of Day One began with the Welcome Address by Dr.
DAY ONE – SPEECHES

Welcome Address by Dr. Ravi Kumar

Chief Guests, Distinguished and Learned Fellows, Ladies and Gentlemen, it gives me great pleasure to welcome all of you to this International Conference on Responsible Research and Transformation in Education. This is the third International Conference that has been organised by LSME in London.

LSME has previously organised two International Conferences in London, the inaugural Conference in 2015 and the second one in 2016. LSME also fulfilled an aim to organise an International Conference in another part of the world in collaboration with an overseas institution. In August 2016, it co-organised a joint International Conference in India in collaboration with Panjab University, Chandigarh. Presently, negotiations are taking place to organise another International Conference with an overseas based institution in August 2017 and details of this will be announced as soon as they have been finalised.

LSME has now been actively engaged in promoting Responsible Research and Innovation as well as Responsible Research and Transformation both in the UK and in India. I wish to acknowledge the very significant roles played by Professor Stephen McKinney, Dr. Peter Gray and Professor Suresh Sharma who have been supporting LSME in the organisation of these Conferences since 2014. We then had Professor Margaret Solomon who joined the Conference Committee in 2015 and in 2016 Professor Makgopa, Dr. Heather, Dr. Jan, Martin and Dr. Amandeep joined the Conference Committee. In fact, I am looking to persuade Professor Makgopa to collaborate with LSME and start a new chapter in Africa to promote Responsible Research by providing a platform for a bi-annual Conference over there. This will be another positive way to ensure that access to these conferences is attainable to those academic researchers who are not very well funded. LSME also made a commitment to ensure that all Research Papers would be published on an open
access basis. You would all be aware that the Research Papers presented at the January 2016 Conference in London have been published and are accessible through the LSME website.

I also wish to acknowledge the other very significant contributions being made to the promotion of Responsible Research in the UK by the noble Lord Navnit Dholakia and Baroness Christine. Lord Dholakia has been a keen supporter of Responsible Research following receipt of the Conference Proceedings Report of 2015. He has now brought on board Baroness Christine who will preside over the Research Paper presentations at the House of Lords in the Palace of Westminster at tomorrow morning’s Plenary Session. Baroness Christine has a background in Education and very much looks forward to welcoming all of you tomorrow.

LSME has taken a new initiative to set up a global network of Responsible Research Champions. We are putting together a database of a global network of Responsible Research Champions and I invite all of you who are interested, to join this network. We will look to this network for collaborating on future Conferences and workshops. Members of this network are also free to collaborate amongst themselves on future research initiatives.

I would also like to announce that LSME is developing a Strategic Plan to become a Centre for Multidisciplinary Research in Education, Business, as well as Health and Social Care through the development and evaluation of new methodologies, tools and systems of delivery in relation to subject areas. LSME is building strategic partnerships with various organisations in the UK and internationally to strengthen research interactions. Steps are also in place to ensure effective dissemination of our research findings through publications and other appropriate communications of our research to diverse audiences and delivery of advice on knowledge translation.

At this point, I would like to revisit the objectives of this Conference which are published in the Conference material. There are three objectives which are:

- Support the emerging movement towards Responsible Research
- Encourage researchers, especially research students and early career researchers, to develop new ways of thinking about dissemination, impact and social responsibility
- Provide examples of responsible research as an inspiration to others.
I think that all of us here today can accept that these objectives are well on their way to being achieved and you will note from the Conference Programme that we have a diverse range of papers from many parts of the world which provide many inspirational examples of Responsible Research.

I would like to thank all delegates at this Conference who are contributing as Keynote Speakers, Special Guest Lecturers, Guest Speakers, Chairpersons of Sessions and Rapporteurs. Your participation and contributions are very much appreciated. I would also especially like to thank the Peer Review Group and the Conference Committee under the Chairmanship of Prof Stephen McKinney for their outstanding efforts over these last few months and years. The success of these series of International Conferences is entirely dependent on all of you.

Distinguished Guests, Ladies and Gentlemen, have a fruitful and enjoyable Conference. Thank You.

Dr. Ravi Kumar

*Director, LSME & Conference Convener*
Address by Chief Guest – Lord Truscott. House of Lords, UK.

Distinguished guests, ladies and gentlemen, I am honoured to have this opportunity to share my views today on the critical role of Responsible Research and innovation in Education. With my Background in History and Politics, today I’m talking here more as an amateur observer (or a semi-professional observer) on a high profile educational debate and I do apologise if I sound a bit off in areas where most of you know a lot more.

Given the profound social changes and economic challenges countries are now experiencing, the importance of responsible research cannot be over emphasised. By focusing on education, research and innovations, societies can successfully transform into technologically advanced environments boasting of a highly inspired, educated and hardworking work force.

However, there are challenges that need to be addressed if research is to move forward. Considering the revolutionary technological advances that are changing our world, a comprehensive research framework needs to be in place to drive economies forward in the 21st century. I believe that educational research which directly engages societies and policy makers at its inception has a vital role to play in this regard. Consequently, effective uptake and utilisation of new interventions from research is more likely to occur, improving the quality of educational systems. The outcome can be transforming education into a more dynamic and evolving process of assisting learners to develop knowledge, skills and creativity which then fuels human and social capital for greater individual and societal economic wellbeing and productivity.

Despite the understanding that higher educational institutions play a pivotal role in research development, it is regrettable that this concept has received very little or no attention by many private higher education providers. The London School of Management Education has responded to this challenge by organising this conference to facilitate the use of dialogue and discussions among high caliber professionals such as yourselves. I would like to see LSME, a growing educational institution, seek to form collaborative partnerships with research organisations and corporate institutions in international Research and Innovation programmes. This could help attract some local and foreign intellectual capacity and investments and perhaps secure its financial future for sustainable research development. Collaborative working will be of enormous importance in this case considering the
challenges faced by smaller organisations in securing research funding.

I will now focus on sustainability of responsible research and innovations. To be useful to societies, researchers must put their discoveries to work. For example, in the UK, higher educational institutions have worked closely with industries with funding from the Government to develop ground breaking research initiatives. Referring to the Vice Chancellor of Cambridge University, recent research indicated that the reason for the reducing numbers of qualified applicants for their computer science degree was that today’s youngsters have become too used to tablets and other devices that do not allow them to experiment with coding in the way that older computers did. This problem was tackled by a group of computer scientists who created a very simple computer board the size of a credit card they named the ‘Raspberry Pi’ that would allow school-aged children to unleash their creativity and learn essential coding skills. The unit price was only $25 and to date, over 5 million units of Raspberry Pi have been sold all over the world, making it the fastest selling British personal computer since it was launched in 2012. This invention, if it continues to sell may transform the way our future generations learn about computing and stimulate their interest in computer science. This to me is a typical example of the use of responsible research to transform education and a sound investment for future research.

The successes that can be achieved when industries can capitalize effectively on research done in conjunction with higher education institutions have also been highlighted in recent years in other developed countries such as the United States of America. Universities with corporate mind sets such as Stanford have now become a model for the new economy. And, to provide greater incentives for professors and graduate students to develop new technologies, government-funded higher education institution have been allowed to establish their independent patent agencies since the year 2002. Institutions can now set up special agencies to handle applications for local and international patents, for registration and distribution of ensuing profits.

MIT is another classical example. They have a Commission on Industrial Productivity which has advocated for changes in higher education institutions so that students are educated with a stronger focus on productivity and teamwork. Professors receive a third of the income from licensing a patent acquired through their hard work on research programs. Another one-third of the income from
licensing is reserved for improving the research facilities with various departments. Patent income (through licensing fees) can be shared between the faculty and the university, adding a very potent monetary incentive to the performance-reward system.

On the other hand, there is a comparatively low level of support for basic research for some institutions and in certain parts of the world. As a result, industrial progress is being compromised, to say the least. This is a serious issue that needs to be tackled, as the quality of basic research often determines the future of industries and economies. It is more important than ever before to ensure that research is readily accessible to educational institutions and industries.

However, I strongly believe that the way forward is marked not so much by uncertainty as by genuine opportunity. Researchers such as yourselves need to work extremely hard to cultivate and enhance your capabilities to develop valuable and relevant research if you are to move forward and succeed on a global scale. This will require the establishment of comprehensive policies and coherent growth strategies, and an objective assessment of your manpower. I believe that the higher educational institutions have a critical role to play.

Distinguished Guests, Ladies and Gentlemen,

I hope to see us break new grounds in pinpointing specific areas of harmony and lines of action. We need to look at how countries, with support from international partners, can overcome barriers to equitable distribution of resources for good quality research in all spheres of human development particularly education.

Ladies and Gentlemen,

I am confident that all of us at this timely conference have what it takes to move the international debate on responsible research and transformation in education development forward. So, let’s get to work.

Thank you.

**Lord Truscott**
Address by Guest of Honour, Cllr Gurdial Bhamra, Mayor of the London Borough of Redbridge.

Lord Peter Truscott, fellow dignitaries, Ladies and Gentlemen, I am deeply honoured to address this special gathering of renowned academics and researchers for the 3rd International Conference on ‘Responsible Research and Transformation in Education’ organised by the London School of Management Education. I would like to thank Dr. Ravi Kumar, the Director of London School of Management Education for inviting me to address this gathering.

As the mayor of Redbridge, the more I learn from my work, the more strongly I feel about the role of educational institutions in the borough and their unique ability to contribute to the betterment of society through research and innovation and offering relevant qualifications that meet the needs of the general public. So, I truly welcome this opportunity to share with you some of my thoughts on the theme of this conference, Responsible Research and Transformation in education.

I will however start by commending LSME for creating this unique platform for international researchers to share and discuss their research achievements and challenges and to network and collaborate with each other on this important research agenda. Very few private institutions can or will successfully and simultaneously carry out all its obligations to their external regulations, provide high quality academic qualifications and introduce academic research as an integral part of its provision. Undoubtedly the institution is poised for continuous growth and success in its future endeavours both locally and internationally.

As a public servant, the theme of this international conference is of paramount importance since it seeks to establish procedures to better integrate societal needs in the process of educational research development and it is centred on the equal roles and responsibility of all stakeholders including societal actors and innovators. The key words for me here are impact, securing the future and acceptance of change. I will discuss these one after the other.

Impact

Societal impact is key to all research funding agencies. In the UK it is obvious that an enormous amount of government funding for research now centres on demonstrating impact. Impact can be demonstrated easily depending on the
subject being researched. It is easy to show that a research project has impact if for example you are pioneering a technique in automobiles for road worthiness but it is not quite as easy to show the immediate impact of the work of a philosopher or a linguist. Would this suggest the need to reduce research funding for subjects that do not have immediate impact?

In the face of government policies that expect us to demonstrate the economic value of research, one has to defend their core principles of autonomy, freedom of enquiry and research excellence. Indeed, I strongly believe researchers can only realise the economic and societal impact of their work if they are committed to autonomy, freedom of enquiry and excellence.

**Securing the future**

Responsible research follows the European policy framework that seeks to anticipate the future implications and current societal expectations of research and innovation. It is a sound political attempt to militate against the risks of ‘failure’ in the future by preparing society for the acceptance of future research developments. As such, responsibility and innovation in research is a form of governance in which sustainable investment is secured in the future through ongoing enrolment, engagement, and acceptance of society.

**Acceptance of change**

Responsibility in research and innovation should continually evolve as countries, organisations and multi-disciplinary teams’ attempts to be responsive to changing educational, technological and societal issues of the day.

As we progress through the next 3 days of intense debate and discussions, we should consider these three broad concepts and make use of this outstanding opportunity to learn from each other, develop new networks and future research collaborations that would be relevant to society and incorporates ethical principles, gender equality and excellent research governance.

Ladies and Gentlemen,

I speak to you today as a guest who knows of and is impressed by the efforts of academic researchers and is not under any illusion about the tremendous tasks
that lie ahead for you and indeed for all of us in designing relevant future research that will continue to meet societal needs.

To successfully address these tasks, institutions will need to develop its most valuable asset: the talent of its human resources.

We also need to meet the global challenges that confront us all by not only relying on scientists and engineers but also experts in the humanities and social sciences, as they can translate these challenges in a human perspective.

In the many years, ahead, higher education institution’s academic population will continue to be the direction in which countries will respond to challenges and satisfy societies’ quest for equality, development and growth through research. And although academic researchers such as yourselves may not always hold all the answers, you must be bound by your duty to society to articulate the right questions.

Thank you for your attention.

_Cllr Gurdial Bhamra_
DAY ONE: KEYNOTE ADDRESS BY PROFESSOR EMAN GAAD

Professor EMAN GAAD of the British University of Dubai delivered her Keynote address entitled Three Birds with One Stone: Empower, Include and Sustain the Emirati Community Programme. She presented the findings of the nationally funded project to support the inclusion of learners with disabilities in government schools in the United Arab Emirates. The project helped at the same time to enable non-working Emirati women to gain knowledge and skills needed to become teacher assistants across the UAE. The research-based project turned the non-working Emirati women into productive employees (teaching assistants for schools with disabled children) who contribute to the development of their nation and support the inclusive education policy that the UAE is adopting.

The presentation examined to what extent the aims of the programme were achieved. It also gave recommendations for future practice with emphasis on the concept of responsible research.

DAY ONE: SUMMARIES OF FIRST PAPER PRESENTATION SESSION

Session Chaired by Dr. Peter Gray

Rapporteur: Dr. Manjushri Sharma

The first paper presentation session of the morning featured presentations from Dr. Anita Sharma on “Pseudo Gender Empowerment Through Education”, Martin McAreavey and Dr. Katherine Brymer on “Pedagogical Principles and Practice Driving Stakeholder Added Value in Multidisciplinary Leadership and Management Learning”, and Dr. Takalani Mashau on “Teacher Education in South Africa: A Worrying Factor”.

Pseudo Gender Empowerment through Education: A Case Study of Girl Education in Himachal Pradesh. By Anita Sharma, HOD, Associate Professor, RKMV, Shimla (HP), India and Purnima Chauhan, Librarian, RGGDC, Shimla (HP), India.

This session started with Dr. Anita Sharma’s insightful presentation on the use of education to empower women in India with particular emphasis on remote area of Himachal Pradesh. The paper addressed how ancient and contemporary India,
recognizes the need for feminine principles of education and empowerment, and yet only a few women occupy key positions forming the majority of the marginalized, materialised and victimized individuals in society. The research compared educational parameters of Himachal Pradesh, where their local government facilitates a smoother implementation of all social programmes and promotes education as an essential part of every child’s upbringing and has made literacy far more accepted norm than any other state in India, with the rest of country from 2004-2005 and 2011-2012. The educational parameters considered included types and level of education as well as enrollment and dropout rates and the findings are suggestive of the fact that primary school education in Himachal Pradesh exhibit significantly high degree of learning as compared to their counterparts at the all India level. More than 67 % of parents are gender biased who stressed the need to educate their daughters so that they can benefit from improved employment and income opportunities. The level of adult literacy is higher in comparison to the rest of India while the dropout rate is lower. Although the significance of these differences were not explored statistically, the authors concluded that the typical girl child of Himachal Pradesh could become a role model to other states of India.


The research explored the need to take additional steps to add value to leadership and management education through student and employer participation, particularly in the context of a high expectation, outcome oriented and multi-disciplinary programme development. In their primary research, the authors sought the views of students and employers on the challenges encountered in the development of a demanding and outcome oriented curriculum and also focused on the lessons learned from the development and deployment of two similar postgraduate certificate courses designed to meet the needs of heterogeneous graduate students from two geographically disparate UK universities (University of Bolton and London Southbank University) serving similar demographics. These issues are placed within the context of an increasingly dynamic and turbulent landscape for UK HE, driven and shaped by market forces and the notion of students as customers rather than consumers. The case studies from these two universities illustrate areas
of commonality and similarities in responding to perceived challenges emanating from competitive pressure and student demand. The paper concludes with a short assessment of the potential for further development along the lines established by these HEI, and identifies areas for additional exploration and study.

Teacher Education in South Africa: A Worrying Factor? By Mashau, T.S. (presenter), University of Venda, South Africa, Muremela, M. G., University of Venda, South Africa.

The presenter highlighted teaching in South Africa as an alternative career rather than a career of choice for most Grade 12 graduates. Hence the need to keep these teachers in the profession by incorporating of the three components of teacher education in the career span of teachers. These included initial teacher training or pre-service teacher education, induction and teacher development or continuing professional development. Teacher training in South Africa offered by universities was investigated in this qualitative research of fourth year Trainee Teachers (N=10), newly qualified (N=10), and experienced Teachers (N=10), to ascertain the extent to which teacher education is practiced in a way that they would remain in the career for their entire working span. The competence of trainee teachers in areas such as subject matter, subject content, subject knowledge, and pedagogical knowledge content was investigated.

The researchers found that teacher education is not practiced satisfactorily as the students indicated that they are not certain about the subject matter, subject content, subject knowledge, and pedagogical knowledge content. Whereas teachers who have two to three years teaching experience indicated that they have never undergone any kind of induction. The experienced teachers indicated that continuous teacher development is done haphazardly. The researchers concluded that there is a gap between teacher education and their career expectations which needs urgent attention in order to retain teachers in the profession. This view is shared by delegates who commented on the research and indicated that CPD is not taken seriously in teacher education as compared to other professions.
DAY ONE: SUMMARIES OF THE SECOND PAPER PRESENTATION SESSION

Session Chaired by Professor Suresh Sharma
Rapporteur: Professor Tapati Mukherjee

Presenters for this session included Dr. Sean Whittle, Dr. Hippu Salk Kristle Nathan and Dr. Malvika Rajeevan with research papers on ‘Transformation in Catholic Education: Moving Towards and Inclusive and Socially Just Theory of Catholic Education’, ‘Correcting for ‘Missing Women’ in Gender Development Indicators: Responsible Application of Simple Mathematics in Development Studies’ and ‘Developing of Partnering Performance Index (PPI) for Evaluating Human Attributes to the Construction Industry respectively’.

Transformation in Catholic Education: Moving Towards and Inclusive and Socially Just Theory of Catholic Education. By Dr. Sean Whittle, Visiting Research Fellow, Heythorp College, University of London.

It is normally assumed that Catholic education is committed to using formal schooling in order to actively nurture pupils in the Catholic faith in support of catholic parents who want to bring up their children in the faith. In Dr. Whittle’s presentation he highlighted how pluralist societies which adhere to the principles of liberal democracies find it increasing difficult to justify Catholic education as an inclusive and just form of education that promotes autonomy. He used theoretical knowledge from contemporary Catholic theology to reframe the grounds for Catholic education along non-confessional or non-catechetical lines. He concluded that secular thinking can transform the ideology of Catholic education as open to all pupils and to be the very place that enables individual students to critically assess their own beliefs and values as well as that of society.

Correcting for ‘Missing Women’ in Gender Development Indicators: Responsible Application of Simple Mathematics in Development Studies. By Hippu Salk Kristle Nathan, Visiting Fellow, London School of Economics and Political Science, Houghton St., London, WC2A 2AE, UK & Assistant Professor, National Institute of Advanced Studies, IISc Campus, Bangalore – 560012, INDIA.

The researcher examines Gender Development Index (GDI), an inequality adjusted
human development indicator which assesses human development of a society after adjusting for gender inequality based on knowledge, life expectancy and good standard of living. It uses weighted harmonic mean to account for the difference in performance of male and female but suffers from the limitation that countries with unbalanced sex ratio are unduly rewarded when the ratio favours the better performing gender. This can lead to further additions to ‘missing women’ which can be corrected. The proposed alternative measure satisfies an axiom of Monotonicity with its two corollaries, viz. given attainments the measure maximizes at ideal sex ratio and peters out when one of the genders goes extinct. Empirical illustration taking life expectancy data shows that countries with skewed sex ratio biased towards either gender, like that of gulf countries where male are more than female, get penalized under the new measure. On the contrary, the countries where sex ratio is close to unity improved their ranks.

Developing of Partnering Performance Index (PPI) for Evaluating Human Attributes to the Construction Industry Respectively. By Ms. Malvika Rajeevan, Assistant Professor, Srinivas School of Engineering, Mukka, Mangalore, Karnataka, India.

Ms Rajeevan’s research examined the contribution of human attributes such as trust and responsibility, top management commitment, effective communication and dispute resolution in the successful completion of a partnership in a construction project. A comparison between different methods of assessing partnerships such as the Delphi system and other logical approaches are carried out to determine the effectiveness of the measured variables. Partnering can bring significant benefits, including fewer adversarial relationships and increased end-customer satisfaction, to the construction industry. It was hypothesized that partnership attributes, communication behavior, and conflict resolution techniques are related to indicators of partnership success and these hypotheses are tested at various levels of management to seek solutions for a smooth flow of human attributes in partnership projects. The model was tested using structural equation modelling. Outcome of analysis indicate that the primary characteristics of partnership success are: partnership attributes of commitment, coordination, and trust; communication quality and participation; and the conflict resolution technique of joint problem solving. The findings offer an insight for a better management of these relationships to ensure success in partnering business in the construction industry.
DAY ONE: SUMMARIES OF THE LAST PAPER PRESENTATION SESSION

Session was chaired by Dr. Peter Gray
Rapporteur: Mr. Martin McAreavey

Papers were presented by Dr. Sukmanni Mann, Professor Hue Ming-tak and Mr. Paul Loranger on ‘Impact of Motivation on Turnover Intention Among Doctors Across Various Healthcare Setups’, ‘Promotion of Cultural Responsiveness: Student’s Negotiation of Ethnic Minority Identity and Teachers’ Multicultural Competency in Hong Kong Schools’ and ‘The Long Term Impacts that Daycares are having in Transforming the Democracy within our Educational System, respectively’.

Impact of Motivation on Turnover Intention Among Doctors Across Various Healthcare Set Ups. By Dr. Sukhmani Mann, Research Scholar, Guest Faculty UIAMS, Punjabi University, Patiala, India.

Dr. Sukhmani Mann’s presentation started with the definition of work in the hospital context and addressed different aspects of motivation as the force within the person that affects voluntary behavior. According to the Self Determination Theory, intrinsic motivation has the most positive outcomes followed by integrated and identified regulations whereas introjected and external regulation lead to the most negative outcomes. Doctors are a critical human resource for healthcare organizations. The turnover and attrition among them is high and affects the organization profitability and reputation. To establish the reasons for the high turnover of doctors, the research was conducted to establish whether any relationship existed between various aspects of motivation and its impact on Turnover Intention of 200 doctors working in Punjab and Chandigarh in government owned medical colleges and hospitals and private owned (corporate, trust, minority institutes) health sectors. Data analysis showed some significant findings among motivation concepts and turnover intention. The role of affective commitment which symbolises emotional attachment to health care institutions was also observed as a factor that prolonged the length of service of physicians. The author concluded by highlighting the need to keep doctors emotionally involved with their institutions in order to improve turnover. This she said could be achieved by providing social situations.

Promotion of Cultural Responsiveness: Student’s Negotiation of Ethnic Minority Identity and Teachers’ Multicultural Competency in Hong Kong Schools’. By

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Research Papers Presented at the 2017 LSME International Conference on ‘Responsible Research and Transformation in Education’
Professor Hue Ming-Tak Department of Special Education and Counselling, the Education University of Hong Kong.

Professor Hue Ming-Tak presented his paper on Cultural responsiveness addressing multicultural competency of Hong Kong school teachers highlighting the ethnic minority students’ (Indians, Pakistanis, Nepalese and Filipinos) construct of ethnic diversity in a qualitative research involving 32 teachers and 20 students from three secondary schools. His research findings concluded that the teachers faced challenges of ethnic and cultural diversity in their classroom and recognized the effect of students’ sense of identify upon their learning in the schools. They were of the view that academic achievement, inadequate schooling provisions for ethnic minority students, low education aspiration, Chinese language difficulties, behavioral problem, stereotypes of ethnic minority students, health issue, special education needs, preference of work, family issues, school factors, peer factors, inadequate educational support and lack of quality assurance and support from teachers and racism contributed to the high rate of ethnic minority student drop out. Finally, the implications for the formulation of ethnic identity, in the context of Hong Kong society, and the promotion of cultural responsiveness at the various levels of the classroom, the curriculum and the school was addressed.

‘The Long Term Impacts that Daycares are having in Transforming the Democracy within Our Educational System, Respectively’. By Paul Loranger, Educational Consultant, Canada.

In his paper on ‘The Long Term Impacts that Daycares are having in Transforming the Democracy within our Educational System, respectively’ Mr. Loranger gave an engaging overview of the compelling need to introduce democracy in the classrooms in order to teach pupils to be active learners and to be engaged in inquiry-based learning which is teacher-guided and student-driven and learning through play. A culture of inquiry will ultimately improve our democracy and will help students to develop their individual gifted talents with more inspired outcomes for leadership, entrepreneurship and a narrative towards focusing on what can be done with further research rather than what cannot be done. Further details of his presentation is shown in his abstract and full paper presentation.

Dr. Peter Gray ended this session by underscoring the importance of quality and management of teacher training programmes and the importance of innovative research strategies. He proposed drastic changes in the curriculum for teacher
education, based on the presentations for the session.

**DAY TWO: OVERVIEW**

The first session of second day of the conference took place in the UK House of Lords at the Palace of Westminster. All delegates gathered at the St Stephen’s entrance for security clearance and admission into the Houses of Parliament before proceeding to the Committee room three. The session was chaired by Professor Stephen McKinney and the Chief Guest was Baroness Christine Humphries. After an announcement by the MC on procedural and house-keeping protocols with respect to the House of Lords, the event commenced with introductions by Professor Stephen McKinney.

The Welcome address was delivered by Baroness Christine Humphries from the House of Lords. In her address she welcomed all delegates to the House of Lords and reiterated the importance of research and collaboration amongst scientists. The need to ensure that research takes societal values into account in a democratic society was highlighted. She added that everyone should be given the opportunity to participate in decisions that influence our future and stressed the impact of research on society, ethics, cultures and environments as the principle underlining the need for research to be carried out in a responsible and ethical manner. She ended by praising the organisers for working hard to ensure the smoothness of the event.

Professor McKinney then introduced the paper presentations for the session which consisted of research work from Dr. Heather Mbaye, Professor Suresh Sharma, Dr. Manjushri Sharma, Dr. Craig Andrew Hammond, Professor Margaret Solomon, Dr. Jan Apotheker and Professor Tapati Mukherjee on various topics on Responsible Research and Innovations. The rapporteurs for the session were Dr. Dolly Jackson Sillah and Mr. McAreavey. Research papers discussed included the following; ‘Principal's Preparation and Performance of Education & Social Development: Are Principals Authorised to Show their Talents or Skills’, ‘Reliability and Validity Measures in Responsible Research and Innovation’, ‘Health Education: A Cost Effective Tool for Preventing Cardiovascular disease.’ ‘Project IRRESISTIBLE: Modules Designed to raise awareness about RRI Amongst Students’ ‘Michel De Certeau and Everyday Life: Circular Tactics and Pedagogical Manoeuvres.’, ‘Responsible Research in Social Science: Academia in Service to Government School Teachers Impacting the Cultural Capital of Children from Marginalized Communities.’
Following an enlightening question and answer session, the Vote of Thanks was delivered by Professor Stephen McKinney who expressed his profound gratitude to the Baroness for hosting the delegates in the House of Lords and the researchers for sharing their interesting and thought-provoking research with us.

The delegates then proceeded to the Grange City Hotel for lunch, followed by a keynote lecture and the second plenary session for the day at the Conference hall of the Hotel.

The keynote lecture was chaired by Professor Suresh Sharma and was highlighted by an interesting presentation by Dr. Gale Macleod entitled Do No Harm, or Do Some Good? ‘Impact’ as an Ethical Issue. The conference adjourned for a tea break after the question and answer session and the concluding remarks from Professor Suresh Sharma.

The second Plenary Session of day two was chaired by Professor Margaret Solomon and consisted of presentations from Dr. Gurvinder Singh on ‘Social Media Use and Recruitment by Higher Educational Institutions’, Dr. Amandeep Singh Marwaha on Challenges Faced by Telcos during IT Transformation. The Rapporteur for the session was Dr. Sukmanni Mann.

After a short tea break, the Conference then broke up into several groups for another forty-five minutes of networking to end the proceedings for the day. For the rest of the evening, delegates were invited for the tour of London which was sponsored by LSME.
An overview of the second day’s conference programme is shown in a schematic form below:

**DAY TWO: 6th April 2017 (Thursday)**

Venue: Committee Room 3, House of Lords, Palace of Westminster

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
<th>LOCATION: COMMITTEE ROOM 3 – HOUSE OF LORDS</th>
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<tbody>
<tr>
<td>09.00-09.15</td>
<td>All Delegates Gather at St Stephens Entrance</td>
<td>Meet at Palace of Westminster - Security Clearance and Admission to the Houses of Parliament</td>
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<tr>
<td>09.45-09.55</td>
<td>Delegates to be seated by 09.45</td>
<td>Announcements by MC</td>
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<td>09.55-10.00</td>
<td>Arrival of Chief Guest</td>
<td>Introductions by Chair: Professor Stephen McKinney</td>
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<td>10.00-10.05</td>
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<td>Welcome Address by Chief Guest  Baroness Christine Humphreys</td>
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<td>10.15-11.30</td>
<td>Paper Presentation Session</td>
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<td>11.30-11.45</td>
<td>Chair: Professor Stephen McKinney</td>
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<tr>
<td>11.45-12.35</td>
<td>Rapporteurs: Dr. Dolly Jackson-Sillah and Martin McAreavey</td>
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<tr>
<td>12.35-12.45</td>
<td>Presenters</td>
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<td></td>
<td>10. Dr. Heather Mbaye</td>
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<td>11. Professor Suresh Sharma</td>
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<td>12. Dr. Craig Andrew Hammond</td>
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<td>Question &amp; Answer Session</td>
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<td>13. Professor Margaret Solomon</td>
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<td>14. Dr. Jan Apotheker</td>
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<td>15. Professor Tapati Mukherjee</td>
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<td></td>
<td>Question &amp; Answer Session</td>
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<tr>
<td>12.45</td>
<td>Close of Session at Palace of Westminster: Chairperson’s Remarks and Vote of Thanks</td>
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<tr>
<td>12.50</td>
<td>Exit the Houses of Parliament</td>
<td>Proceed to the Grange City Hotel for Lunch</td>
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<tr>
<td>13.30-14.30</td>
<td>Lunch Break – Lunch in the Restaurant of the Grange City Hotel</td>
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</table>
14.30-15.00  Keynote Address  
Chair: Professor Suresh Sharma  
Keynote Address by: Dr. Gale Macleod: Do No Harm, or Do Some Good? ‘Impact’ as an Ethical Issue

15.00-15.10  Q & A session followed by Chairperson’s Remarks

15.10-15.25  Tea Break

15.25-16.30  Paper Presentation Session  
Chair: Professor Margaret Solomon  
Rapporteur: Dr. Sukhmani Mann  
Presenters  
16. Dr. Amandeep Singh Marwaha  
17. Dr. Manjushri Sharma

16.30-17.00  Tea Break & Informal Networking

19.30-21.00  London by Night (Sightseeing Coach Tour)

**DAY TWO: SPEECH - WELCOME ADDRESS BY BARONESS HUMPHRIES OF THE HOUSE OF LORDS**

This international Conference is the third such conference organized by the London School of Management Education. I am delighted to welcome all the conference delegates, a number of whom come from India, as well as other parts of the world including Canada, Europe, Hong Kong, South Africa, UK, USA and the West Indies.

One of the Highlights of this Conference is the Plenary session that is being hosted at the House of Lords in the Palace of Westminster. A good selection of presentations based on the Abstracts that were submitted will be showcased at this venue.

Responsible Research and Innovation and the Ethics involved in the research process is of great importance to society. We are all aware of the vital role of research and innovation as it brings progress to human kind and solves a multitude of problems. However, to ensure that Research is conducted in a responsible and ethical manner, we need to support scientific self-correction, transparent reporting of data, promote dialogue and debate between research colleagues as well as between researchers and society.

We must ensure that research takes societal values into account. In a democratic
society, everyone should have the right to participate in decisions that influence our future. The impact of research can have social, ethical, cultural and environmental consequences and hence all research should be carried out in a responsible and ethical manner.

I also note that many of the delegates attending this conference are early career researchers and I encourage these early career researchers to actively and constructively engage with the senior researchers and professors who are also attending so as to benefit from each other’s experience.

I congratulate the Conference Committee of the London School of Management Education for providing a platform through these international Conferences to promote and strengthen the concept of Responsible Research and Innovations.

I look forward to learning from this conference how best Research could be carried out in a Responsible and Ethical Manner.

I wish all of you every success in your research endeavours.

Baroness Humphreys

DAY TWO: SUMMARIES OF THE MORNING PAPER PRESENTATIONS AT THE HOUSE OF LORDS, UK

Session was chaired by Professor Stephen McKinney
Rapporteurs- Mr. Martin McAreavey and Dr. Dolly Jackson Sillah

The morning session consisted of seven presentations which have been summarized as follows:

Responsible Research in Social Science: Academia in Service to Government School Teachers. By Dr. Heather Mbaye, University of West Georgia, USA.

The opening paper was presented by Dr. Heather Mbaye on responsible research in social science with a focus on academia in service to government school teachers. Her research sought to find out how academics in universities can best meet the local K-12 government school teachers’ needs and to identify areas for improvement. Using an expert survey of teachers in local schools, the
research concluded that Teachers believe that academia is disconnected from the real world and that the subject matter are out of touch with what people need to their jobs although a majority indicated that academics help them deliver good quality teaching, indicating a varied relationship with academics. The majority of school teachers also believed that the primary audience for academic research is the academics. Majority of teachers do not read academic journals and do not have access to journals. Her research suggests that creating more open-access journals that focus on publishing academic research that provides practical advice and practical insight for teachers would be a great way to reconnect with our communities. Universities must also organize lecture series for teachers in order to sustain their connection with schools. Comments from delegates suggested an agreement with the research findings. Suggestions offered included the need for a change in culture to show that a degree in Education is not just a means to an end but should be utilized effectively in teaching. Effective teacher education should view research as a practical component of the curriculum. Other suggestions included the need for an abridged version of research papers for intended audience such as school teachers and the need for the author to consider further studies to explore why 70% of school teachers with Master’s degree felt there was a disconnection between Secondary school teachers and Academia.

Reliability and Validity Measures in Responsible Research and Innovation’ by Professor Suresh Sharma, Panjab University, India. Co-authored by Dr. Ravi Kumar and Dr. Sarita Parhi, of London School of Management Education, UK.

Professor Suresh Sharma highlighted the need for reliable and valid measurements in responsible research and innovations. He highlighted the use of statistical measures in research and how this may differ in responsible research where researchers are often interested in studying theoretical constructs (latent variables) that cannot be observed directly but under certain contexts. He stressed that both latent and observed variables can have measurement errors which can be captured with statistical techniques such as regression. In this research paper, several measures have been suggested to counter these errors, and the most prominent ones are reliability and validity. The researcher then went on to explain the concepts of reliability and validity in statistical terms and how to address their utility in the area of responsible research and innovation. Comments from the delegates confirmed the importance of assuring the integrity of research. Dr. Dan Apothecar added that some of the methods have been used to assess the validity and reliability of
summative assessments in the Project Irresistible. Dr. Sean Whittle commented on the fact that it is difficult to assess the reliability of measures of emotions such as happiness, values and although some research may not capture these measures accurately does not necessarily make them invalid or irresponsible.

‘Health Education: A Cost Effective Tool for Preventing Cardiovascular Disease. By Dr. Manjushri Sharma. U.I.A.M.S., Panjab University, Chandigarh, India.

The third paper entitled ‘Health Education: A Cost Effective Tool for Preventing Cardiovascular disease (CVD).” was presented by Dr. Manjushri Sharma. The main objective of the paper was to ascertain the presence of modifiable and non-modifiable risk factors of CVD to inform health education programmes. In her case control study, 124 diagnosed cases of Myocardial Infarction and 86 controls, reporting to public and private hospitals in the tri-city of Chandigarh, Mohali, and Panchkula were included in the study. Cases were confirmed with a diagnostic angiography and were above 20 years of age. While those with already diagnosed CVD were excluded because they would have received risk factor modification information.

The information about the risk factors and socio-economic status were collected in a questionnaire which has been adapted from the research tool used in INTERHEART study. Their data analysis confirmed that Stress, Level of Autonomy at Work, History of Tobacco Consumption and Physical activity at Work and home were associated with the development of CVD. She concluded that since these are modifiable risk factors, public health programmes aimed at controlling them can have an important public health impact.

Michel De Certeau Guy Debord & Everyday Life: Circular Tactics and Pedagogical Manoeuvres. By Dr. Craig Andrew Hammond.

The presenter started off this interesting presentation by describing Michel De Certeau’s concept of strategy and tactics as being aligned with political, institutional and structural power; consisting of a set of processes and undertakings proposed by those who rule to establish the types of expected behaviour and conformity. However, despite the expectations to conform to strategic prescriptions, anti-conformist tactics can be invoked. This principle can be applied to the learning environment in everyday life where strategies can be altered with a view to claiming ownership. Educational curriculum tactics can weaken students who are creative
and want to explore and learn new things. The presenter went on to describe strategies of Guy Debord in response to power sharing in consumer-based regimes in which students have a provisional role to play in their education to ensure individual autonomy. His research derived ways devising pedagogical principles informed by the ideas of Certeauean tactical possibilities and the Debordean strategies (dérive and détournement) to produce flexible education that can incite creativity and dynamic learner engagement. His approaches included peer assessment which challenged the traditional approach to organising, managing, and marking HE groups of students. Shifting expert judgement away from ‘individual risk’, the micro democracy of Peer Assessment allowed students the flexibility to produce personal-creative works; this, in turn, enables the manifestation of multi gendered, cultural and class context voices. Students were given the options to open-up and develop teaching, learning and engagement which is free from the current prescriptive nature of higher education. This form of collaborative learning can have produced new and innovative directions for higher education with unforeseen possibilities to the learning community. This presentation aligns with Paul Lorangars representation the day before and although the delegates agreed with student centered learning and assessment, a few were concerned with how quality assurance and the robustness of the programmes can be maintained.

Impacting the Cultural Capital of Children from Marginalized Communities. By Professor Margaret Solomon, La Sierra University, USA.

Professor Margaret Solomon’s paper was aimed at improving poor children’s self-esteem, locus of control and sense of hope, which are three constructs of cultural capital. She designed special lessons as interventions to influence their cultural capital, based on the assumption that the social capital of students from the lower caste communities is much inferior to that of students from affluent homes. Special instructional intervention for five days was developed for students from 6th to 8th grades in four schools from poor low-caste slum communities after an initial measurement of levels of cultural capital on the three selected constructs in 45 students. The initial survey results showed that majority of the students had an average level of self-esteem but status on locus of control and sense of hope was very low. In the post interviews they were asked how they felt about themselves, how they would manage the challenges they faced at home and school, and if their sense of hope was high. Every student demonstrated a profound change in his or her thinking about himself or herself. They felt that the lessons made them realize
that in order for their self-esteem to improve they had to set high goals and work on reaching them. They also mentioned that their caste level determined their identity and it was associated with where they were in the caste ladder. Most of them expressed their sense of low self-identity but the lessons made them think about changing their situations and gaining more control over their lives. The presenter concluded by indicating that explicit instruction and training in the areas of cultural capital can certainly benefit poor children and quality education should provide such learning experiences. Reaction from the delegates indicated their level of engagement with these kinds of social research. A few questions raised was whether there might be ethical issues associated with a study of this nature. Others were of the view that since many government policies supported education, this should be the focus rather than culture capital. This is because an improvement in culture capital can be thwarted by the other external forces.

‘Project IRRESISTIBLE: Modules Designed to raise awareness about RRI Amongst Students’. By Dr. Jan Apotheker, University of Groningen, the Netherlands. Ron Blonder, Weizmann Institute of Science, Sevil Akaygün, Boğaziçi University, Pedro Reis, University of Lisboa, Lorenz Kampschulte, IPN Kiel, Antti Laherto, University of Helsinki, Netherlands.

The presenter Dr. Jan Apotheker provided an overview of the project IRRESISTIBLE which designs modules for students to raise awareness of RRI by introducing cutting edge research topics in classrooms and fostering discussions among students. This project directly brings ongoing research to an important sub-section of the community in a way that they can be understood and can aid the future development of research among students. Topics introduced ranged from nanotechnology to climate change as well as health issues with a strategic focus on topics that affected societies in general. His researchers then monitor the impact of the introduction of the RRI concept and research to students in an online survey which focused on the design of modules and how they were implemented. The feedback obtained was used to aid improvement in the development of the modules and to adapt the modules for easy implementation and use in the classroom. Over 400 teachers were involved in the project and over 6000 students have followed one or more modules. Exhibits were used as a product to communicate the science learned. In addition, the students were asked to demonstrate the Responsible Research and Innovation activities in the exhibits. Through a number of case studies, the design and the effect of the use of exhibits was monitored. The results of the
survey and case studies suggested that the strategy represents a great opportunity to involve (and educate) the community, allowing students to develop active citizenship skills; Teachers appreciated the experience and valued the new didactic strategy, identifying in it several potentialities in what concerns Science Education. Teachers faced difficulties, but in general were able to surpass them. Those Teachers developed as professionals. Students did appreciate the new didactic strategy of IRRESISTIBLE Exhibitions development, felt more motivated to learn and engaged more in their learning process; they learned about new scientific topics and about Responsible Research and Innovation, and developed important skills and overcome their initial low expectations and recognized that they were capable of developing such a big and new endeavour; Students faced difficulties, especially in what concerns the management of the group work and project tasks and the integration of RRI in the exhibition. The presenter concluded that the project certainly presented opportunity for students and teachers to consider social and global problems not normally included in science classes and promotes students’ and teachers’ engagement and motivation for learning about RRI and allows a deeper and better understanding of the concept and It represents an opportunity for students to develop an active role on exchanging information about RRI to visitors as a form of assessment of their understanding. The question and answer session was quite interactive and was mainly focused on continues use of the modules after the conclusion of the project in 2016. The delegates agreed that the project appears to have a positive impact on teacher experiences of science teaching and student engagement.

Principal’s Preparation and Performance of Education & Social Development: Are Principals Authorised to Show their Talents or Skills. By Professor Tapati Mukherjee, S.K. Rai Degree College of Commerce, Mumbai, India.

The researcher started the presentation by highlighting the fact that Principals make a difference to institutions, but there aren’t very many techniques or methods to prepare good Principals in a systematic manner. The project was driven by the emergence of a chaotic educational system in India. The presentation addressed various factors that affect a Principal’s performance and explored training programs that would affect the overall grooming of a Principal. She highlighted the role and function of a Principal in defining the school mission, ensuring the best grade and accreditation for its institution; managing the instructional programme & promoting a positive learning climate which in course of time will be responsible for education
and social development of the students.

Her research involved a survey of a set of 20 schools that followed Government, Private International school curriculum, or followed a vernacular medium and a State board English Schools or belonged to ICSE and CBSC Boards. Twenty Principals and 25 Teachers with 60:40 gender ratio (60% Males and 40% for Females) were surveyed on what mistakes have they made and learnt from in their career? What would their current students say about them? What would they recommend an English and vernacular medium students to read? How would they contribute to the extracurricular life of the school? What was their experience of school and what led them to teaching? Another interesting question put to respondents was to characterize themselves as lions, beaver, hawk etc. Her research findings suggested that International Schools were too competitive and follow too many processes and systems thus restricting Principals from taking any action.

Vernacular public schools have limited funds and focused more on completing the syllabus rather than affording the learners a good quality education. English Public schools compete with private schools wanting to give the best form of all around education to their students but also fall short of funds. The key observation here is the discrepancy in what a Principal wants to be and what their teachers want them to be. Hence Principals are drawn to competition to strive for excellence which is judged on the basis of donations gathered, high grade accreditations, student performances and good faculty. These interferences restrict a Principal to follow a philosophy they believe in. The pressure of infrastructure improvement and collection of funds has turned Principals into business managers rather than Educators.

The presenter concluded by reiterating the fact that education is every human’s right and equal grade of education should be available to all students to create a level playing field. This is the only way a Principal can implement or strive to maintain an effective leadership in Education. There were no questions after the presentation.
DAY TWO: KEYNOTE ADDRESS BY DR. GALE MACLEOD

Dr. Gale Macleod, Senior Lecturer of the School of Education, College of Humanities and Social Science, University of Edinburgh presented a keynote lecture entitled Do No Harm, or Do Some Good? ‘Impact’ as an Ethical Issue. The presentation explores impact of social research as an ethical conduct with particular attention to the relationship that can develop between the members of a research team as well as between researchers and the research participants.

DAY TWO: SUMMARIES OF PAPER PRESENTATION FOR THE AFTERNOON PLENARY SESSION

After the lunch break, delegates assembled for the 2nd Plenary Session of the Conference. This session was chaired by Professor Margaret Solomon.

Rapporteur: Dr. Sukhmani Mann

Challenges Faced by Telco’s during IT Transformation. By Dr. Amandeep Singh Marwaha., TPO, (UIAMS), Panjab University, Chandigarh, India. Singh, R., Sr. Delivery Manager, OnMobile Global Limited (OMG), Bangalore, India.

Dr. Amandeep Singh Marwaha presented a paper on landline telecommunication focused the identification of the key challenges faced by Telco’s during IT Transformation program and understanding change management and Driving User adoption during IT Transformation. In a systematic random sampling, a questionnaire was prepared and data was collected from 323 FTE (Full Time Employees) of fixed line operators operating from National Headquarters, Network Operations Center and Circle Offices, all of whom were interviewed. Secondary Data was collected through Webinars, online reports and websites and Statistical Analysis included the use of Chi square test and ANOVA. The findings included a significant relationship between business transformation and human resources management and a difference in opinion of operators regarding integrity of customer data. The presenter suggested some managing change strategies including ensuring the program has a structured engagement and communications approach to develop active senior and cascading sponsorship, to drive the transformation change program and can maximize user adoption of the systems and processes transformed by the program ensuring the benefits of the new systems and processes put in place are fully realized. The presentation was
rounded up with a suggestion for Operators to focus on FTE’s skill development so that the performance in core functions can be improved in correlation with Operator and Employee satisfaction.

**DAY THREE: OVERVIEW**

The third day of the conference took place in main conference Hall of the Grange City Hotel in London. The first session opened with an interesting speech from Dr. Peter Gray, European Research Adviser, NTNU, Norway entitled ‘If Research is the Answer, what is the Question?’ The speech focused on the need to formulate appropriate, responsible and relevant questions for the intended audience and the use of research methodologies that incorporate the principles of RRI. Full details of this talk is provided below:

This was followed by a keynote lecture, by Professor Stephen McKinney on: Responsible Research into the Impact of Poverty on School Education, chaired by Dr. Craig Andrew Hammond. This two-part address focused on the definition of responsible research, poverty and relevant research projects aligned with poverty and education. Key to his lecture was to ensure that delegates understood the distinctions between responsible research and transformation in education. He emphasized the importance of open and frank discussions that challenged and dealt with difficult issues including race, ethnicity and social class. Professor McKinney wrapped up his lecture by providing illustrative examples of supporting school leavers in Areas of Poverty and Deprivation, as well as on Portfolio of Integration, i.e., seeking ways of integrating migrant children into mainstream schooling. Full details of this lecture is provided below.

The first paper presentation session for the day was chaired by: Dr. Heather Mbaye. Presenters included Dr. Anjali Puri (via video link), Dr. Rachita Sambyal and Dr. Sally Sun/Martin McAreavey on relevant topics on the ‘Effect of Word recognition and Reading Comprehension Modules in English on Metacognitive Reading Awareness of High School Students’, ‘Mining the Web to Determine Responsiveness of the Management of Education: Semantic Analysis of the Facebook Posts and Comments’ and ‘Found in Translation: Empowering Chinese Students in Anglo-Centric Pedagogical Contexts’ respectively.

After a brief question and answer session and the chairperson’s closing remarks
the delegates adjourned for tea break.

The second Paper Presentation Session was Chaired: Professor Hue Ming-tak and the

Rapporteur: Malvika Rajeevan

Presenters for this session included, Dr. Namrata Sandhu, Dr. Anupreet Kaur Mavi and Marlene Altenhofer who presented their research papers entitled ‘Drivers of Employee Engagement in Indian Banking Industry: Model Development and Testing’, ‘Use of Open Access by Researchers in Higher Education: An Instrument to Promote Responsible Research and Innovation’ and ‘Integrating RRI into Higher Education: Teaching and Learning Approaches’.

The delegates then proceeded for lunch after the chairperson’s remarks. This was followed by a Special Guest lecture by Dr. Anurag Sharma entitled Do No Harm: From Responsible Research to Responsible Care. His lecture emphasized that although most health interventions in cardiology claim to put patient’s interest in the center, seldom are they tested against the most important aspect of medicine; to do no harm. His lecture than went on to examine the alternate approaches available in the domain of research and treatment, towards ameliorating the cardiac health standards of populations. These traverse the entire spectrum of cardiac disease burden management, and include primordial and preventive health education that focuses on healthy lifestyle choices; effective drugs and therapies and environmental policies in communities that promote good nutrition, regular physical activity, and abstinence from smoking. Further details of the lecture are shown below.

The closing ceremony followed Dr. Anurag Sharma’s lecture. The highlight of the closing ceremony was the valedictory speech by HE Mr. Hassan Shifau, Deputy Ambassador for the Embassy of Maldives in UK.

In his address, Mr. Hassan Shifau, commended the team for pulling it off once again despite their numerous engagement and the move of the institution to its new premises. He emphasized the importance of the event and urged all delegate to work towards sustaining the sharing of research expertise periodically.

Certificates were presented to eligible delegates by Mr. Hassan Shifau and assisted
by Mr. Nayan Patel, Rotary International Special Representative for Indo-British Initiatives. The Conference concluded with a Vote of Thanks delivered by Dr. Dolly Jackson Sillah, followed by a final photography session.

An overview of the programme for day three is shown in the table below:

**DAY THREE: PROGRAMME**

Venue: Grange City Hotel, 8-14 Cooper’s Row, London EC3N 2BQ, UK

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
<th>Location: Main Conference Hall – Grange City Hotel</th>
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<tbody>
<tr>
<td>09.30</td>
<td>All Delegates Are Seated</td>
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</table>
| 09.30-09.45| Welcome Address                  | Opening Speech: Dr. Peter Gray, European Research Adviser, NTNU, Norway  
Title of Speech: If Research is the Answer, What is the Question? |
| 09.45-10.15| Keynote Address                  | Keynote Address by Keynote Speaker: Professor Stephen McKinney  
Title of Keynote : Responsible Research into the Impact of Poverty on School Education |
<p>|            | Chair: Dr. Craig Andrew Hammond  | Q &amp; A Session followed by Chairperson’s Remarks    |
| 10.15-11.15| Paper Presentation Session      |                                                   |
|            | Chair: Dr. Heather Mbaye        |                                                   |
|            | Rapporteur: Dr. Takalani Mashau |                                                   |
|            | Presenters                      |                                                   |
|            | 18. Dr. Anjali Puri             |                                                   |
|            | 19. Dr. Rachita Sambyal         |                                                   |
|            | 20. Dr. Sally Sun/Martin McAreavey |                                           |
| 11.15-11.25| Q &amp; A Session and Chairpersons’s Closing Remarks |                                                   |</p>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>11.25-11.40</td>
<td>Tea Break - Refreshments Lounge</td>
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<tr>
<td>11.40-13.00</td>
<td>Paper Presentation Session</td>
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<td>Chair: Professor Hue Ming-tak</td>
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<td>Rapporteur: Malvika Rajeevan</td>
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<td>Presenters</td>
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<td>21. Dr. Namrata Sandhu</td>
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<td>22. Dr. Anupreet Kaur Mavi</td>
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<td>23. Marlene Altenhofer</td>
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<tr>
<td>11.40-13.00</td>
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<td></td>
<td>23. Marlene Altenhofer</td>
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<tr>
<td>13.00-13.10</td>
<td>Q &amp; A session followed by Chairperson’s Remarks</td>
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<tr>
<td>13.10-14.15</td>
<td>Lunch Break</td>
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<tr>
<td>14.15-14.45</td>
<td>Special Guest Speaker: Dr. Anurag Sharma</td>
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<td></td>
<td>Title of Speech: Do No Harm: From Responsible Research to Responsible Care</td>
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<tr>
<td>14.15-15.45</td>
<td>Valedictory Session</td>
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<td></td>
<td>Chair: Professor Stephen McKinney</td>
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<td></td>
<td>Valedictory Speech by Chief Guest: Mr. Hassan Shifau, Deputy Ambassador, Embassy of Maldives, London</td>
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<td></td>
<td>Presentation of Certificates by Chief Guest: Mr. Hassan Shifau</td>
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<td></td>
<td>Assisted by Mr. Nayan Patel, Rotary International Special</td>
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<td></td>
<td>Representative for Indo-British Initiatives</td>
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<td></td>
<td>Vote of Thanks: Dr. Dolly Jackson-Sillah and Conference Close</td>
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<tr>
<td>15.45-16.15</td>
<td>Tea &amp; Photography Session</td>
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**DAY THREE: SPEECHES**

The opening speech was delivered by Dr. Peter Gray, European Research Adviser, NTNU, Norway and was entitled ‘If Research is the Answer, what is
the Question?’

In his opening speech, Dr. Peter Gray highlighted the fact that the research question was the most important phase in conducting a good quality research study as it will provide the guidance for the preparation for the investigation and reporting of the findings. He added that the process of generating an answerable study question seems simple at first but finding the inspiration for a study may, however be a challenge as the study idea emerges with time after thoughtful consideration of a topic. In order for us to design and execute a study, refining our ideas and hypothesis into questions that can be realistically studied is required, adding a level of complexity to what at first seemed simple.

He admitted that creating the final study question is a formal and iterative process which involves, defining parameters, getting feedback from colleagues, conducting a limited literature search and refining the question.
Keynote lecture by Professor Stephen McKinney, University of Glasgow

This lecture addressed the impact of poverty on school education and how it can be assessed in the context of responsible research. The PowerPoint presentation slides are attached below:

Title of Keynote: Responsible Research into the impact of Poverty on School Education.
Overview

1. Six key principles of Responsible Research
2. Poverty and child poverty
3. Research project 1
4. Research project 2
5. Conclusion and questions

Part 1: Questions

- What is responsible research?
- How do we assess the impact of responsible research?
- What criteria would we use?

Part 1: Six key principles

- Responsible research:
  1. ... will encourage researchers to identify, and to listen to, the users of research and to demonstrate how users' needs have helped to shape the aims, design and implementation of research projects.
  2. ... will have a positive impact on end users or society in general is considered to be as important as impact on research communities.
  3. ... will demonstrate that social justice, equity and sustainability have been considered in line with the needs of all relevant actors
  4. ... will improve social welfare and cohesion and enhance cultural enrichment and quality of life
  5. ... will provide opportunities for under-represented groups to become engaged in research and to make the case for new research topics to be developed.
  6. ... will be meaningful, timely and useful
Part 1: Six key principles

- **Responsible research:**
  1. ... how users' needs have helped to shape the aims, design and implementation of research projects.
  2. ... positive impact on end users or society
  3. ... social justice, equity and sustainability
  4. ... social welfare and cohesion and enhance cultural enrichment and quality of life
  5. ... under-represented groups
  6. ... meaningful, timely and useful

- **Meaningful, timely and useful**

  - Improve social welfare and cohesion and enhance cultural enrichment and quality of life
  - Include under represented groups
  - Social justice, equity and sustainability
  - Positive impact on end users or society
  - How users' needs have helped to shape the aims, design and implementation of research projects.
Part 2: Child Poverty

- There are 2.2 billion children in the world
- around a half of this figure (1 billion) live in poverty (Global Issues, 2013).
- Children defined by the United Nations Convention of the Rights of the Child (1989) as less than 18 years old, unless otherwise legally specified within a particular context (Unicef UK, 2013).
- Children are dependents and child poverty is intrinsically linked to the poverty experienced by their mothers, families or households (Lister, 2010).

Part 2: 3 dimensional approach

- Adamson (2012) suggests a ‘3 dimensional approach’ be adopted when discussing measures of child poverty:
  (1) the number of children who fall below a national poverty line;
  (2) how far the children fall below the line and
  (3) how long the children remain below the line.

Part 2: 4 dimensional approach

- Adamson (2012) suggests a ‘3 dimensional approach’ be adopted when discussing such measures of child poverty:
  (1) the number of children who fall below a national poverty line;
  (2) how far the children fall below the line and
  (3) how long the children remain below the line.
  (4) How far are children above the line and still in poverty?
Part 2: Experiencing the effects of poverty

- Instability in family
  - Drug/alcohol dependency
  - Relationship breakdown
  - Homelessness
- Absence of home learning environment
- Absence of maternal aspirations
- Children less ready for school: conduct more problematic; more likely to be excluded


Part 2: Social Mobility?

- Higher Education
- Further Education
- Employment
- Training

Route to greater social mobility?

- Contemporary occupational structures
- Disadvantaged young people and cultural capital (?)
- Cuts in:
  - Further Education
  - Higher Education
- Unemployment young people – 13% (2008) to 20% (2010)- beginning to improve 2015

(Brown and Lauder, 2009; Scotland:Young adult unemployment, 2010; Denholm, 2011, 2012; Buic, 2012)
Part 3: Research Findings

- There is a **significant relationship** between deprivation and attainment in Glasgow secondary schools.
- There is a no **significant relationship** between deprivation and initial leaver destinations (excluding HE).
- Some schools serving poorer areas are leading the way in terms of the proportion of pupils going onto initial positive destinations (When we exclude HE from the analysis – which is highly and positively associated with attainment).
- Schools appear to be able to exercise a greater influence over overall destinations more readily than attainment.

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<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
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<tbody>
<tr>
<td>Schools B, C and E.</td>
<td>Schools A and D</td>
</tr>
<tr>
<td>Schools B, C and E all have high success rate with initial leaver destination</td>
<td>High levels of deprivation</td>
</tr>
<tr>
<td>This is despite high levels of deprivation</td>
<td>Less successful with initial leaver destination</td>
</tr>
<tr>
<td>Schools B and C work in close partnership</td>
<td>Sample</td>
</tr>
</tbody>
</table>
Part 3: Sample - Interviewees

- School A  
  - Deputy Head Teacher

- School B  
  - Head Teacher  
  - Principal Teacher Pastoral Care and Careers coordinator  
  - Skills Development Scotland e/e

- School C  
  - Deputy Head Teacher

- School D  
  - Head Teacher  
  - Former Employment Officer

- School E  
  - Deputy Head Teacher  
  - Principal teacher of Enterprise, Employability and Partnership

Part 3: Research in Schools - Challenges and Barriers

- Socially challenged families /areas
- Budget cuts  
  - In schools  
  - In support from external links  
  - Changes in external personnel
- Employment opportunities and sustained futures
- Apprenticeships
- Colleges – cuts in places and in outreach
- Universities – reduction in places and rise in tariffs

Part 3: Research in schools – Factors that make a difference

- Leadership committed to PSLD
- Targeted intervention
- Setting high standards / high expectations / high levels of support
- Operational work by designated school staff
- Careers advisors and external links
- Relationship with Colleges/Universities
Personnel involved: Importance of Leadership - Vision and Operation

- Commitment of HT
  - ‘socially just approach’ (Thomson, 2010).
  - vision of expectation and inclusivity

- Essential support from:
  - Other members of school leadership
  - Members of teaching teams
  - Collaboration with external partners

- Allocation of resource?

Part 3: Personnel involved: Importance of Leadership – Shared Vision

- Vision of expectation

The staff in the school...definitely do their utmost and they are rigorous in terms of providing quality education, in setting high standards for the children, high standards as soon as they come in the door – in terms of their learning, in terms of their conduct, in terms of their expectations about quality, about presentation, about working with others, about respect, about basically only the best will do (DHT school C).

- Vision of inclusivity

I am absolutely committed one hundred percent to positive leavers destinations...all I want is young people to achieve their potential and if that's University then that's the focus, if that's going into a training position, that's the focus (HT school B).

Part 3: Targeted Intervention

- Early intervention
  - At primary level (Schools B, D)
  - Crucial to intervene P7-S1 (Schools A, B, D)

- Individualized attention
  - HT school A will interview individuals
  - School D – ‘every single possible leaver...everyone is accounted for’
  - ‘to the Careers officer they’re not figures. These are kids, so every percent there we can put a name to the percent’ (school B)
Part 3: Targeted Intervention

- Help with career choices, applications and interviews
  - Personal interviews
  - Help with College choices and applications
  - Take pupils to interviews (school staff or AAC)
- Support once left school
  - Support for further choices (Schools B, D)
  - Links with community (Schools B, C, E and D)

Part 3: Six key principles

- Responsible research:
  1. ...how users’ needs have helped to shape the aims, design and implementation of research projects.
  2. ...positive impact on end users or society
  3. ...social justice, equity and sustainability
  4. ...social welfare and cohesion and enhance cultural enrichment and quality of life
  5. ...under-represented groups
  6. ...meaningful, timely and useful

Part 4: Research Project 2
Nurture Group

- SIPP Project
- Nurture group in secondary school in South Lanarkshire.
- First secondary to be awarded Marjorie Boxall Quality Mark Award.
- Six Principles of nurture:
  - Children’s learning is understood developmentally
  - The classroom offers a safe base
  - The importance of nurture fro the development of wellbeing
  - Language is a vital means of communication
  - All behaviour is communication
  - The importance of transition in children’s lives
Part 4: Nurture Group

- Research dimension
- Fifteen pupils across four year groups were interviewed about their experiences of the nurture groups.
  - S1 group — three females and two males.
  - S2 group — three males and two females
  - S3/4 group — four males and one female.
- Three themes:
  - Safe space
  - Quality of relationships
  - Positive outcomes

Part 4: Nurture Group

- Safe Space
  - You can speak here (S2 female)
  - Place where you can go and talk about feelings (S2 female)
  - Watch TV, talk about friendship, learn how to treat friends properly (S3/4 male)
  - Chance to have a break when you’re having a bad day (S1 female)
Part 4: Nurture Group

• **Quality of Relationships**
  - Someone to trust. The base is always open (S2 female)
  - They [the staff] have the time to speak to you (S2 male)
  - I get on better with teachers [in the base], they are not as strict. Teachers here are easier to talk to (S3/4 male)

Part 4: Nurture Group

• **Positive Outcomes**
  - It helps you prepare for other classes (S1 female)
  - Gets you through the day (S2 male)
  - Gave me more confidence (S3/4 female)
  - Makes us feel better about ourselves (S1 female)
  - Gets you to socialise a bit (S3/4 male)
  - I get help with my classwork (S3/4 male)
  - Helps you get over losses in the family (S2 female)

Part 4: Nurture Group

• The Nurture Group has enabled young people to remain in mainstream education.
• The number of pupils who attended the Nurture group in the early stages of their secondary career who have progressed to a positive leaver destination is 96%.
• Trinity High has positioned itself as a Nurture hub.
• Increasing participation from members of staff in the school
• Parental engagement of pupils attending the Nurture Group has increased steadily
• The Marjorie Boxall Quality Mark Award from the Nurture Group Network.
Valedictory Speech by the Guest of Honour – HE Mr. Hassan Shifau, Deputy Ambassador of the Embassy of Maldives in UK.

Distinguished Guests, Ladies and Gentleman, I’m honoured to be given the opportunity to address you all here today at the conclusion of what I describe as a meaningful and insightful event. I would first like to thank the organisers of this conference for choosing such highly relevant issue as a conference theme:
Responsible Research and Transformation in Education. We were also privileged to hold the second day of this conference in the House of Lords arranged by Lord Dholakia and Baroness Humphries. And special thanks to all of the speakers who provided us with so many interesting insights into their ongoing and published research. The academic debates we have had in the last three days contribute to the on-going discussions on the global factors affecting the quality of educational research.

The presence of Lord Truscott and Cllr Gurdial Bhamra We were privileged to hear from five keynote speakers: Professor Eman Gaad, from British University in Dubai. Dr. Gale Macleod from the University of Edinburgh, Dr. Anurag Sharma from India, Professor Stephen McKinney and Dr. Peter Gray. Once again I would say we are privileged to listen to their insightful and thought provoking lectures on the need for academic research in Education to be more responsive to the needs of the intended audience.

We heard a lot of interesting presentations from 25 researchers responsible research that is focused on various themes in Education, Banking, Medicine, Social Sciences, Telecommunication and many more. After reflecting on important arguments, opinions and suggestions, I would like to share with you some of the points that struck me, personally. These are discussed broadly under:

- Selection and design of responsible research projects
- Quality management in responsible research
- Translating research into action
- Influence of socio-cultural challenges.

Most often researchers subscribe to three basic elements which include the integrity of the proposed research, participant safety, and investigator objectivity. Yet these researchers are likely to experience conflicts of interest by virtue of their noble dedication to the pursuit of knowledge while striving to maintain the welfare of the human volunteers participating in their investigations. Even when the nature of the research does not impose any foreseeable harm to the participants, researchers should consider how the conduct of the research will result in positive changes in participants in their pursuit for additional knowledge. We understand the pressure of career development in academia, which is influenced by the number of peer-reviewed publication researchers have made. Nevertheless, the objectives of
responsible research project must be far reaching. Research topics must be relevant to the participants, must consider their welfare both emotionally and physically with due consideration of social issues such as poverty, gender bias, environmental changes etc. It is in the clinical setting that bias and loss of objectivity not only can damage the entire research enterprise, which we know reduces the public’s trust in research, but can also, more grievously, lead to physical injury and harm to study participants. As researchers, I strongly urge you all to keep up the spirit of responsibility in research as you have demonstrated in the last three days.

The second point I would like to address is research quality challenges. Apart from scarcity of funding as a factor that can affect research quality, I would like to stress the influence of institutional commitment in the management of responsible research. As Marlene Altenofer and Jan Apothecar indicated in their presentations, online modules on responsible research on topical issues have been developed for trainers to use in their classrooms. Nevertheless, teachers can only apply this learning if supported by their respective institutions. In addition to this, researchers must seek the views of their prospective research participants to identify their needs when developing research projects. Researchers should be able to build a strategy-supportive culture as highlighted in the lecturer by Professor Stephen McKinney. Further success in introduction of quality assurance measures will depend on the consideration of the perceptions of other researchers on various aspects. Limitations must be avoided if possible to ensure research findings are authentic, valid and reliable enough to contribute to changes in policy.

The third point for consideration from the conference proceedings is the need to generate the opportunity to utilise new strategies developed through research evidence in all sectors and levels of education. The conference presentation by Professor Eman Gaad on innovative strategies for enhancing productivity of Emirati women in society is one of the many examples of the use of research to enhance the quality of life of individuals in society. Effective utilisation of new interventions will improve the quality of our educational systems, transforming education into a more dynamic and evolving process of assisting learners develop knowledge, skills and the creativity required for their individual and societal economic wellbeing and productivity. By organising these conferences, LSME has taken the lead in the right direction to facilitate the development of its research proposal through the use of dialogue and discussions among high calibre professionals such as
yourselves. Innovative ideas shared amongst academic should not only end up as ideas. They should be utilised in the development of further and improved research proposals that are focused on transforming society in any way possible. I would like this growing organisation to seek this unique opportunity to maintain the collaborative partnerships with research organisations and companies to attract foreign intellectual capital and investments.

The fourth and last point I would like to expand on is consideration of the influence of societal / cultural challenges in education. Professor Hue Ming-Tak highlighted this issue in his qualitative research on cross-cultural experiences of migrant students and the challenges of promoting a culturally responsive classrooms and multicultural competency of teachers. This research highlighted difficulties faced by migrant students from who struggle to integrate and the need for teacher education to address the recognition of such socio-cultural influences in education.

I am hopeful that the organisers of this conference will study in detail all the material that has come out of the event including full research publications after an extensive peer review process. The proceedings booklet which will be accessible via the LSME website in due course. This must be utilised as a means of continuing our ongoing debates in academic research.

Once again, I would like to extend a word of appreciation to all of you and particularly to the organising committee of this conference for giving me an opportunity to address the closing ceremony of this inaugural conference. Thank you very much for your attention.

DAY THREE: SUMMARY OF FIRST PAPER PRESENTATION SESSION

Chairperson: Dr. Heather Mbaye
Rapporteur: Dr. Takalani Mashau

‘Effect of Word recognition and Reading Comprehension Modules in English on Metacognitive Reading Awareness of High School Students.’ By Dr. Anjali Puri, Senior Asst. Professor, Government College of Education, Chandigarh

The presentation commenced with an explanation of reading comprehension and metacognition strategies as a tool to monitor and manage comprehension of
reading tasks. The research aims at studying the effect of word recognition and reading comprehension modules in English on metacognitive reading awareness in high schools. The research method was an experimental design in which a randomly selected 100 class four students in Chandigarh were given to a pretest consisting of Metacognitive Awareness Reading Strategy Inventory (MARS). Eighty of these students were then selected for a future test in which 40 were assigned to an experimental group and the other 40 were controls. For twenty days the experimental group received modules for word recognition and reading comprehension while the control received the ordinary teaching. A post-test of MARS was delivered to both groups after the twenty days and the findings suggested a positive effect of word recognition and reading comprehension on the awareness of metacognitive reading strategies, highlighting the importance of word recognition and reading comprehension modules. In a comment, Dr. Margaret Solomon, indicated that it should take about 5 years for the transition between word recognition to metacognition. The presenter however suggested that the use of reflective practice allows students to keep a journal of metacognition and this enables the such transitions within a short while.

Mining the Web to Determine Responsiveness of the Management of Education: Semantic Analysis of the Facebook Posts and Comments’ by Dr. Rachita Sambyal Assistant Professor, U.I.A.M.S, Panjab University, Chandigarh, India.

In an era where most organisations use social media to promote their business, the presenter examines how the top three management institutions (Insead, Wharton and Stanford) respond to the Facebook posts of their prospective customers to understand how they are responsibly responding to the dynamic education sector and the needs of their customers. Using opinion mining technique (natural language which is trend based, aspect based and sentence based) the author builds a semantic score of data generated in 2016. Trend analysis was done through trend extraction of verbs and adjectives using an extraction algorithm and then classification of these words into strongly positive, positive and neutral. The finding suggested that Wharton tops in strongly positive words while, Insead topped in positive words and Stanford topped on neutral words. The Facebook status posts were also analysed by various factors including Education, Research, Administration, and Information, society, identity and relationships. Stanford had many posts that helped in initiating open discussions by the users leading to more commenting and interaction among the users on school branding, people
opinion, role of genders, work and job placements and tops in research. Wharton also has maximum strongly positive comments, most of it owing its publicity to the recently selected U.S president, Donald Trump who is also Wharton alumnus. Insead tops in education and networking. The results also depict that none of the user posts negative or bad comments on the Facebook pages and there was no critical appraisal. As a result, there was no constructive feedback for the business schools to work upon. The presenter concluded with recommendations for discussion amongst the current and aspiring students must be allowed so that basic queries about the atmosphere of the school, placements, academics etc. are handled effectively. Schools Information about the admission processes must be made available on the Facebook pages. Interactions must create post content around their alumnus who have achieved some remarkable accomplishments. This ensures effective branding and more user engagement on the social media. Comments from delegates suggested that it is possible that negative comments are deleted by big organisations and this may explain why there were no negative comments in the analysis.

‘Found in Translation: Empowering Chinese Students in Anglo-Centric Pedagogical Contexts’ by Dr. Sally Sun University of Bolton and Co-authored by Mr. Martin McAreavey and Dr. Smith of University of Bolton.

In their presentation, Dr. Sun (via video link) and Mr. McAreavey examined the influence of bilingual academic support via social media on the performance, motivation and engagement of Chinese students studying at Bolton University. They highlighted the challenges faced by Chinese students in UK due to cultural differences, language barriers which ultimately leads to adjustment problems, isolation and limited understanding of the academic requirement. In their research, social media was used to develop a trans-language pedagogy. A lecturer who speaks both Chinese and English is engaged to provide academic support to students via social media using the out of class hours. A focus group discussion about a total of 52 students was conducted to assess the effect of bilingual academic support during afterhours. The findings suggested a positive impact on students’ performance and engagement. This provides an insight on university strategies to improve the overall satisfaction of Chinese students.
DAY THREE: SUMMARY OF SECOND PAPER PRESENTATION SESSION

The second Paper Presentation Session was Chaired by Professor Hue Ming-tak and the rapporteur was Malvika Rajeevan.

Presenters for this session included, Dr. Namrata Sandhu, Dr. Anupreet Kaur Mavi and Marlene Altenhofer who presented their research papers entitled ‘Drivers of Employee Engagement in Indian Banking Industry: Model Development and Testing’, ‘Use of Open Access by Researchers in Higher Education: An Instrument to Promote Responsible Research and Innovation’ and ‘Integrating RRI into Higher Education: Teaching and Learning Approaches’.

‘Drivers of Employee Engagement in Indian Banking Industry: Model Development and Testing’ by Dr. Namrata Sandhu, Associate Professor, Chitkara Business School, Chandigarh India. Co-authored by Dr. Sharma, Dean, Chitkara Business School, Chandigarh India.

This research aimed at identifying factors driving employee engagement in the banking industry in India as the literature review pointed towards a gap in the understanding of employer engagement. It is the belief of the authors that the results of the study are likely to help improve professional standards related to employee engagement in the banking industry. The results shall also add to the extant literature in the spheres of human resources, organizational development and organizational psychology. The researchers collected data from private public and foreign banks and identified six main factors including emotional satisfaction, perceived fairness, personal development, culture, clear communication and compensation as factors that influence employee engagement. A regression analysis revealed that two of these factors which are emotional satisfaction and compensation are significant in the overall model. The presenter concluded by indicating that these two factors can be selectively and systematically used by banking industries to improve employee engagement. Questions and comments suggested that as banking can be retail or investment based, they need to be segregated as the factors affecting engagement of employees may be different. Further research options should be considered.

‘Use of Open Access by Researchers in Higher Education: An Instrument to Promote Responsible Research and Innovation’ by Dr. Anupreet Kaur Mavi,
Assistant Professor, University Institute of Applied Management Sciences, Panjab University, Chandigarh, India.

The rationale for this research is that it is very costly to access good quality research on a global platform. The research focused on the opinion of researchers and the usage pattern of open access publications in higher education institutions in India which have a limited number of open access journals and registered archives. Methodology included a well-designed questionnaire that contained the demographic information of researchers, their status of publication, and awareness of forums of publication. The researchers found that about 34% of research papers got published through grants and the majority published papers because it was mandatory for their career development and promotion. It was concluded that the open access platforms were restricted and most institutions lacked proper monitoring model for analyzing the quality of research as well as the quantity of research. There need to be a well-established peer review committee to assess the quality of research manuscripts before publication. Comments from the delegates indicated that the research has revealed the long term difficulties in transferability of teaching resources from India to other countries. The restriction of getting publication in high impact journals should be taken into account.


The presenter reiterated the importance of integrating RRI into higher education institutions. Training on how to make research, science, and innovation more responsible and socially robust as well as the use of more reflective approaches to societally relevant areas is the main objective of the project. The HEIRRI project assesses the contribution of all the key aspect of responsible research training for schools and training of trainers at all levels by developing and testing open access training programmes. The presentation outlined stakeholder engagement approach and its key findings and also focused on two training programmes that
illustrates how RRI is integrated into training that addresses PhD candidates and other members of higher education institutions. Challenges included teaching responsibility and reflectivity, institutional barriers (limited possibilities, lack of support and incentives) and acceptance of RRI.
ABSTRACTS OF PAPERS PRESENTED AT CONFERENCE
ABSTRACT – 1: Pseudo Gender Empowerment Through Education: A Case Study of Girl Education in Himachal Pradesh.

Anita Sharma, HoD, Associate Professor, RKMV, Shimla (HP), India.

Purnima Chauhan, Librarian, RGGDC, Shimla (HP), India.

Abstract

The present paper would deal with the empowerment of women through education in India. Status of education from the ancient times to the present era would be compared with special emphasis on the status of girl education in the hilly state Himachal Pradesh. Kofi Annan secretary General of the United Nations (1997-2006) has asserted that gender equality is a ‘Pre-requisite’ for achieving the Millennium Development Goals. Ironically in India it matters a lot whether one is born a man or a woman. Woman is further marginalized with the class, caste, religion and society in which she grows up. Even after facing everything if she reaches the top, she is always seen as a woman first and professional later. Empowerment means decentralization of authority and power implying a state of mind that reflects self-confidence and self-reliance. Women empowerment is a new phrase of gender literature used in two broad senses-general and specific. The term essentially means that the women have the power or capacity to regulate their lives in the social, political and economic terms which enables them to move from the periphery to the center. It is very often said that the inherent strength of a society, a culture and a system is judged by the way its women are treated and the importance assigned to them by the society. To speak of gender equality is to speak of a world when the ideal scenario would be that both men and women are treated equal in all respects. In theory, the Indian religion and philosophy assign a place of near divinity to womanhood. Our religious scriptures assign respected positions of pride and honor to women and it is beyond all pale of doubt that womanhood has been worshipped with grace and respect all along in our history. We have thus conceptualized for womanhood a high place in our thinking and socio-cultural psyche. Earlier this year, the independent Annual Status of Education Report into rural schools found declining levels of achievement, with more than half of children in standard five – aged around 10 – unable to read a standard two-level text. “If you want to end child labour, you have to fix the education system,” Taneja says. “People are aware of what education is and what it is not”. Nor do enrolment
figures necessarily reflect who is actually attending school, she says. The number of primary age children not in school in India was put at 2.3 million in 2008, but other estimates suggest it could be as high as 8 million. According to an Indian government report, the primary drop-out rate in 2009 was 25%. It is girls, and marginalized groups such as the very poor and the disabled, who are often left behind. While girls attend primary school in roughly equal numbers to boys, the gap widens as they get older and more are forced to drop out to help with work at home or get married. For better women education in India following programmes have been run:

- Sarwa Shiksha Abhiyan
- Indira Mahila Yojana
- Balika Samridhi Yojana
- Rashtriya Mahila Kosh
- Mahila Samridhi Yojana
- Employment and Income Generating Training-cum-Production Centres
- Programme of Development of Women and Children in rural areas
- Short Stay Home for Women and Girls

The factors affecting the women education in India:

- Undernourishment and malnutrition of the girl child
- Sexual harassment and abuse at early age
- Lower socio-economic status of parents & patriarchal system

Home for over 500 million women, a country acknowledged for its plurality of traditions, customs and institutions and proud of its heritage of eclecticism, India’s contribution to the global women’s debate has been rich, diverse and in many ways unique. But like the many contrasts that India’s long and variegated history mirrors, the image of the Indian woman is far from uniform. Nothing would therefore be more inaccurate than to try and posit a generalized picture of the Indian woman across social, economic and cultural spaces. But in reality this contemplated equality is just a myth as yet. However, gender equality is an important issue of human rights and social justice not only in India or in the third world countries alone but almost throughout the world.
ABSTRACT – 2: Pedagogical Principles and Practice Driving Stakeholder Added Value in Multi-Disciplinary Leadership and Management Learning.

McAreavey, M.J., Programme Leader – Full Time MBA, University of Bolton, UK.


Abstract

Developing a postgraduate programme suitable for graduates from any academic discipline presents many pedagogical, practical and process challenges. These challenges are amplified when the programme is architected around a ‘Blended’ delivery model developed and deployed within a compressed time scale and in the context of a rapidly changing landscape for Higher Education (HE) in the UK.

The paper explores the challenges encountered in high expectation, high pressure, high visibility, multi-disciplinary programme development. It focuses on the lessons learned from the development and deployment of two similar postgraduate courses designed to meet the needs of heterogeneous graduate students from two geographically disparate UK universities serving similar demographics. These issues are placed within the context of an increasingly dynamic and turbulent landscape for UK HE, driven and shaped by market forces and the notion of students as customers rather than consumers (see BIS 2011, BIS 2016, McAreavey 2015).

The paper explores key themes and issues emerging from a ‘marketised’ UK HE landscape, highlighting the drivers shaping HE Institutions (HEI) to consider new forms of provision and approaches to delivery. This is followed by an outline of two initiatives designed by HEI operating towards the vocational end of the HE continuum, but in geographically separate catchment areas / target markets. These ‘case studies’ illustrate areas of commonality and similarities in responding to perceived challenges emanating from competitive pressure and student demand. The paper concludes with a short assessment of the potential for further development along the lines established by these HEI, and identifies areas for additional exploration and study.
ABSTRACT – 3: Teacher Education in South Africa: A Worrying Factor?

Mashau, T. S. (presenter), University of Venda, South Africa

Muremela, M. G., University of Venda, South Africa

Abstract

Teacher education in South Africa is a matter of concern. It is a concern because students who choose teaching as a career are few. Immediately after the dawn of democracy in South Africa, the government closed down all teacher training colleges assuming that there is an oversupply of teachers but the passage of time has shown that this assumption was incorrect. The profession is surviving because of students who pass Grade 12 and find out that they are not qualifying to pursue their first prioritized, desired or chosen careers at university and hence turn to teaching as an alternative career. It becomes important to keep these teachers in the profession. It should always be remembered that teaching is a noble profession. It needs a professional individual who is dedicated to his work and who will practice roles of a teacher as per the norms and standards for educators. Teaching needs a professional individual who will be a role model to his learners. Students who choose teaching as a second choice and even those who choose teaching as their first priority career path need to undergo three components of teacher education in order for them to remain in the teaching profession for their entire career. In this research paper researchers would like to emphasize the importance of incorporating three components of teacher education for the career span of teachers. Teacher education is composed of initial teacher training or pre-service teacher education, induction and teacher development or continuing professional development. Initial teacher training in South Africa is currently offered by universities. The paper investigated whether teacher education is practiced in a way that teachers would remain in the career for their entire working span. The paper also discussed the competence of teachers in areas such as subject matter, subject content, subject knowledge, and pedagogical knowledge content. The paper used qualitative design, where interviews and focus groups were conducted to collect data. The population which was used to collect data were fourth year students who are doing teaching, teachers who have been in the teaching field for two to three years and the experienced teachers. Population was purposively sampled. Data were collected from ten fourth year students who are doing initial
teacher training, ten educators who have two to three years teaching experience and ten experienced teachers. The paper found that teacher education is not practiced satisfactorily as the students indicated that they are not certain about the subject matter, subject content, subject knowledge, and pedagogical knowledge content. Whereas teachers who have two to three years teaching experience indicated that they have never undergone any kind of induction. The experienced teachers indicated that continuous teacher development is done haphazardly and framed it as “microwaving”. The areas which the participants indicated make them to become disillusioned and would consider to leave teaching profession and pursue other careers.

ABSTRACT – 4: Transformation in Catholic Education: Moving Towards an Inclusive and Socially Just Theory of Catholic Education.

Whittle, S., Visiting Research Fellow, Heythrop College, University of London

Abstract

As a researcher who explores the philosophy and theology of Catholic education I want to address the questions around the contemporary justification of Catholic education in a pluralist society, such as the UK. In pluralist societies which adhere to the principles of liberal democracies it has become increasingly difficult to justify Catholic education. At many levels it is characterized as at odds to an inclusive and just education. Philosophers of education such as Hirst (1974) argue it amounts to a primitive form of education. Others such as Hand (2003) maintain that all forms of faith school ultimately inhibit autonomy. Government inspired judicial reviews such as the Cantle Report (2001) raise concerns about social cohesion and faith based education. Against this advocates of Catholic education (Sullivan 2001, McKinney 2008) have sought to argue that Catholic schools can be characterized as an inclusive form of education. At the same these advocates have wanted to defend the confessional nature of Catholic education.

Against this context my theoretical research into the theory of Catholic education has used a method that emulates Neurath’s metaphor from the philosophy of science about repairing a boat whilst still on the open waters. This theoretical method makes it possible to use insights from contemporary Catholic theology
to reframe and ground the aims and justification of Catholic education along non-Confessional lines. Once this is achieved, the idea of Catholic education largely ceases to be vulnerable to accusations that is not inclusive and that it damages social cohesion. The argument underpinned by this research is able to transform or reframe the theory of Catholic education more effectively than earlier attempts by Sullivan (2001) and McKinney (2008). The paper I want to deliver will begin by quickly mapping out why attitudes in our pluralist society have become increasingly critical of Catholic education generally and of Catholic schools in particular. From this opening point I will argue that the time has come for a fundamental reappraisal of what the primary goals or aims of Catholic schooling ought to be. If Catholic schools are to be coherently justified in our pluralist society, it is no longer adequate to simply appeal to ‘parental rights’ and to assumptions about this serving the common good. The time has come to ‘bite the bullet’ by arguing for and adopting a non-confessional (or non-catechetical) approach to Catholic education. Obviously, the idea of a non-confessional theory of Catholic education is one that many proponents of Catholic education might find difficult to work with. It is normally assumed that Catholic education is committed to using formal schooling in order to actively nurture pupils in the Catholic faith. This is primarily because official Catholic teaching on education repeatedly uses the argument that Catholic schools exist in order to support Catholic parents who want to bring up their children in the Catholic faith.

However, against all this I will argue that there are some sound theological reasons to justify a non-confessional account of Catholic education. The likes of leading theologians such as Karl Rahner provide the inspiration for developing a robust non-confessional account of Catholic education. This would make it possible to explain how Catholic schools could cohere well with our pluralist society. In our secular age Catholic schools could be recast as places open to all pupils and to be the very sites where they are enabled to critically assess their own beliefs and values, as well as the values of their society, including the ideology of consumerism. I will conclude that if Catholic education is to be viewed as having a positive influence in our society in matters of education the time has come to challenge our traditional thinking about the aims of this kind of education. The way forward is to recast Catholic schools along non-confessional lines. This has the effect of transforming critical stances towards Catholic education and provides a way of making abundantly clear that this theory of education is fully inclusive and promotes social justice.
ABSTRACT – 5: Correcting for ‘Missing Women’ in Gender Development Indicators: Responsible Application of Simple Mathematics in Development Studies.

Hippu Salk Kristle Nathan, Visiting Fellow, London School of Economics and Political Science, Houghton St., London, WC2A 2AE, UK & Assistant Professor, National Institute of Advanced Studies, IISc campus, Bangalore – 560012, INDIA.

Abstract

Simple things are often powerful and power is a double-edged sword. If not used responsibly, it can lead to disaster. One of the striking examples of this is found in works related to development indicators where simple mathematics is employed. This paper revisits one such indicator: gender development index (GDI). The GDI is an inequality adjusted human development indicator. It assesses human development of a society after adjusting for gender inequality. It uses weighted harmonic mean to account for the difference in performance of male and female. Though simple, this indicator suffers from the limitation that countries with unbalanced sex ratio get unduly rewarded when the sex ratio favors the better performing gender. This can lead to further additions to ‘missing women’. A correction needs to be introduced to capture this anomaly. The proposed alternative measure satisfies an axiom of Monotonicity with its two corollaries, viz. given attainments the measure maximizes at ideal sex ratio and peters out when one of the genders goes extinct. Empirical illustration taking life expectancy data shows that countries with skewed sex ratio biased towards either gender, like that of gulf countries where male are more than female, get penalized under the new measure. On the contrary, the countries where sex ratio is close to unity improved their ranks.
ABSTRACT – 6: Development of Partnering Performance Index (PPI) for Evaluating Human Attributes in the Construction Industry.

Malvika Rajeevan, Assistant Professor, Srinivas School of Engineering, Mukka, Mangalore, Karnataka, India.

M. D. Deepak, Research Scholar, National Institute of Technology, Surathkal, Mangalore, Karnataka, India.

Abstract

Companies prefer a partnership basis for working towards the goal of achieving the target result and mutual benefits. Maintaining partner relationships in the implementation of construction projects brings a number of benefits, such as dispute resolution, improving communication, increasing productivity and reducing the time and cost of the project. Partnering involves the parties to a construction project working together in an environment of trust and openness to realize the project efficiency and without conflict. In the paper the study is basically on the contribution of human attributes such as trust and responsibility, top management commitment, effective communication and dispute resolution in the successful completion of a partnership project. A comparison between different methods of assessing partnerships such as the Delphi system and other logical approaches are carried out to determine the effectiveness of the measured variables. Partnering can bring significant benefits, including fewer adversarial relationships and increased end-customer satisfaction, to the construction industry. A hypothesis has been put forward that partnership attributes, communication behavior, and conflict resolution techniques are related to indicators of partnership success and these hypotheses are tested at various levels of management to seek solutions for a smooth flow of human attributes in partnership projects. The model was tested using structural equation modelling. Outcome of analysis indicate that the primary characteristics of partnership success are: partnership attributes of commitment, coordination, and trust; communication quality and participation; and the conflict resolution technique of joint problem solving. The findings offer an insight for a better management of these relationships to ensure success in partnering business in the construction industry.

Dr. Sukhmani Mann, Research Scholar, Guest Faculty UIAMS, Punjabi University, Patiala, India.

Dr. Navjot Kaur, Professor School of Management Studies. Punjabi University, Patiala, India.

Dr. Sanjeev Sharma, Director UIAMS, Punjabi University, Patiala, India.

Abstract

Work is a complex phenomenon in the context of hospitals. Work takes on different shades of meaning and most important is the intrinsic meaning that it has for the individual and for the group which he is part of. Motivation is a basic psychological process. It refers to the force within the person that affects direction, intensity and persistence of voluntary behavior. According to the Self Determination Theory, intrinsic motivation has the most positive outcomes followed by integrated and identified regulations whereas introjected and external regulation lead to the most negative outcomes. A Study was carried out to establish whether any relationship exists between various aspects of motivation and its impact on Turnover Intention across 200 doctors working in Punjab and Chandigarh tricity across two strata -government owned medical colleges and hospitals and private owned (corporate, trust, minority institutes). Data was collected through the following instruments: Niehoff and Moorman for Organizational Justice (OJ), & Extrinsic and Intrinsic Motivation Scale (WEIMS) Deci & Ryan (Motivation). Primarily t-test was used on independent samples. To determine mediation, regression was applied. Data analysis showed significant findings among motivation concepts and turnover intention. The mediating role of affective commitment was also observed.

Keywords: Organisational justice, healthcare human resource policy, Intrinsic Motivation, Extrinsic motivation, Amotivation.

Ming-tak Hue, Department of Special Education and Counselling, The Education University of Hong Kong.

Abstract

Ninety-five per cent of Hong Kong’s population is Chinese, but 1.94% of the school population can be classified as ethnic minorities (School Education Statistics Section, Education Bureau [SESS, EDB], 2012). The percentage has been growing as a result of continuous immigration to Hong Kong. The majority of these students are among the lowest-achievers academically, and come from low socio-economic backgrounds, as well as experience learning difficulties in the second languages of Chinese and English. This paper reports key findings of a qualitative study into 32 teachers’ and 20 students’ constructs of ethnic diversity and ethnic minority identity. Methodologically, semi-structured interview was employed; and the participants were recruited from three secondary schools in which the majority of the students enrolled are from the ethnic minority. The students involved in the interview study were Pakistanis, Indians, Nepalese and Pilipino, whereas the teachers were local Chinese. The study has shown that the teachers faced challenges of ethnic and cultural diversity in their classroom and recognized the effect of students’ sense of identify upon their learning in the schools. Also, it is found that the students’ constructs of their identity shifted between ethnic minority and Hongkongese, which has an association with their discourses of community engagement and aspirations in education and future career. Finally, the paper will give implications for the formulation of ethnic identity, in the context of Hong Kong society, and the promotion of cultural responsiveness at the various levels of the classroom, the curriculum and the school.
ABSTRACT – 9: The Long Term Impact that Daycares are having in Transforming the Democracy within Our Educational System.

Loranger P, Education Consultant, Canada.

Abstract

A kindergarten student recently asked of a teacher on a group project assignment “Aren’t we going to vote on that as we did in daycare?” In a land that initiated the “Magna Carta”, are we now seeing democracy entering our classrooms as we refute Aristotle’s assumption that the child is but a “tabula Rasa”, a blank slate to imprint our thinking upon him as parents more and more want to affirm the identity of their child through the educational system? What are the changes that are occurring in taking time to listen to children as they begin to have a say in their own education through the new methodologies that are developing the metacognition of the child to accomplish this as more and more teachers discover a better learning environment in their classroom in balancing instruction with student inquiry? Why do some daycares have less multicultural problems than do our schools who seek to segregate our schools based on ethnicity? How does it progress through the grades as principals are starting to see a mark difference between the progress of “engaged” student from the one who merely attends the classroom and becomes disengaged with life in the process? What are the new Inspired outcomes that we can expect by promoting it in our schools as noted by the public in Alberta in being asked what needs to change about our educational system to prepare the child for the 21st century? All of this raises the inevitable question “Are we fully becoming responsible active researchers in seeking to transform education without having input from those who will be involved in the process? This talk will seek to address these questions.
ABSTRACT – 10: Responsible Research in Social Science: Academia in Service to Government School Teachers?

Mbaye, Heather A. D., PhD., Associate Professor of Political Science, Department of Political Science, University of West Georgia, USA.

(a) Aims

“Responsible research” in the social sciences has come to mean connecting our research to the practical concerns of the public in a way that contributes to positive social change. We assume that the public wants our results, our advice, and our insight. We know that the relationship between Colleges of Education and K-12 teachers is very close; however, academics in social sciences, hard sciences, humanities, and business often fail to connect to our counterparts in high schools. My research asks local K-12 government school teachers how we in academic disciplines can best meet their needs, where we fall short, and what we can do to increase support of their efforts in bringing the best possible students to the University.

(b) Relevance

Not only is this study in support of the movement toward responsible research, its necessity and aims, the study is responsible internally: that is, the University of West Georgia is asking the impacted population what it is they need, with a view to actually accomplishing those tasks within the Murphy Center for Public Service. In particular, ask teachers about their relationship and knowledge of the European Union in anticipation of applying for an outreach grant from the commission. The research is responsible – it takes care to connect its own aims to the needs of teachers in the local community.

(c) Method

Through an expert survey of teachers in local high schools, a picture of the best way researchers in academic content disciplines can do and disseminate research will emerge. This survey is available to the broadest possible set of responders, and does not claim to be representative; indeed, it is meant as an expert survey. The survey will be accomplished electronically and contains open-ended questions. Principals will be asked permission to administer the surveys in their schools. Local
teachers and administrators in schools that teach grades 9-12 will be asked to participate (along with identifying information about their position, though not their personal details).

(d) Findings

The details of the findings will emerge when the survey is closed. However, I ask questions about the utility of creating new journals, lecture series, workshops, and outreach packages.

(e) Conclusions and Recommendations

Thus, this study aims to discover local high school teachers’ needs in order to shape goals. The survey is in process, so we do not as yet know what kind of goals will emerge.

ABSTRACT – 11: Reliability and Validity Measures in Responsible Research and Innovation.

Suresh Kumar Sharma, Department of Statistics, Panjab University, Chandigarh, India.

Sarita Parhi, London School of Management Education (LSME), UK.

Ravi Kumar, London School of Management Education (LSME), UK.

Abstract

Research is systematic investigation (observation, experiment, critical thinking), which aims to increase knowledge and help us to draw valid inferences. Generally, conclusions are drawn based on observations. Innovation on the other hand is a more specific concept and more closely related to business, industry or scientific technology. It can be described as a process of using information and existing phenomena to improve human lives by creating better products, services and technologies that are readily available to markets, governments and society.

In responsible research and behavioral sciences, researchers are often interested in studying theoretical constructs that cannot be observed directly. These constructs are termed latent variables or factors. Examples of latent variables
in psychology are self-concept and motivation; in sociology, powerlessness and anomie; in education, verbal ability and teacher expectancy; and in economics, capitalism and social class. It is important to measure these constructs in some other context. For example, in biological sciences, fever (latent variable) is measured through temperature, body ache and headache (may be on five-point or seven-point scale). Obviously, all these variables (latent or observed) may contain errors, generally, called measurement errors. These errors are measured through statistical techniques (like regression or measurement error models, including structural equation modeling), which involves the distinction between exogenous (independent) and endogenous (dependent variables). Exogenous latent variables cause fluctuations in the values of other latent variables in the model. Changes in the values of exogenous variables are not explained by the model. Rather, they are considered to be influenced by other factors external to the model. Background variables such as gender, age, and socio-economic status are examples of such external factors. Endogenous latent variables are influenced by the exogenous variables in the model, either directly or indirectly. In this research paper, several measures have been suggested to counter these errors, and the most prominent ones are reliability and validity.

Reliability is the degree to which an assessment tool produces stable and consistent results. It allows us to study the properties of measurement scales and the items that compose the scales. The Reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Cronbach’s alpha, test-retest, split-half and Guttman procedures are some commonly used reliability measures for observed variables. On the other hand, Validity is described as the degree to which a research study measures, what it intends to measure. For latent variables, validation process is important. We need to validate, whether the actual items are falling under the same construct or not. Most commonly used measures of validity are ‘goodness of fit/adjusted goodness of fit’, convergent/divergent validity and some indexes like ‘normal fit index’, comparative/relative fit index etc. In the present research, we shall address all these issues, their utilities and implementation, particularly in the area of responsible research and innovation.

**Keywords:** Latent variables, reliability, validity, Cronbach’s alpha, goodness of fit, factors.

Dr. Craig A. Hammond, Liverpool John Moores University

Abstract

Michel de Certeau’s work The Practice of Everyday Life (1984), defines and frames the use and meaning of the terms tactic and strategy. Certeau aligns the notion of ‘strategy’ with political, institutional and structural power; as such, strategy for Certeau consists of a set of processes and activities associated with those who rule and administer the parameters of a particular space. Through mechanisms of governance, an identified and legally named area serves to establish the types of expected behaviour within that space. In contrast, for Certeau, the connotations and actions associated with the different context of the ‘tactic’, pose direct and political possibilities. In sum, despite the expectations to conform to strategic prescriptions within the identified space, individuals rarely purely adhere to institutional obligations. At the level of the individual, anti-conformist tactics can be invoked, which repurpose the legislation and policies of the organisation. As such, everyday life within the regulation of learning spaces can produce a littering of tactical practices, which challenge and even short-circuit the rules, policies and organisational expectations; subjective tactics can set out to alter and subvert them, with a view to making them their own.

Guy Debord and the Situationists developed and implemented a number of micro initiatives, as direct responses to the relentless nature of the escalation of constricting power amidst consumer-based regimes. Within the context of education Ken Knabb (2006) notes that, a society and its institutional organs, ‘dominated by commodities and spectacles allots everyone a specific role within a general passivity. The student is no exception to this rule. He is a provisional role, a rehearsal for his ultimate role as a conservative element in the functioning of the commodity system. The dynamic potency of the dérive and détournement, means that as pedagogical tactics, they can be developed in ways that can confront and challenge the psychological Lethe inseminated by the juggernaut of consumption; inciting fractured and creative heterogeneities, they can be geared towards
infiltrating and reclaiming slumbering residues of individual autonomy. Infused with de Certeauean tactical possibilities, the Debordean pedagogical manoeuvres of the dérive and détournement will be used to sketch out ways in which flexible tactics can incite inner-worlds and subjective rhythms of dynamic learner engagement, (of both practitioners and learner collaborators).

Adapting the tactics of the dérive and détournement, chaotic, bespoke and Expressionistic wanderings, revealed by each collaborator can emerge to challenge the traditional approach to organising, managing, and marking HE groups of students. Shifting expert judgement away from ‘individual risk’, the micro democracy of Peer Assessment can be implemented, so that educational collaborators remain free to produce personal-creative works; this, in turn, enables the manifestation of multi gendered, cultural and class context voices. The Debordean tactical vehicles, operate to disaggregate and dissolve; their openness as conceptual husks operate to generate creative departures, so that learner-collaborators can begin to chart previously unnarrated and embryonic possibilities on the horizon of the future. Presented with spaces and options to open-up and develop moments of possibility – teaching, learning and engagement is liberated from the dry-bones and architectural encasement of the spiritless doppelganger of the routinised university.

The possibility of adapting and implementing this array of conceptual and pedagogical tactics means that the university and the learning experience can begin to move away from the guise, process, and stasis of activity more akin to that of a museum – with catacombs of separated and archived knowledge. The tyranny of the academic warder, replete with encased frameworks of functionally categorised shells of knowledge, can be transformed to a facilitator of collaborative knowledge; with this the learning experience is resituated and revived, inhabited, and co-produced in multiple new and fresh directions. Pro-dynamic facilitators can engage with knowledge and liberate creative possibilities and unknown narrative undulations.

In this sense, the framework and openness of the pedagogical tactics of the dérive and détournement can be experienced as catalysts. Rather than presenting knowledge as a finite and finished body of work, as an indexed set of sclerotic concepts, rules, and quotations – archived beneath a veneer of inaccessibility – they can be offered as intellectual and emotional flexes. Rather than treating knowledge
as an academic endgame, as a ranking card within a game of academic Top Trumps, with strengths and limitations coldly compared against the assumptions, omissions, and obliquities of other already established ideas and writers, different, radical, and empowered encounters can emerge, which are ripe for discovery. With de Certeau and Debord, knowledge can be presented as a liberating alternative, a participatory invitation to start to discover, and creatively shape, knowledge, learning communities, and future possibilities in new and unforeseen ways.

ABSTRACT – 13: Improving the Cultural Capital of Children from Marginalized Communities.

Margaret Solomon, Professor, Educational Administration, La Sierra University, Riverside, California, USA.

Abstract

This was a study about making positive impact on poor children’s self-esteem, locus of control and sense of hope, which are three constructs of cultural capital. Special lessons were designed as interventions to influence their cultural capital. The inquiry was based on the assumption that the social capital of students from the lower caste communities is much inferior to that of students from affluent homes. Four schools from the poor low-caste slum communities were chosen for this research and special instructional intervention was used to see if the lessons improved personal factors related to cultural capital. Instructional strategies focused on improving three constructs related to cultural capital, which are self-esteem, locus of control and sense of hope. The inquiry employed special instructional intervention for five days for students from 6th to 8th grades. A pre-survey measured students’ levels of cultural capital on the three selected constructs. Also, 45 students were interviewed before and after the instruction. Pre-interview helped to establish the levels of students’ self-esteem, how much they had control over their home and school environment and their sense of hope. The post-interview identified changes that occurred in students’ thinking in those three areas. The survey result showed that majority of the students had an average level of self-esteem but status on the next two constructs was very low. In the pre-interview questions to find out how they talked about their self-esteem, locus of control and sense of hope were asked. In the post interviews they were asked how they felt about themselves, how they would manage the challenges they faced at home and school, and if their sense of hope was high. Every student demonstrated a
profound change in his or her thinking about himself or herself. They felt that the lessons made them realize that in order for their self-esteem to improve they had to set high goals and work on reaching them. They also mentioned that their caste level determined their identity and it was associated with where they were in the caste ladder. Most of them expressed their sense of low self-identity but the lessons made them think about changing their situations. After the lessons they expressed their desire to change the constricting effect of caste on their self-esteem. Their sense of who they were and what values directed their lives became clearer to them. In the areas of demonstrating locus of control students showed that their lives were twirled around their home and community and they were bound by their parents’ expectations. Except a few students for majority of them their parents or their grandparents determined everything and they had no control of their lives. For example, even in choosing their life profession they depended on their parents. In the area of their sense of hope, pre-interviews indicated that every student expressed his or her desire for a better life for himself or herself but did not feel confident that they could. After the lessons many of them showed a positive attitude about their future and mentioned that the lessons taught them to hope for a better life. This study certainly confirmed that children from the poor slum communities need positive affirmations about who they are and how they can better themselves. Explicit instruction and training in the areas of cultural capital can certainly benefit them and quality education should provide such learning experiences.
ABSTRACT – 14: Project IRRESISTIBLE: Modules Designed to Raise Awareness About RRI Amongst Students.

Jan Apotheker, University of Groningen, The Netherlands (Corresponding Author)

Abstract

The project IRRESISTIBLE has designed modules for students to raise awareness about RRI in two ways:

- Increasing content knowledge about research by bringing topics of cutting edge research into the classroom.
- Fostering a discussion among the students about RRI issues about the science topics that are introduced.

In the 17 modules that were produced by the project topics of current day research are introduced to students in a systematic way. Topics ranged from nanotechnology to climate change as well as health issues. Responsible Research and Innovation, a concept developed within the EU, was introduced together with the new science concepts. Either as a separate issue or integrated throughout the module aspects of RRI are introduced and discussed by the students.

The effect of the introduction of RRI on the attitude of students towards RRI was monitored using on line questionnaires.

The modules were designed by teachers, researchers, experts from science centers and educational experts. In the first round of these Community of Learners the focus was on the design of the modules. In the second round of community of learners, the focus was on implementation. The modules produced were tried out with a new group of teachers, coached by one of the teachers in round 1. The feedback obtained was used to adapt the modules for easy implementation and use in the classroom. Over 400 teachers were involved in the project and over 6000 students have followed one or more modules.

Through questionnaires the development of the teachers was followed in both rounds.

As a didactic backbone of the modules an adapted 5E model was used. Bybee (734 Bybee 2007); In this model Exhibits were used as a product to communicate
the science learned. In addition, the students were asked to demonstrate the Responsible Research and Innovation activities in the exhibits.

Through a number of case studies, the design and the effect of the use of exhibits was monitored.

**ABSTRACT – 15: Principals’ Preparation & Performance for Education & Social Development.**

“Are principals authorized to show their talents or skill?”

Mukherjee Tapati, Principal, S.K. Rai Degree College of Commerce, Mumbai, INDIA.

Principals are the leaders of academic environment and play a critical role in establishing a school’s climate, culture & in selecting & developing teachers, among other roles. Although it seems to be highly debatable or there may be little disagreement whether good Principals make a difference, but there aren’t very many techniques or methods to prepare good Principals in a systematic manner.

Researchers, policy makers & practitioners, though very much recognize the role of school leaders in developing high- performing school. Then who are the ones who aren’t in agreement? These are mainly the people who are partially involved in the day-to-day running of the school and therefore need tangible proof to judge the efficiency of a Principal. These include the trustees, the parents of students and the non-teaching staff of the school. In addition to this, extraneous factors such as the governing board who send in Education Inspectors as ‘Marshalls’ to monitor the school affairs. This paper will address the importance of a good and efficient Principal basis a survey to judge the inherent qualities of a Principal; the various factors that affect a Principal’s performance; explore training programs that would affect the overall grooming of a Principal. To begin with, the role and function of a Principal is to define the school mission, ensuring the best grade and accreditation for its institution; managing the instructional programme& promoting a positive learning climate which in course of time will be responsible for education and social development of the students.

The Research and Methodology to achieve the above will depend on the following factors –

- Split of Government and Private schools in the country
• Split of the various education boards in the country that includes the Central board, the ICSE board, the State board and the IB – International Baccalaureate including the government run Municipality schools.

• Split of English and Vernacular Schools in the Country/City

The above plays a role in the functioning of a Principal. For shortage of time, the survey will predominantly be conducted within the city of Mumbai. Results could be extrapolated to other cities depending on the findings. The following will be included in the survey:

• A set of 15 schools meeting the above parameters will be approached. This has already been short-listed and a preliminary call has been made to the respective Principals.

• An outline of the questions asked will be as follows – e.g. What animal would you choose from this list? (beaver, hawk, lion and bear); What mistakes have you made and learnt from in your career? What would your current students say about you? What would you recommend an English and vernacular medium students to read? How would you contribute to the extracurricular life of the school? What was your experience of school and what led you to teaching?

• A 60:40 gender ratio will be maintained for the survey (60% Males and 40% for Females)
Apart from editorial references, I will be consulting a Researcher of Humanities to understand other aspects of this study so that one gets a holistic approach to this area of study.

The purpose of this paper will be to aggressively present a perspective on a Principal’s journey (mainly hurdles) in running a school which will be inter-wined with the qualification, behavioural patterns and personality of the Principal.

**Keywords:** Principal; Efficiency; Skill; curriculum; extra-curricular activities.

**ABSTRACT – 16: Challenges Faced by Telco’s during Information Technology Transformation.**

Marwaha, A. S., TPO, (UIAMS), Panjib University, Chandigarh, India.

Singh, R., Sr. Delivery Manager, On Mobile Global Limited (OMG), Bangalore, India

**Abstract**

IT Transformation is an ambitious program that has far reaching benefits for operator’s business. IT Systems Transformation refers to the sub-process that involved in aligning the Operations Support System and Business Support System infrastructure with the transformed network. The typical sets of activities that characterize this sub-process involves streamlining processes, rationalizing existing applications to merge, consolidate or retire systems and designing and implementing end-to-end solutions. There are a lot of factors like Business engagement, safeguarding business as usual operations, Stakeholder involvement and buy-in, Alignment with other programs and Managing Change and Driving User Adoption etc. A large program of this nature presents significant challenges and is dependent on certain critical success factors.

The IT Transformation program will have impact on the core processes, systems, operations and resources across Operators, resulting in unprecedented levels of change. As per the systems blueprint, this will potentially impact on a number of target audience groups within Operators and Customer Experience. An effective change management framework and approach is critical to the successful delivery of the program. This approach will under-pin and support many of the program programs within the scope of IT Transformation, with the aim of maximizing
acceptance and user adoption of changed systems and processes. This paper identifies the key challenges faced by Telco’s during IT Transformation program and understands change management and Driving User adoption during IT Transformation. Systematic Random Sampling method is used for data collection. A questionnaire was prepared and data was collected from 323 FTE (Full Time Employees) of fixed line operators operating from National Headquarters, Network Operations Center and Circle Offices, all of whom were interviewed. Secondary Data collected through Webinars, online reports and websites and Statistical Analysis using Chi square and ANOVA are being used.

**Keywords:** User Adoption, Stakeholder, Managing Change Customer Experience.

**ABSTRACT – 17: Health Education: A Cost Effective Tool for Preventing Cardiovascular Disease.**

Manjushri Sharma, Assistant Professor, UIAMS, Panjab University, Chandigarh, India.

**Abstract**

Cardiovascular disease (CVD) is the foremost cause of hospital admissions and associated mortality. It has thrust a huge economic burden on health care systems. A century of intensive research has revealed that the occurrence of CVD in a population relates to interlocking genetic, social, physiological, and environmental factors. These risk factors, alone or in combination, play a role in causation of CVD. Recent studies have also indicated that the type of risk factors, and their relative or absolute contribution to the causation of cardiac disease, tends to differ amongst populations with different socio-economic profiles.

As regards the literature available on the risk profiling for CVD and its relationship with the socio-economic attributes, most of the studies have concentrated on the so called ‘hard’ risk factors, including hypertension, diabetes, obesity, and hypercholesterolemia. The softer life style risk factors have gained importance only recently, with growing concerns on relationship between stress, sleep deprivation and heart disease. These risk factors are amenable to change provided health education is imparted effectively and efficiently at the right stage.

This paper intends to study the presence of sleep deprivation and stress in patients
who are diagnosed cases of Myocardial Infarction, reporting to public and private hospitals in the tri-city of Chandigarh, Mohali, and Panchkula. These hospitals cater to the population of Punjab, Haryana, Himachal Pradesh, and Chandigarh which is anticipated to be an appropriate representation of the demographic profile of North India, thus providing a healthy mix of all socio-economic classes.

The data, pertaining to socio-economic factors and life style risk factors, is to be collected from the patients reporting to the cardiology OPD of the selected hospitals. The inclusion criteria for the patients would be all the patients, above the age of 20 years, reporting to the cardiology OPD of the hospital and who are being admitted for diagnostic angiography. The exclusion criteria would be patients who have already been diagnosed as patients of Cardio-vascular diseases (because they might have received risk factor modification information), and patients who have significant co-morbidity (because of interaction of risk factors with other disease states).

The patients who fulfil the inclusion and exclusion criteria will be interviewed for the four classes of data that are to be collected for each patient, namely demographic data (for socio-economic indicators) and medical history, lifestyle factors history, and biochemical findings. Prior to interview, informed consent from all respondents will be taken.

The information about the risk factors and socio-economic status will be collected in a questionnaire cum schedule which has been adapted from the research tool used in INTERHEART study. These patients would be divided into cases and controls on the basis of selected criteria.

Data will then be analysed for:

Identification and the presence of risk factors for CVD (both conventional and ‘newer’) in the selected sample;

Create a risk function in men and women of a particular age group (using the life style risk factors);

Calculate the beta coefficients of two life style variables (sleep deprivation and stress) which would indicate the percentage of variation in the prevalence attributed by that particular risk factor.
ABSTRACT – 18: Effect of Word Recognition and Reading Comprehension Modules in English on Metacognitive Reading Awareness of High School Students.

Dr. Anjali Puri, Senior Asst. Professor, Govt. College of Education, Chandigarh.

Abstract

Language learning proceeds from the most basic blocks of language such as words, and then proceeding to more complex structures like phrases and sentences and finally to meaning. Metacognitive strategies require readers to monitor their comprehension and manage the reading task. The purpose of the present investigation is to study the effect of word recognition and reading comprehension modules in English on Metacognitive Reading Awareness of high school students. Experimental design consisting of controlled and experimental group has been used in this study. A representative sample of 100 students is drawn at the initial stage from class IX of government schools in Chandigarh, India based on random sampling technique. Pre-test is given to the class IX students consisting of Metacognitive Awareness of Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard developed in 2002. A sample of 80 students nearly equating on the scores of Pre-test are selected for future study. These chosen 80 students are divided into two groups of 40 each forming control and experimental groups. Modules for word recognition and reading comprehension designed by the researcher are taught to the experimental group for twenty days and ordinary teaching capsule is given to the control group during these twenty days. At the end of the experiment, post-test comprising of Metacognitive Awareness of Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard (2002) is given to verify the learning outcomes among the students of both the groups. The study demonstrates the positive effects of word recognition and reading comprehension modules on the awareness of Metacognitive reading strategies and the ability of students to regulate their own reading processes, thereby rejecting the null hypothesis that there exists no significance effect of word recognition and reading comprehension modules on Metacognitive reading awareness of high school students. The results highlight the importance of word recognition and reading comprehension modules for inculcating the metacognitive reading awareness among students which in turn paves the way for effective language learning. The more learners regulate their own vocabulary and reading comprehension, the more metacognitively cognizant they are of their learning process, which helps them recognize their strengths and
weaknesses. In other words, the students’ more enhanced knowledge allows them to be more self-regulated readers.

**Keywords:** Word recognition, Reading Comprehension, Metacognitive Reading Awareness

**ABSTRACT – 19: Mining the Web to Determine Responsiveness of the Management Education: Semantic Analysis of the Facebook Posts and Comments.**

Rachita Sambyal, Assistant Professor, U.I.A.M.S, Panjab University, Chandigarh, Punjab, India.

**Abstract**

The Web is a huge virtual space to express and share individual opinions, influencing various aspect of life, with implications for marketing and communication alike. Social Media are influencing consumers’ preferences by shaping their attitudes and behaviours. Keeping up with the trend, all the management education institutions have also entered on social media platform and are using their web presence to disseminate the information regarding their institutions, courses, activities and interact with their current & future students thereby using this virtual platform as an impetus to their branding activities in real world . Hence to understand how customers are responding to the various content posted by them, monitoring the Social Media activities is important to measure customers loyalty, their interests, their queries, their expectations and problem zones. This paper intends to analyse face book posts and comments of selected management institutes to understand how they are responsibly responding to the dynamically changing education sector and needs of the millennium generation. This paper, used the opinion mining technique (trend based, aspect based, and sentence based) and builds a semantic score for the data so gathered. Data would be captured with the help of netvizz software and the same would be analysed on Khcoder software. The data so collected then separated in the form of Facebook posts by the organisations and comments by the users. The data so collected will be cleaned by deleting all the irrelevant, non-English and spam comments. The trend analysis will be conducted in two steps. First trend extraction was done and then classification. In trend extraction, verbs and adjectives words from POS Tagger data using trends extraction algorithm was done. In classification, trends classification of these
words into positive trends, negative trends and neutral trend was done using lexicon based dictionary approach. The main aim is understanding and contrast the various themes used by the management institutes to market their intuitions and identify the areas where each one of them needs to put in effort to create education responsible organisation. The paper will perform the cross-sectional analysis of the various educational institutions and compare the contrast between them. Since the data collected is only from one social media i.e. Facebook and of the people who are members of the page of the various schools thus study is limited to online opinions of the customers.

**Keywords**: Opinion mining, management education institute, sentiment analysis, data analytics.
Abstract
This research explored the impact of the implementation of translanguaging pedagogy through a fragmented approach for Chinese students in a business school in the North West of England as a pilot study. It examined the influence of bilingual academic support via social media on their performance, motivation, and engagement. Chinese international students in the UK face many challenges when they study in UK universities for the first time. Moreover, many factors could affect Chinese students’ expectation due to differences in cultural background and education system between China and UK. These factors include adjustment problems, perceived isolation, limited understanding of academic requirements, language barrier, etc. Nevertheless, communication difficulty was perceived as the main barrier by the Chinese students to study abroad. This research postulated that communication issues can be alleviated through adopting a translanguaging pedagogy by having different type of lecturers who know various languages and provide support through social media. Instead of having timetabled classes to give support, an education support worker (in this case an Associate Lecturer) who speaks both Chinese and English, provided support to students through social media. So students can make better use of their out of class hours (fragmented time) ask for help.

Findings showed that the bilingual academic support via fragmented approach has positive impact on students’ performance, motivation, and engagement to empower students to achieve better results in higher education. There are total 21 Chinese students in business school in 2015-16 and 31 in 2016-2017. Two focus group (n=10*2) were conducted to explore and evaluate students’ expectation and perception before and after the bilingual academic support. These focus group lasted around 2 hours per session. Moreover, students’ assessments and exam results were compared between 2015-16 and 2016-17 to evaluate the before-after
effect of this kind of support on their performance. Furthermore, questionnaires’ results were collected and analysed to assess the impact of this support on their engagement and motivation. This provides insights on university strategies to improve Chinese students’ satisfaction due to the effect of implanting bilingual academic support and fragmented approach.

**ABSTRACT – 21: Drivers of Employee Engagement in Indian Banking Industry: Model Development and Testing.**

Sandhu, N., Associate Professor, Chitkara Business School, Chandigarh, India.

Sharma, S., Dean, Chitkara Business School, Chandigarh, India.

**Abstract**

Investment in employee engagement can help create a workforce that outperforms the workforce of the competitors. It can also motivate employees to align their efforts with the operational and strategic objectives of the organization. Therefore, academic literature is replete with call for further research on employee engagement. The present study addresses this call for further research and empirically examines the drivers of employee engagement in the Indian banking industry. The study categorically attempts to: (1) identify the factors that drive employee engagement in the banking industry, and (2) to assess the impact of these factors on employee engagement.

A questionnaire aimed at examining the drivers of employee engagement was designed based on the extant academic and practitioner literature. Few attributes used in the questionnaire were identified on the basis of convergent interviews conducted with senior HR executives employed with different Indian banks. For the purpose of data collection, a survey was conducted. In all, 1000 questionnaires were distributed from February 2016 to July 2016. At the end of the survey, 738 questionnaires were obtained. Missing value analysis was conducted to determine the number of usable questionnaires. Based on this treatment, 700 questionnaires were found usable. For the rest 38 questionnaires, more than 25 percent data entries were found missing. Hence, the final analysis was conducted based on 700 responses.

The empirical setting for the study was fourteen Indian banks. Care was taken to
ensure representation of all the three categories of banks, i.e. public, private and foreign, in the sample.

To check for non-response bias, the final sample of 700 questionnaires was divided into two categories. 502 of these questionnaires were returned without sending a reminder to the respondents, and 198 questionnaires were obtained after a reminder was sent to the respondents. 20 variables used in the questionnaire were randomly selected for analysis. Results of t-test indicate no significant difference across the groups (at five percent significance level). Hence, non-response bias was not an issue in the present study.

Data were analyzed using multivariate data analysis techniques. A model identifying the variables that drive employee engagement was developed and tested. Results of exploratory factor analysis reveal six factors that drive employee engagement. These factors are emotional satisfaction, perceived fairness, personal development, culture, clear communication, and compensation. Results of regression analysis reveal that two of these factors, i.e. emotional satisfaction and compensation are significant in the overall model.

The results of the study have been integrated with the reinforcement theory. It is the belief of the authors that the results of the study are likely to help improve professional standards related to employee engagement in the banking industry. The results shall also add to the extant literature in the spheres of human resources, organizational development and organizational psychology.

Anupreet Kaur Mavi, Assistant Professor, University Institute of Applied Management Sciences, Panjab University, Chandigarh, India.

Abstract

Open access (OA) refers to online research outputs that are free of all restrictions on access (e.g. access tolls) and free of many restrictions on use (e.g. certain copyright and license restrictions). Open access can be applied to all forms of published research output, including peer-reviewed and non-peer-reviewed academic journal articles, conference papers, theses, book chapters, and monographs. Till date there was very limited acceptability of open access regarding research and innovation. With changing times, the researchers in all fields of education have started acknowledging the significance of reducing the gaps between society and research; and the phenomenon of open access to research in varied areas is contributing to a great extent to this need of the hour. The paper proposes to study the current role and usage pattern of open access by the researchers in Indian higher educational institutions. In India, there are more than 300 universities and institutions of higher learning and hundreds of research laboratories, both in the government sector and in the private sector, but there are only 178 open access journals and 33 registered archives (2011). The situation can turn dramatically, if national funding agencies such as the Department of Science and Technology and the Department of Biotechnology, and heads of major research councils such as the CSIR, UGC, ICSSR, AICTE etc. decide that the results of all publicly funded research should be made available through self-archiving, institutional repositories and encourage open access journal publishing initiatives. A landmark achievement regarding the open access environment in the country is the New Open Access Policy 2012 which intends to “enhance public exposure of research.” By maximising the distribution of these publications through free online access, the Indian government also wants to ensure percolation of cutting edge research at a rapid pace into higher education curricula, “thereby raising the standard of technical and scientific education in the country”. The policy notes that “since all funds disbursed by the DBT (Department of Biotechnology) and DST (Department of Science and Technology) are public funds, it is important that the information and knowledge generated through the use of these funds are made publicly available as soon as
possible, subject to Indian law and IP policies of respective funding agencies and institutions where the research is performed.”

The study is based upon a systematic and extensive analysis of existing literature regarding the issue in concern to build upon a conceptual model to formulate a blueprint for a policy framework for education and research organisations regarding awareness and acceptability.

**ABSTRACT – 23: Integrating RRI Into Higher Education: Teaching and Learning Approaches.**

Altenhofer, M., Techno-Science and Societal Transformation, Institute for Advanced Studies, Vienna.

Lang, A., Techno-Science and Societal Transformation, Institute for Advanced Studies, Vienna.

Wuketich, M., Techno-Science and Societal Transformation, Institute for Advanced Studies, Vienna.

Griessler, E., Techno-Science and Societal Transformation, Institute for Advanced Studies, Vienna.

& the HEIRRI consortium (Higher Education Institutions and Responsible Research and Innovation (http://heirri.eu))

**Abstract**

In the last few years, the concept of Responsible Research and Innovation (RRI) has been debated and further developed through academic research, scholarly discussions, and policy deliberations and decisions. However, the implementation of RRI practices is still at a very early stage; only a few methodological approaches or good practices of RRI have been presented so far.

The integration of RRI into higher education institutions (HEIs) is crucial because they can provide training about ways of responsibly doing R&I to future researchers, scientists, and other R&I professionals and decision makers. The Horizon 2020 project HEIRRI aims to promote the uptake of RRI in higher education curricula by
developing and testing open access RRI training programmes and materials.

For this purpose, a comprehensive co-construction process has been conducted, which built on existing practices of teaching RRI and involved stakeholders from different higher education and national contexts. In cooperative settings, experiences, challenges, and barriers with regards to teaching RRI in HEIs have been collected, analysed, and used to design ten RRI training programmes for different audiences.

In this presentation, we will first outline our stakeholder engagement approach and its key findings. Then, second, we will focus on selected training programmes to illustrate how RRI can be integrated into trainings especially addressing PhD candidates and other members of HEIs, including lecturers, researchers, study programme directors, etc. We will identify appropriate learning outcomes, teaching and learning activities, content, and assessment methods for these audiences and show how they could be implemented in concrete training settings. We will conclude our presentation by discussing opportunities of and challenges for teaching RRI in higher education contexts.
Appendix 1 – Official Conference Programme

International Conference on ‘Responsible Research and Transformation in Education’

5th-7th April, 2017

Venue: Grange City Hotel, 8-14 Cooper’s Row, London EC3N 2BQ, UK

PROGRAMME

Day 1: 5th April, 2017 (Wednesday)

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<th>TIME</th>
<th>PROGRAMME</th>
<th>LOCATION: Main Conference Hall – Grange City Hotel</th>
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<tr>
<td>09.00-09.45</td>
<td>Registration</td>
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<td>09.45-09.55</td>
<td>All Delegates Are Seated</td>
<td>Announcements by MC</td>
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<tr>
<td>09.55-10.05</td>
<td>Arrival of Chief Guest &amp; VIPs</td>
<td>Introductions by Conference Chair: Professor Stephen McKinney</td>
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<td>10.05-10.45</td>
<td>Opening Ceremony</td>
<td>Welcome Address: Dr. Ravi Kumar, Conf. Convener</td>
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<td>Chair: Prof Stephen McKinney</td>
<td>Address by Chief Guest Lord Truscott</td>
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<td>Address by Guest of Honour: Cllr Gurdial Bhamra, Mayor, London Borough of Redbridge</td>
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<td>Vote of Thanks: Dr. Sarita Parhi, Principal, LSME</td>
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<td>10.45-11.15</td>
<td>Group Photographs</td>
<td>Please Proceed to Roman Wall for Group Photographs</td>
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<td>11.15-11.30</td>
<td>Tea Break - Refreshments Lounge</td>
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<td>11.30-11.55</td>
<td>Keynote Address</td>
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<td>Chair: Professor Stephen McKinney</td>
<td>Title: Three Birds with One Stone: Empower, Include, and Sustain the Emirati Community Program; Kayani</td>
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<td>11.55-12.00</td>
<td>Chairperson’s Remarks</td>
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<td>12.00-12.50</td>
<td>Paper Presentation Session</td>
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<td>Chair: Dr. Peter Gray</td>
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<td>Rapporteur: Dr. Manjushri Sharma</td>
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<td>1. Dr. Anita Sharma</td>
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<td>2. Martin McAreavey &amp; Dr. Katherine Brymer</td>
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<td>3. Dr. Takalani Mashau</td>
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<td>12.50-13.00</td>
<td>Q &amp; A Session and Chairperson’s Closing Remarks</td>
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<td>13.00-14.00</td>
<td>Lunch Break</td>
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<td>14.00-14.50</td>
<td>Chair: Professor Suresh Kumar Sharma</td>
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<td>4. Dr. Sean Whittle</td>
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<td>6. Ms Malvika Rajeevan</td>
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<td>14.50-15.00</td>
<td>Q &amp; A Session and Chairperson’s Closing Remarks</td>
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<td>15.00-15.15</td>
<td>Tea Break</td>
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<tr>
<td>15.15-16.30</td>
<td>Paper Presentation Session</td>
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<td></td>
<td>Chair: Dr. Peter Gray</td>
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<td></td>
<td>Rapporteur: Martin McAreavey</td>
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<td>Presenters:</td>
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<td></td>
<td>7. Dr. Sukhmani Mann</td>
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<td></td>
<td>8. Professor Hue Ming-tak</td>
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<td></td>
<td>9. Paul Loranger</td>
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<tr>
<td>16.30-16.45</td>
<td>Q &amp; A Session and Chairperson’s Closing Remarks</td>
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<tr>
<td>16.45-17.30</td>
<td>Formal Networking</td>
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Day 2: 6th April 2017 (Thursday)
Venue: Committee Room 3, House of Lords, Palace of Westminster

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
<th>LOCATION: COMMITTEE ROOM 3 – HOUSE OF LORDS</th>
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<tbody>
<tr>
<td>09.00-09.15</td>
<td>All Delegates Gather at St Stephens Entrance</td>
<td>Meet at Palace of Westminster - Security Clearance and Admission to the Houses of Parliament</td>
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<tr>
<td>09.45-09.55</td>
<td>Delegates to be seated by 09.45</td>
<td>Announcements by MC</td>
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<tr>
<td>09.55-10.00</td>
<td>Arrival of Chief Guest</td>
<td>Introductions by Chair: Professor Stephen McKinney</td>
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<tr>
<td>10.00-10.05</td>
<td>Welcome Address by Chief Guest Baroness Christine Humphreys</td>
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<tr>
<td>10.15-11.30</td>
<td>Paper Presentation Session</td>
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<tr>
<td>11.30-11.45</td>
<td>Rapporteurs: Dr. Dolly Jackson-Sillah and Martin McAreavey</td>
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<tr>
<td>11.45-12.35</td>
<td>Presenters</td>
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<tr>
<td>12.35-12.45</td>
<td>10. Dr. Heather Mbaye</td>
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<td>11. Professor Suresh Sharma</td>
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<td>12. Dr. Craig Andrew Hammond</td>
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<td></td>
<td>Question &amp; Answer Session</td>
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<td>13. Professor Margaret Solomon</td>
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<td>14. Dr. Jan Apoteker</td>
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<td>15. Professor Tapati Mukherjee</td>
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<td>Question &amp; Answer Session</td>
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<tr>
<td>12.45</td>
<td>Close of Session at Palace of Westminster: Chairperson’s Remarks and Vote of Thanks</td>
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<tr>
<td>12.50</td>
<td>Exit the Houses of Parliament</td>
<td>Proceed to the Grange City Hotel for Lunch</td>
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<tr>
<td>13.30-14.30</td>
<td>Lunch Break – Lunch in the Restaurant of the Grange City Hotel</td>
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</table>
Day 3: 7th April, 2017 (Friday)

Venue: Grange City Hotel, 8-14 Cooper’s Row, London EC3N 2BQ, UK

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<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
<th>Location: Main Conference Hall – Grange City Hotel</th>
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<tbody>
<tr>
<td>09.30</td>
<td>All Delegates Are Seated</td>
<td>Opening Speech: Dr. Peter Gray, European Research Adviser, NTNU, Norway</td>
</tr>
<tr>
<td>09.30-09.45</td>
<td>Welcome Address</td>
<td>Title of Speech: If Research is the Answer, What is the Question?</td>
</tr>
<tr>
<td>09.45-10.15</td>
<td>Keynote Address</td>
<td>Keynote Address by Keynote Speaker: Professor Stephen McKinney</td>
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<tr>
<td></td>
<td>Chair: Dr. Craig Andrew Hammond</td>
<td>Title of Keynote: Responsible Research into the Impact of Poverty on School Education</td>
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<td>Q &amp; A Session Followed by Chairperson’s Remarks</td>
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<tr>
<td>10.15-11.15</td>
<td>Paper Presentation Session</td>
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<td>Chair: Dr. Heather Mbaye</td>
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<td>Rapporteur: Dr. Takalani Mashau</td>
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<td>Presenters: 18. Dr. Anjali Puri</td>
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<td>19. Dr. Rachita Sambyal</td>
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<td>20. Dr. Sally Sun/Martin McAreavey</td>
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<tr>
<td>11.15-11.25</td>
<td>Q &amp; A Session and Chairpersons’s Closing Remarks</td>
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<tr>
<td>11.25-11.40</td>
<td>Tea Break - Refreshments Lounge</td>
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<tr>
<td>11.40-13.00</td>
<td>Paper Presentation Session</td>
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<td></td>
<td>Chair: Professor Hue Ming-tak</td>
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<td></td>
<td>Rapporteur: Malvika Rajeevan</td>
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<td></td>
<td>Presenters: 21. Dr. Namrata Sandhu</td>
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<td>22. Dr. Anupreet Kaur Mavi</td>
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<td>23. Marlene Altenhofer</td>
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<tr>
<td>13.00-13.10</td>
<td>Q &amp; A Session Followed by Chairperson’s Remarks</td>
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<tr>
<td>13.10-14.15</td>
<td>Lunch Break</td>
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<tr>
<td>14.15-14.45</td>
<td>Special Guest Speaker: Dr. Anurag Sharma</td>
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<td></td>
<td>Title of Speech: Do No Harm: From Responsible Research to Responsible Care</td>
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</table>
14.15-15.45  Valedictory Session  
Chair: Professor Stephen McKinney  
Valedictory Speech by Chief Guest: Mr. Hassan Shifau, Deputy Ambassador, Embassy of Maldives, London  
Presentation of Certificates by Chief Guest:  
Mr. Hassan Shifau  
Assisted by Mr. Nayan Patel, Rotary International Special Representative for Indo-British Initiatives  
Vote of Thanks: Dr. Dolly Jackson-Sillah and Conference Close

15.45-16.15  Tea & Photography Session

Appendix 2 – List of Delegates

International Conference on Responsible Research and Transformation in Education

Dates: 5th-7th of April 2017

Venue: Grange City Hotel, 8-14 Cooper’s Row, London EC3N 2BN and Committee Room 3, House of Lords, Palace of Westminster, London SW1A 0PW

List of Delegates

<table>
<thead>
<tr>
<th>Chief Guests</th>
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<tbody>
<tr>
<td>The Right Honourable</td>
<td>Deputy Leader, Liberal Democrats,</td>
<td>UK</td>
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<tr>
<td>The Lord Navnit Dholakia PC OBE DL</td>
<td>House of Lords, London SW1A 0PW</td>
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<td>The Baroness Christine Humphreys</td>
<td>House of Lords, London SW1A 0PW</td>
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<td>The Lord Truscott</td>
<td>House of Lords, London SW1A 0PW</td>
<td>UK</td>
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Guests of Honour

Research Papers Presented at the 2017 LSME International Conference on ‘Responsible Research and Transformation in Education’
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Country</th>
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<tbody>
<tr>
<td>Cllr Gurdial Bhamra</td>
<td>Mayor of Redbridge, London Borough of Redbridge</td>
<td>UK</td>
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<tr>
<td>Hassan Shifau</td>
<td>Deputy High Commissioner, High Commission of the Republic of Maldives, UK</td>
<td>MALDIVES</td>
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<tr>
<td>Professor Stephen McKinney</td>
<td>Leader of Creativity, Culture and Faith (Research and Teaching Group), School of Education, University of Glasgow.</td>
<td>UK</td>
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<tr>
<td>Dr. Peter Gray</td>
<td>European Projects Adviser Programme for Teacher Education Norwegian University of Science &amp; Technology, Norway.</td>
<td>UK</td>
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<thead>
<tr>
<th>Conference Guests</th>
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<tbody>
<tr>
<td>Mr. Dave Roberts</td>
<td>Consultant</td>
<td>UK</td>
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<tr>
<td>Mr. Stephen Marlow</td>
<td>University of East London</td>
<td>UK</td>
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<tr>
<td>Professor Stephen McKinney</td>
<td>University of Glasgow</td>
<td>UK</td>
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<tr>
<td>Prof Suresh Kumar Sharma</td>
<td>Panjab University</td>
<td>UK</td>
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<tr>
<td>Professor Mokgale Makgopa</td>
<td>University of Venda</td>
<td>SOUTH AFRICA</td>
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<tr>
<td>Dr. Peter Gray</td>
<td>Norwegian University of Science &amp; Technology</td>
<td>NORWAY</td>
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<tr>
<th>Conference Committee</th>
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<tr>
<td>Professor Stephen McKinney</td>
<td>University of Glasgow</td>
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<tr>
<td>Prof Margaret Solomon</td>
<td>Le Sierra University</td>
<td>USA</td>
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<tr>
<td>Dr. Jan H. Apotheke</td>
<td>University of Groningen</td>
<td>NETHERLANDS</td>
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</table>
Dr. Heather A. D. Mbaye | University of West Georgia | USA
---|---|---
Mr. Martin McAreavey | University of Bolton | UK
Dr. Amandeep Singh Marwaha | Panjab University | INDIA
Dr. Ravi Kumar | Conference Convener, LSME | UK
Dr. Sarita Parhi | London School of Management Education | UK
Dr. Dolly Jackson-Sillah | London School of Management Education | UK
Mr. Sree Vallipuram | Conference Protocol Officer | SINGAPORE

**Keynote Speakers**

**Professor Eman Gaad,**
Dean of Faculty of Education & Doctorate of Education Programme,
The British University in Dubai,
Dubai International Academic City,
Dubai, UAE.

Three Birds with One Stone: Empower, Include, and Sustain the Emirati Community Program; Kayani.

**Professor Stephen McKinney,**
Leader of Creativity, Culture and Faith (Research and Teaching Group), School of Education,
University of Glasgow.

Responsible Research into the impact of Poverty on School Education.

**Dr. Gale MacLeod,**
Senior Lecturer: School of Education,
College of Humanities and Social Science,
The University of Edinburgh,
Holyrood Road,
Edinburgh EH8 8AQ.

Do No Harm, or Do Some Good? ‘Impact’ as an Ethical Issue.
## Special Lecture

| Dr. Peter Gray | UK |

## Chairpersons of Sessions

| Professor Stephen McKinney | University of Glasgow | UK |
| Professor Mokgale Magopa | University of Venda | S. AFRICA |
| Professor Suresh Kumar Sharma | Panjab University | INDIA |
| Professor Margaret Solomon | La Sierra University | USA |
| Professor Hue Ming-tak | The Education University of Hong Kong | HONG KONG |
| Dr. Peter Gray | Norwegian University of Science & Tech. | NORWAY |
| Dr. Heather A. D. Mbaye | University of West Georgia | USA |
| Dr. Craig Andrew Hammond | Liverpool John Moores University | UK |

## Rapporteurs

| Dr. Dolly Jackson-Sillah | Chief Conference Rapporteur, LSME | UK |
| Ms Shaivi Ramkissoon | LSME | UK |
| Dr. Tapati Mukherjee | S.K. Rai Degree College of Commerce, Mumbai | INDIA |
| Dr. Manjushri Sharma | Panjab University | INDIA |
| Mr. Martin MacAreavey | University of Bolton | INDIA |
| Dr. Anupreert Kaur Mavi | Panjab University | INDIA |
| Dr. Takalani Mashau | Venda University | SOUTH AFRICA |
| Dr. Sukhmani Mann | Punjabi University | INDIA |
| Dr. Malvika Rajeevan | Srinivas School of Engineering, Karnataka | INDIA |

## Presenters and Authors

<p>| Ms Marlene Altenhofer A. Lang M. Wuketich E. Griessler | HEIRRI Consortium | Integrating RRI Into Higher Education: Teaching and Learning Approaches | AUSTRIA |</p>
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<tr>
<th>Author(s)</th>
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<th>Location</th>
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<tbody>
<tr>
<td>Mr. Paul Loranger</td>
<td>The Long Term Impact that Daycares are having in Transforming the Democracy within our Educational System</td>
<td>CANADA</td>
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<tr>
<td>Professor Hue Ming-tak</td>
<td>Promotion of Cultural Responsiveness: Student’s Negotiation of Ethnic Minority Identity and Teachers’ Multicultural Competency in Hong Kong Schools</td>
<td>HONG KONG</td>
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<tr>
<td>Dr. Anita Sharma</td>
<td>Pseudo Gender Empowerment Through Education: A Case Study of Girl Education in Himachal Pradesh.</td>
<td>INDIA</td>
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<td>Ms Purnima Chauhan</td>
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<td>Dr. Tapati Mukherjee</td>
<td>Principals’ Preparation and Performance for Education &amp; Social Development: “Are Principals Authorized to show their Talents or Skill?”</td>
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<td>Dr. Sukhmani Mann</td>
<td>Impact of Motivation on Turnover Intention Among Doctors Across Various Healthcare Setups</td>
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<td>Dr. Navjot Kaur</td>
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<td>Dr. Sanjeev Sharma</td>
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<td>Ms. Shikha Sharma</td>
<td>Responsive and Responsible Leadership: An Alleyway to Organizational Resilience</td>
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<td>Professor Sanjeev Kumar Sharma</td>
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<tr>
<td>Dr. Amandeep Singh Marwaha</td>
<td>Challenges Faced by Telco’s during IT Transformation</td>
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<td>Mr. Randeep Singh</td>
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<td>Dr. Namrata Sandhu</td>
<td>Drivers of Employee Engagement in Indian Banking Industry: Model Development and Testing</td>
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<td>Dr. Sandhir Sharma</td>
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<td>Dr. Rachita Sambyal</td>
<td>Mining the Web to Determine Responsiveness of the Management of Education: Semantic Analysis of the Facebook Posts and Comments</td>
<td>INDIA</td>
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<tr>
<td>Dr. Anupreet Kaur Mavi</td>
<td>Use of Open Access by Researchers in Higher Education: An Instrument to Promote Responsible Research and Innovation</td>
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<td>Dr. Malvika Rajeevan</td>
<td>Development of Partnering Performance Index (PPI) for Evaluating Human Attributes in the Construction Industry</td>
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<td>Mr. M. D. Deepak</td>
<td>Reliability and Validity Measures in Responsible Research and Innovation</td>
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<tr>
<td>Dr. Sarita Parhi</td>
<td>Health Education: A Cost Effective Tool For Preventing Cardiovascular Disease</td>
<td>INDIA</td>
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<td>Dr. Ravi Kumar</td>
<td>Project IRRESISTIBLE: Modules Designed to Raise Awareness about RRI amongst Students</td>
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<td>Dr. Manjushri Sharma</td>
<td>Teacher Education in South Africa: A Worrying Factor?</td>
<td>SOUTH AFRICA</td>
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<td>Jan Apotheker</td>
<td>Pedagogical Principles and Practice Driving Stakeholder Added Value in Multi-Disciplinary Leadership and Management Learning</td>
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<tr>
<td>Dr. Sean Whittle</td>
<td>Transformation in Catholic Education: Moving Towards an Inclusive and Socially Just Theory of Catholic Education</td>
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<td>Dr. Craig Andrew Hammond</td>
<td>Michel de Certeau &amp; Everyday Life: Curricular Tactics &amp; Pedagogical Manoeuvres</td>
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<tr>
<td>Dr. Sally Sun</td>
<td>Found in Translation: Empowering Chinese Students in Anglo-Centric Pedagogical Contexts</td>
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<tr>
<td>Dr. Hippu Salk Kristle Nathan</td>
<td>Correcting for ‘Missing Women’ in Gender Development Indicators: Responsible Application of Simple Mathematics in Development Studies</td>
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<tr>
<td>Dr. Heather A. D. Mbaye</td>
<td>Responsible Research in Social Science: Academia in Service to Government School Teachers?</td>
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<tr>
<td>Professor Margaret Solomon</td>
<td>Impacting the Cultural Capital of Children from Marginalized Communities</td>
<td>USA</td>
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<tr>
<td>Dr. Anjali Puri</td>
<td>Effect of Word Recognition and Reading Comprehension Modules in English on Metacognitive Reading Awareness of High School Students</td>
<td>INDIA</td>
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**Ordinary Delegates**

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<th>Name</th>
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<tr>
<td>Mr. Prafullah Bushan Mukherjee</td>
<td>INDIA</td>
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RESEARCH PAPERS
INTRODUCTION

Kofi Annan, the former Secretary General of the United Nations from January, 1997 to December, 2006 has asserted that gender equality is a ‘Pre-requisite’ for achieving the Millennium Development Goals. Ironically in India it matters a lot whether one is born a man or a woman. Woman is further marginalized with the class, caste, religion and society in which she grows up. Even after facing everything if she reaches the top, she is always seen as a woman first and a professional later. Empowerment means decentralization of authority and power implying a state of mind that reflects self-confidence and self-reliance.

Women empowerment is a new phrase of gender literature used in two broad senses-general and specific. The term essentially means that the women have the power or capacity to regulate their lives in the social, political and economic terms which enables them to move from the periphery to the centre. Home for over 500 million women, a country known for its plurality of traditions, customs and institutions and proud of its eclecticism, India’s contribution to the global women’s debate has been rich, diverse and in many ways unique. Empowerment is a process which includes; equal access to opportunities for using society’s resources, prohibition of gender discrimination in thought and practice, freedom from violence, economic independence, participation in all decision-making bodies and a freedom of choice in matters relating to one’s life. Though academically they are faring better than their male counterparts, yet women are missing on top most decision-making positions except in seminars on issues affecting women.
WOMEN IN CONTEMPORARY INDIA

Higher attendance rates of high schools and university education among women, particularly in developing countries, have helped them make inroads to professional careers with better-paying salaries and wages. Education increases a woman’s (and her partner and the family’s) level of health and health awareness. Furthering women’s levels of education and advanced training also tends to lead to later ages of initiation of sexual activity and first intercourse, later age at first marriage, and later age at first childbirth, as well as an increased likelihood to remain single, have no children, or have no formal marriage and alternatively, have increasing levels of long-term partnerships. For true gender equity to exist, a holistic approach needs to be taken. The discussion of girl power and women’s education as solutions for eliminating violence against women and economic dependence on men can sometimes take dominance and result in the suppression of understanding how context, history and other factors affect women (Khoja-Moolji, 2015). The ministry of Education clubbed girls with scheduled castes and tribes as marginalised class in acquiring education. Economically speaking micro and macro level factors that get attention by international development agencies (IDA) vary. For example, reaching a quota of representatives in political positions (macro level) but ignoring how home life pressures (micro level) do not actually leave women at a position of free self-expression (Stromquist, 2015).

Women’s studies have now emerged as a fully-fledged academic discipline in several universities which undertake research, extension and training to analyse the existing status of women in terms of their rights and their socio-economic, social, political, legal and educational status. There are more than 30 women’s studies and development centres and many women’s cells supported by the university Grants Commission to disseminate information on gender studies. The National Policy for the Empowerment of Women (2001) assures equal access to women to education, health care and decision making in social, political and economical life of the nation. Despite all this, women haven’t been fully empowered. Though women in India occupy highest offices of President, Prime Minister, Lok Sabha Speaker, or women like Indira Nui, Chandra Kochar occupy highest positions in the Corporate sector but the fact remains that we still witness dowry deaths, female feticide, domestic violence, deprivation, degradation and exploitation of women. Dr. Dashrath Bhuyan writes, “Women are being brutalized, Co-modified, materialized and subjected to inhuman exploitation and discrimination.” Besides
reservation in Panchayat Elections the male chauvinism does not allow them to function independently. They still live in miserable conditions steeped in poverty, ignorance, superstition and slavery especially in rural India. About 87% of the rural women workers are employed in agriculture as cultivators and laborers’. India is still struggling to transform the status of women thoroughly from authoritarian, rural and ritualistic society to modern egalitarian society.

**PSEUDO GENDER EQUALITY**

According to Lord Denning, Gender justice is, ‘A woman feels as keenly, thinks as clearly, as a man, she in her sphere does work as useful as a man does in his own. She has as much right to her freedom-to develop her personality to the full- as a man has. When she marries, she does not become the husband’s servant but his equal partner. If his work is more important in the life of the community, hers is more important in the life of the family. Neither can do without the other. They are equal.’ In India the status of women declined in Post Vedic Era. As Manu said, a woman could not enjoy independent status. Father protects her during maidenhood, husband during covertures’ and sons protect her during widowhood. But today to bridge the gap of male female disparity every year on 8th march International Women’s Day is celebrated. But pseudo gender equality of Indian women is evident from the fact that although women constitute 50% of total population, their political participation in decision making is limited at all levels in an Indian male dominated society. Social justice must be obtained through education. Napoleon Bonaparte has rightly said, ‘Give me an educated mother, I shall promise you the birth of civilized nation.’ In the National Policy on Education (1986) Education is viewed as a tool of social change for correcting the accumulated distortions of the past. To bring about this change, certain specific initiatives which would facilitate women students’ development and empowerment are required. Such initiative has been termed Gender Positive Initiative (GPI). Any program, project or activity, which is implicitly or explicitly designed to promote any dimension of women’s development, is considered as GPI. Women have special needs because of their gender. They need to enhance their skills for physical protection and security from sexual harassment, self-concept and self-identity, taking independent decision to utilize their enormous potential and establish an identity of their own. Some broad dimensions should be taken into consideration to the overall development of women like physical development, intellectual, emotional, social, vocational, moral, spiritual and cultural development. Gender auditing is a process of assessing policies, practices and procedures that
are in place in an organization that specifically address issues related to women like maternity benefits, flexi time etc.

The first International agreement to proclaim gender equality as a fundamental human right was the Charter of the United Nation signed in 1945. Subsequently in 1967 the U.N. Delegation of Women’s Rights postulated the principle of equality of men and women and advocated its universal recognition in law by all countries as an absolute and necessity. It was considered that countries had to assure equal rights of women, the negation of which would amount to injustice done to half of humanity across the globe and would be in compatible with human dignity, political stability and social homogeneity. The principle of gender equality has been basic to Indian thinking for greater than a century. The provisions of Article 14, 15, 16(2), 21, 23, 39 etc. uniformly prescribe equal treatment for both men and women in all spheres of life. Women cannot be empowered without the active participation of men. India ranked 114 out of 155 countries in the gender Development Index of the World Bank. Gender roles are influenced by culture and traditions, and can be changed through education, socio-political and legislative interventions.

The present reality is discrimination disparity begins even before a woman is born in India. A quarter of pregnant women do not receive prenatal care, mothers and girls are undernourished, and female literacy, economy, and participation are low as compared to males. A recent National Survey shows that women comprise a mere one third of graduates and post graduates in the country, out of them 35% are housewives, 88% of salaried jobs are held by men. The basic design of patriarchy still holds sway, sustained in good measure by the institution of early marriage and real-life aberrations in property rights.

**EMPOWERMENT THROUGH EDUCATION**

“The home has, verily, its foundation in the wife” - The Rig Veda.

During the Vedic age, more than 3,000 years ago, women were assigned a high place in society. They shared an equal standing with their men folk and enjoyed a kind of liberty that had societal sanctions. The ancient Hindu philosophical concept of ‘shakti’, the feminine principle of energy, was also a product of this age. This took the form of worship of the female idols or goddesses. In India even today people worship Goddess “Saraswati” as the Goddess of education. Vedic literature
praises the birth of a scholarly daughter in these words: “A girl also should be brought up and educated with great effort and care.” (Mahanirvana Tantra); and “All forms of knowledge are aspects of Thee; and all women throughout the world are Thy forms.” (Devi Mahatmya). Women, who so desired, could undergo the sacred thread ceremony or ‘Upanayana’ (a sacrament to pursue Vedic studies), which is only meant for males even to this day. These highly intelligent and greatly learned women, who chose the path of Vedic studies, were called ‘brahmavadini’, and women who opted out of education for married life were called ‘sadyovadhus’. Co-education seems to have existed in this period and both the sexes got equal attention from the teacher. Moreover, ladies from the Kshatriya caste received martial arts courses and arms training.

Women of the Vedic period (circa 1500-1200 BCE), were epitomes of intellectual and spiritual attainments. The Vedas have volumes to say about these women, who both complemented and supplemented their male partners. When it comes to talking about significant female figures of the Vedic period, four names - Ghosha, Lopamudra, Sulabha Maitreyi, and Gargi - come to mind. However, later the status of women began to deteriorate approximately from 500B.C. the situation worsened with invasion of Mughals and Europeans. Some respite was felt by few reformatory movements by Guru Nanak, Jainism, Raja Ram Mohan Rai, Ishwarchandra Vidya Sagar, Pandita Ramabai, Mahatma Gandhi and others. Even Britishers enacted laws such as ‘Abolition of practice of Sati’, Widow Remarriage Act 1856 etc. After independence, Article14 in the constitution guarantees equality to women. Later Feminist Movement during 1970, many SHG (Self Help Group) and NGO’s have been working for the Empowerment of women. It is a matter of great pride that Indian women got voting rights before USA and many other European Countries.

Before independence, education was restricted to women of the ruling families, the Brahmins and surprisingly courtesans and devadasi’s who used to please their educated patrons. It was a myth that educated women have to face bad luck and they become widows. But the missionaries realized rightly that `harvesting the souls of women would give far greater results than concentrating on the male population. By 1829 some 30 schools were opened in Calcutta where schooling was up to the 8th standard after which girls left for getting married. By the end of 1850, Students Literary and Scientific Society opened many schools even at Madras and Bombay with more than 12000 girls on the rolls. But there was resistance to women’s education. The first women’s college was opened at Lucknow in 1901 called the
Women’s Christian College also known as Isabella Thoburn College. But women’s education remained constrained by socio-economic condition of the people, their attitude, values and culture. British promoted women’s education to make them more capable of fulfilling the traditional roles as mother and housewives. Women’s employment and education was acknowledged in 1854 by the East Indian Company’s Programme: Wood’s Dispatch. Slowly, after that, there was progress in female education, but it initially tended to be focused on the primary school level and was related to the richer sections of society. The overall literacy rate for women increased from 0.2% in 1882 to 6% in 1947. In western India Jyotiba Phule and his wife Savitri Bai became pioneers of female education when they started a school for girls in 1848 in Pune. In 1878, the University of Calcutta became one of the first universities to admit female graduates to its degree programmes.

Before and after Independence, India has been taking active steps towards women’s status and education. The 86th Constitutional Amendment Act, 2001, has been a path breaking step towards the growth of education, especially for females. According to this act, elementary education is a fundamental right for children between the ages of 6 and 14. The government has undertaken to provide this education free of cost and make it compulsory for those in that age group. This undertaking is more widely known as Sarva Shiksha Abhiyan (SSA).

Since then, the SSA has come up with many schemes for inclusive as well as exclusive growth of Indian education, including schemes to help foster the growth of female education.

The major schemes are the following:

- **Mahila Samakhyta Programme**: This programme was launched in 1988 as a result of the New Education Policy (1968). It was created for the empowerment of women from rural areas especially socially and economically marginalized groups. When the SSA was formed, it initially set up a committee to look into this programme, how it was working and recommend new changes that could be made.

- **Kasturba Gandhi Balika Vidyalaya Scheme (KGBV)**: This scheme was launched in July, 2004, to provide education to girls at primary level. It is primarily for the underprivileged and rural areas where literacy level for females is very low. The schools that were set up have 100%
reservation: 75% for backward class and 25% for BPL (below Poverty line) females.

• National Programme for Education of Girls at Elementary Level (NPEGEL): This programme was launched in July, 2003. It was an incentive to reach out to the girls who the SSA was not able to reach through other schemes. The SSA called out to the «hardest to reach girls». This scheme has covered 24 states in India. Under the NPEGEL, «model schools» have been set up to provide better opportunities to girls.

One notable success came in 2013, when the first two girls ever scored in the top 10 ranks of the entrance exam to the Indian Institutes of Technology (IITs). Sibbala Leena Madhuri ranked eighth, and Aditi Laddha ranked sixth. Girls and women RTE Is guaranteed under International law along with the national law. After Independence, Education was included in the concurrent list making it both a central and state object. Article 45 of the constitution, containing the Directive Principle, lays down that, ‘the state shall endeavour to provide, within a period of 10 years from the commencement of the constitution, compulsory education for all children until they reach the age of 14 years.’

Government approach kept on being modified. Beginning with the ‘`Welfare Approach’ in the 50s, there was a shift to Development Approach in the 70s and Empowerment Approach in the 90s. But till date it has not reached those heights which it has to flower. The Central Social Welfare Board established in 1953 launched many schemes like AVARD (Assistance for Voluntary Agencies of Rural Development), CARPET (Council for Advancement of Peoples Action for Rural Technology), DIET (District Institute for Education And Training), NLM (National Literary Mission), and SSA (Sarv Shiksha Abhiyan) to achieve literacy among women but the % is still gloomy. Lack of education especially in rural areas and their preoccupation with household activities prevent women from participating in political and administrative processes. Even Swami Vivekananda observed: “Educate your women first and leave them to themselves; then they will tell you what reforms are necessary.” In the International Conference (1994); it was concluded that Education is one of the most important means of empowering women with the knowledge, skills and self-confidence necessary to participate fully in the development process. Education is the manifestation of perfection in a human being. But despite the efforts made by successive governments about 37% of our population lacks literary skills. Only Education will help to fight against female feticide, female infanticide and exploitation at work place and at home.
Empowering women indirectly leads to a growing demand for education for girls and enhancing their participation in informal and alternative education system. Gender specific pedagogy and teaching learning materials have to be developed for marginalized and underprivileged girls.

India recognizes the empowerment of women as the most critical precondition for participation of girls and women in education which would enhance the quality of life and life management system. So the government policies have to effectively address gender disparities, particularly in education. Proactive initiatives have to be launched to bring about gender sensitivity. Women’s empowerment programs are to be supported to raise the awareness about education of girls and women. There is greater emphasis on culture, leisure and creativity. Education is expected to bring all round development, providing them with a new vision and worldview, helping her to adjust herself to the needs of her family and the community. Realizing the significance and vitality of human resources government has taken significant steps like free education to girls, hostel facility, and Women study centre. Women cells, distance education system and a conscious endeavour to improve the content and process of education from gender bias. A new scheme ‘Technology for women’ was introduced during 1998-99 for providing financial assistance for the introduction of vocational courses in engineering and technology. Access, relevance, quality, equity and parity have always been the major concern of higher education system in India. At present, the Indian higher education system could be said second largest in the world with 333 lakhs students, more than three laces teachers, more than 11922 universities, 38056 colleges affiliated to them and many deemed universities and institutes of national importance. (Aishe Portal, 2014-15) ( www.aishe.gov.in) In spite of having a massive system of higher education only 6% youth of relevant age group of 17 to 24 years is receiving higher education as compared to France (50%), USA (81%), and Japan (99.8%). There is also a significant disparity between boys and girls. As compared to 54.5% of boys, only 44.7% of girls have access to higher education. (AISHE PORTAL, 2014-15). Parents are hesitant to spend on the education of girl child. Our society is yet to come out of social taboo that ladki parayaa dhan hai. Latest data show that about one in 17 Muslim girls, one in 10 Hindu girls, one in 8 Sikh girls, and one in 20 Scheduled Caste girls avail higher education. To sum up, what is needed is not a multiplicity of schemes but a simple, sustained effort, starting with the basics and moving up. Education is a basic imperative for any country aspiring to become a great nation. Finally women’s education will never reach great heights unless, in
a predominantly male dominated society, the males are not `educated’ to look at women’s education with interest and give it their unstinted support.

Four years ago, the World Bank upgraded India from a “poor” country to a middle-income one. As commentators were at pains to point out in November, when the UK announced it would end aid to India from 2015, the country has a space programme, 48 billionaires and its own aid. But going to school, as those monitoring progress on the millennium development goal of achieving universal primary education have increasingly realised, is one thing: the quality of the education you get is another. Within government schools pupils face numerous challenges, says Oxfam India’s Anjela Taneja. Overcrowded classrooms, absent teachers and unsanitary conditions are common complaints, and can lead parents to decide it is not worth their child going to school.

A 2010 report by the National Council for Teacher Education estimated that an additional 1.2 million teachers were needed to fulfil the RTE Act requirements, and last year the RTE Forum, a civil society collective of around 10,000 non-governmental organisations (NGOs), found that only 5% of government schools complied with all the basic standards for infrastructure set by the act. Some 40% of primaries had more than 30 students per classroom, and 60% didn’t have electricity. The RTE Forum also reported official figures showing that 21% of teachers weren’t professionally trained.

Earlier this year, the independent Annual Status of Education Report into rural schools found declining levels of achievement, with more than half of children in standard five – aged around 10 – unable to read a standard two-level text. “If you want to end child labour, you have to fix the education system,” Taneja says. “People are aware of what education is and what it is not.” Of the out-of-school children in 2008, 62% were girls; they make up two-thirds of illiterate 15- to 24-year-olds. And two-thirds of those not in school were from those lowest in the caste system, tribal groups and Muslim communities, despite those historically oppressed groups making up only 43% of India’s children.

The Global Campaign for Education (GCE), a coalition of 26 NGOs and teaching unions, wants all nations to allocate at least 6% of GDP to education. India has been promising that since 1968, Taneja says, but the figure has never topped 4%, and it is currently 3.7%. It is an issue of political will, rather than a lack of cash, she suggests: education is not a vote-winning issue in a system of frequent elections,
where pledges need to be deliverable immediately. It is girls, and marginalised groups such as the very poor and the disabled, who are often left behind. While girls attend primary school in roughly equal numbers to boys, the gap widens as they get older and more are forced to drop out to help with work at home or get married.

ISSUES IN INDIAN EDUCATION SYSTEM

Survey Examples

Meena (not her real name) didn’t tell her parents when the older boys started harassing her on the hour-long walk to school from her home in Madanpur Khadar, south Delhi – grabbing her hand and shouting “kiss me” – because she knew she would get the blame, as if she had somehow encouraged them. She was right: when her family found out, they banned her from going back to school, worried about the effect on their “honour” if she was sexually assaulted. The plan now is to get her married. She is 16.

Gulafsha is luckier: her mother is determined she will become a doctor. But there are 70 pupils in a class at her school, and the teachers often simply don’t turn up. The drinking water tanks are so filthy the pupils bring their own water. “I have never gone to a toilet at school in all these years, they are so bad,” the 14-year-old says. She doesn’t know how, but somehow her mother saves 900 rupees a month to pay for private tuition in three subjects.

- a. Elementary Education: Mean years of schooling, drop out, teachers, infrastructure, student learning, formal education, regional disparities.
- b. Secondary education: leadership, coordination, capacity building, quality teaching, assessment mechanisms, accountability, enrolment, learning outcome, vocational and employable education
- c. Higher Education; Global trends, planning and perception, autonomy, leadership and accountability, infrastructure, curriculum, quantity and quality teachers, skill development, research and innovation.

WOMEN IN THE WORK FORCE

India will need 119 million skilled workers by 2022. Smt. Indira Gandhi, former
Prime minister of India said in the Rajya Sabha on 13 May 1975, "I believe in the liberation of women in the same way as I believe in the liberation of men, that is, liberation from all kinds of obscurantism and superstition, from the narrow confines of outdated thoughts and habits. Men and Women together can help to create a better society and a better world. In this there should be no question of class, creed, sex or party." Recently, a study by International Labour Organization reveals that women who represent 50% of the world adult population, and one third of the official labour force and perform nearly 2/3rd of the work load, receive only one tenth of the world's income and less than one percent of the world property. Women continue to be in marginal employments and low levels of skills, their contribution being largely invisible but there are several policies wherein women's concerns were reflected, articulated and redressed by the Government, the voluntary sector and the corporate world. There are many women related policies like National Policy on Education (1986), National Health Policy (1983), The National Plan of action of the Girl Child (1991-2000) which have highlighted the importance of the welfare and development of women and children in the country in various spheres. Expansion of higher education has empowered women. The Hindu (Nov., 19, 2015) reported that India may become future hub of women entrepreneurs". For centuries, Indian women's role has been domestic, while their father/brother/husbands assumed the responsibility of the breadwinner and protector of the family. In fact Indian women are striking a balance between traditional and progressive values of the society in transition. However certain factors have hampered their success: lack of adequate finances, Training facilities, Technical knowhow, Managerial resources, motivation, absence of apex organization to take care of their developmental activities, encouragement and recognition. In developing countries like India the presence of entrepreneurs specially women is of vital necessity to achieve rapid all round and regionally socially balanced economic growth through industrialization. But the Indian women have to survive in a complex area of socio-cultural, historical, political, and economic realities. 'The major challenges faced by women entrepreneurs are listed below: self-confidence, female literacy rate, social barriers, financial resources, proper training, lack of information and experience and discrimination against women in granting loans. Educational Planners, Academicians, Right activists and the media have all to pull together to create the conditions for this anomalous, antidemocratic and biased situation to be remedied.
WOMEN IN GOVERNANCE

When our constitution was framed in 1950 our founding fathers took care to ensure equality by conferring political right of adult franchise irrespective of gender. Right to exercise vote, fight elections and hold elective offices were stature conferred on all men and women irrespective of gender. This is quite encouraging that in UK, the mother of democracy these rights were given only as late as 20th century. We do not need it in India, is often said in India. Unlike other countries in the world men outnumber women in India. In 2001 there were 933 women for every 1000 men. Also girls and women face nutritional discrimination within family, eating last and least as only 54% of women are literate as compared to 76% of men. Police records show that a woman is molested in the country every 26 minutes. A rape occurs every 34 minutes. Every 43 minutes a woman is kidnapped. Every 93 minutes a woman is killed. In this context, involving women in governance is identified as one of the important strategies to empower women and solve some of their problems. Girls are brought up to accept the decisions in the family context and discouraged to develop leadership skills and self-confidence.

At present, women occupy less than 4% of seats in High Courts and Supreme Court, less than 8% in Parliament, less than 3% as administrators and managers. According to South Asian Human Development 2000, only 9% women are in executive bodies of Political Parties., 11% of women are in Cabinet ministries, 3% of women are High Court judges, 7% of women are in Civil Services and 6% of women are in executive bodies of trade unions. Reasons for under representation of women in Governance are: lack of political experience, burden of household work, marginalization of women in decision making, vulnerability to violence, literacy, lack of political reservations, and lack of economic freedom. Swami Vivekanananda has rightly said, “If you want the nation to prosper include women in every aspect of our life.” We have number of successful women from an efficient Prime Minister Indira Gandhi, to Kalpana Chawla and Sunita Williams. When we talk of the empowerment of women we recollect the names of several women like Arundhati Roy, Medha Patkar, Lata Mangeshkar, and Pratibha Patil etc. are just a few examples of hidden potential of Indian women who got conducive environment to empower themselves. Women empowerment in the political sphere is a natural corollary of the women’s liberation movement initiated since the conclusion of Second World War. Empirical studies world over reveal that women are less corrupt and more responsible and conscientious in discharging their duties without fear or
favour and with justice and equity.

The 73rd and 74th constitutional amendments in 1993 made a definite impact on the participation of women in terms of absolute numbers in Panchyati Raj Institution and local bodies. The woman like Indira Nooyi and Kiran Shaw Mazumdar do us proud, we cannot forget the enduring contributions of the likes of Ella Bhatt, who through vibrant grass root level organizations like SEWA and the Mahila Bank have changed dramatically the lives of millions of ordinary struggling women for whom making daily ends meet, remains a stark, primary good. The ills of communalism, institutionalism injustice to disadvantaged sections of society, intolerance and confrontational politics can well and truly be addressed largely through equitable gender participation. The absence of women from structures of governance leads to a situation wherein national, regional and local priorities like resource allocation are typically defined without inputs from women, whose experience gives them a different awareness of the community’s needs, concern and interests from that of man. The political reality is men must be progressive in using the skills, authority and power that is available to them to initiate equity strategies for women and women must be aggressive in seizing opportunities and in demanding greater choice, more voice and improved well-being.

Laadli of Himachal Pradesh and Literacy Ladder

Himachal Pradesh is a small hill province situated at the northwest of India having its borders with Punjab, Haryana, Uttrakhand, Jammu and Kashmir, Tibet and China. It is home to scenic mountains, rivers and valleys with hilly tourists destinations Shimla, Dharamsala, kullu- manali and host to Tibet’s spiritual leader Dalai Lama. The state has twelve districts with different dialects, culture and topography. The state of Himachal Pradesh has a population of 6.856 million with a sex ratio of 974 females against 1000 males (2013 census). The state was reconstituted on 1st November 1966 with the merging of hilly areas of greater Punjab. It has an area of 55,673 sq.km with literacy rate of about 90%. It has the second highest literacy rates after Kerala in India. The Govt. of Himachal Pradesh facilitates a smoother implementation of all social programmes especially its campaign to promote “Schooling as an essential part of every child’s upbringing” has made literacy far more accepted norm than any other state in India. For effective administration the state has been divided into three divisions (Shimla, Kangra and Mandi), 12 districts and 77 blocks. Girls with bags on their shoulders are seen walking up or
down the hilly terrains or on snaky roads is a common sight during the school hours with bright faces lit up with future dreams. The state with its on-going schooling revolution has taken girl education on a higher level. Himachal Pradesh is the only state in the country to spend Rs. 1.03 per capita on education which is almost the twice of national average.

The state has a thick network of Govt. Schools and colleges imparting free education to the girls with free uniform, bags and books to the needy and mid-day meals to the students. There are good numbers of private aided elementary schools, 90 % aided schools, and central government funded schools e.g. Kendriya Vidyalaya, Sainik schools, military school, Navodaya Vidyalaya and the convents or missionary schools as well as Madrasas and Buddhist centres. The state has adequate colleges, universities and professional institutions but still has the capacity of becoming the educational hub of India. Also with high level of adult education in the state, the literate parents push the literacy ladder of their girls. The Government places persistent emphasis on investing in rural infrastructure, specially roads and government run village schools even in the remotest tribal districts like Kinnaur, Lahaul Spiti, and Chamba reducing inter-regional and gender based disparities in education levels.

As per the data of IHDS-II the girls enrolment aged 5-15 years was as high as 98.01% in 2011-12 going up from 92.02% in 2004-05. Even the dropout rate declined from 7.98 % in 2004-05 to mere 1.99% in 2011-12 indicating that most girls want to go for higher studies. The PROBE (Public Report on Basic Education) Revisited: A report on Elementary Education in India, 2011 and the census 2011 shows that Himachal has fared much better in elementary education than many prosperous neighbouring states. The survey also shows that 90% of the parents in the state support compulsory education and 100% said that they wanted their children to pursue higher education. The ASER 2014 figures show that primary school education in Himachal Pradesh exhibit significantly high degree of learning as compared to their counterparts at the all India level. More than 67 % of parents are gender biased who stressed the need to educate their daughters so that they can benefit from ‘improved employment and income opportunities.” Thus the cherubic Laadli of Himachal Pradesh with her loaded school bag could soon become a role model to other states of India and would march towards a future full of dreams, hope and aspiration.
Table 1: IHDS PANEL DATA ON EDUCATION FOR GIRLS (AGED 5-15YEARS)

<table>
<thead>
<tr>
<th>Education Parameters</th>
<th>Himachal Pradesh (%)</th>
<th>All India %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment of girls</td>
<td>92.02</td>
<td>98.01</td>
</tr>
<tr>
<td>Dropout rate</td>
<td>7.98</td>
<td>1.99</td>
</tr>
<tr>
<td>Type of School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>85.57</td>
<td>80.78</td>
</tr>
<tr>
<td>Others</td>
<td>14.43</td>
<td>19.22</td>
</tr>
<tr>
<td>Highest level of adult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>education in the household</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>7.52</td>
<td>7.15</td>
</tr>
<tr>
<td>Primary level (1-5 std.)</td>
<td>12.84</td>
<td>12.79</td>
</tr>
<tr>
<td>Middle Level(6-9 std.)</td>
<td>35.21</td>
<td>28.12</td>
</tr>
<tr>
<td>Secondary level(10-11 std.)</td>
<td>23.39</td>
<td>29.30</td>
</tr>
<tr>
<td>Higher secondary level</td>
<td>12.39</td>
<td>14.45</td>
</tr>
<tr>
<td>Graduate</td>
<td>8.66</td>
<td>8.19</td>
</tr>
</tbody>
</table>

Note: IHDS Sample for HP taken for the present study is less than 1500 households so other sources can also be validated for comparison.

Table 2 : Learning levels for children aged 6-14 years in Himachal Pradesh

<table>
<thead>
<tr>
<th>Learning Indicators</th>
<th>Himachal Pradesh (%)</th>
<th>All India (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std.5 learning levels—All children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children who can read std.2 level text</td>
<td>75%</td>
<td>48%</td>
</tr>
<tr>
<td>Children who can do subtractions and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>addition</td>
<td>76.1</td>
<td>50.4</td>
</tr>
<tr>
<td>Children who can read English sentences</td>
<td>53.4</td>
<td>24.0</td>
</tr>
<tr>
<td>Children who can tell the meaning of English sentences</td>
<td>55.9</td>
<td>62.2</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Std. 7 Learning levels---All children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children who can do division and multiplication</td>
<td>55.5</td>
<td>37.8</td>
</tr>
<tr>
<td>Children who can read English texts/ sentences</td>
<td>68.6</td>
<td>38.8</td>
</tr>
<tr>
<td>Children who can explain the meaning of the sentences</td>
<td>70.4</td>
<td>68.3</td>
</tr>
</tbody>
</table>

Note: The Source is Pratham (2015), Annual Status of Education Report (ASER) (Rural) 2014, New Delhi

To strengthen the education system an updated curriculum, plan of action on recommendations, healthy teacher student ratio, check on commercialization of education, regular monitoring of schools, best infrastructure and basic amenities, mobile libraries, fellowships and scholarship and the constructive role of panchayats is required. Thus education should make responsible citizens and good human beings with a sense of pride and concern for the heritage of our country. For holistic development stop blind mimesis, adopt the four goals of life i.e. earth, kama, dharma, and moksha, follow the experiential approach with free evolution, total integration, self-knowledge, life orientation and recruit a trusted faculty.

CONCLUSION

Swami Vivekananda used to observe that the country which has no respect for womanhood could never become great. To quote, “If you do not raise the woman who are but the living embodiment of the Divine Mother, do not think that there is any other way for the nation to rise.” In theory, the Indian religion and philosophy assign a place of near divinity to womanhood. The concept of women empowerment was introduced at the third International Women’s Conference at Nairobi in 1985. The conference defined ‘Women Empowerment as a redistribution of social power and control of resources in favour of women. ‘An important means of empowerment is economic independence through information, knowledge and necessary skills. Even the highest literacy rate can’t put a check on the alarming rise in violence against women as is indicated by the graph rise of violence among highly literate
Keralite women. What is needed is a curricular intervention that would equip our girls and women with the coping strategies against violence and discrimination. The components of Life Skill Education are personality development, stress management, health and sexuality, interpersonal relationship, value foundation, social awareness and legal rights. Empowering women enhances their ability to influence the direction of social change to create a better social and economic order.

An international study has shown that were women permitted and empowered to have a greater say in spending priorities they would be focusing more on family and community related issues to eradicate poverty as compared to men. We should make education and employment conducive for women to make use of the half the talent pool of the country. While creating a gender neutral work place, we must not lose sight of the fact that women do have social responsibilities and therefore special needs at times. Organizations must be creative in addressing this issue, with flexible work schedules, longer leave periods and full use of technology to reduce the need for women to be physically present in the office for work. The Parliament of India has enacted the Right to Free and Compulsory Education Act, 2009, to ensure access to education to all children including girls of the age of 6 to 14 years. The female literacy rate has grown from 8.9% in 1951 to 57% in 2004, yet there is a gap of 20% between the male and female literacy rates. Even the highly educated ones forget their identity in the search and waiting for future husband. Self-dependence through economic independence is essential for women empowerment. Girls must be familiarized with the Child Marriage Restraint Act, (1976), The Immoral Traffic Prevention Act (1956), The Indecent Representation of Women (Prohibition) Act(1986). The Supreme Court guidelines that prevent sexual harassment(1997), the Dowry Prohibition Act(1961), the Contract Labour Act(1970), the protection of Women from Domestic Violence Act(2005) etc.

A collective attempt by the centre for women’s studies, women’s groups, counsellors and NGOs will be required to develop the concept of NO MORE SILENCE ABOUT VIOLENCE in our girls and women. However in spite of the substantial progress made in the last six decades, democratic India presents a contrasting picture of affluence and deprivation. On the one hand, is the India of the rich of those who have the benefit of modern education and on the other, is the India of those who live under conditions of poverty, deprivation, squalor, illiteracy, ignorance, intolerance, and prejudices. With a stratified social structure, characterized by
inequity, gender based discrimination, regional imbalances with a sizeable section living below poverty line experiencing unemployment and underemployment and with substantial sections of our people denied of the benefits of modern science and technology, without access to safe drinking water, dependable energy supply and good health care, we have to concede that we have not been able to take the fullest advantage of democratic governance in the past six decades. But enlightened women are the source of infinite power. The English saying, ‘God created mother because he could not be present everywhere.’ Educated women contribute to the development of a good family, a compassionate society, a progressive nation and a more tolerant world. Women are required to encourage continuously going for higher education for empowering them so that in turn they participate equally in the development of the country. Elizabeth Blackwell has rightly said, ‘If society will not admit to woman’s free development, then society must be remodelled.’ Aristotle says “education is an ornament in prosperity and a refuge in adversity. Always remember a woman is the builder of a nation.

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PEDAGOGICAL PRINCIPLES AND PRACTICE DRIVING STAKEHOLDER ADDED VALUE IN MULTI-DISCIPLINARY LEADERSHIP AND MANAGEMENT LEARNING

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ABSTRACT

Developing a postgraduate programme suitable for graduates from any academic discipline presents many pedagogical, practical and process challenges. These challenges are amplified when the programme is architected around a ‘Blended’ delivery model developed and deployed within a compressed time scale and in the context of a rapidly changing landscape for Higher Education (HE) in the UK.

The paper explores the challenges encountered in high expectation, high pressure, high visibility, multi-disciplinary programme development. It focuses on the lessons learned from the development and deployment of two similar postgraduate courses designed to meet the needs of heterogeneous graduate students from two geographically disparate UK universities serving similar demographics. These issues are placed within the context of an increasingly dynamic and turbulent landscape for UK HE, driven and shaped by market forces and the notion of students as customers rather than consumers (see BIS 2011, BIS 2016, McAreavey 2015).

The paper explores key themes and issues emerging from a 'marketised' UK HE landscape, highlighting the drivers shaping HE Institutions (HEI) to consider new forms of provision and approaches to delivery. This is followed by an outline of
two initiatives designed by HEI operating towards the vocational end of the HE continuum, but in geographically separate catchment areas / target markets. These ‘case studies’ illustrate areas of commonality and similarities in responding to perceived challenges emanating from competitive pressure and student demand. The paper concludes with a short assessment of the potential for further development along the lines established by these HEI, and identifies areas for additional exploration and study.

INTRODUCTION AND CONTEXT

Higher Education (HE) in the UK is changing. Not only is there now a market orientation towards HE, whereby institutions face increasing competition from each other to secure students as sources of income, but there is also much greater emphasis placed upon the needs, expectations and (crucially) the experience of the student as a consumer of HE as a marketised service (see Marginson, 2012; Brown and Carasso, 2013).

According to Tomlinson (2013), this focus on HE as a market-mediated concept has led senior management at HE Institutions (HEI) at all points along the educational continuum\(^1\) to consider how best to add value, as perceived by stakeholders including students, teaching practitioners and employers, in order to ensure their own institution’s graduates enter the employment market as distinctively and capably as possible.

This paper explores initiatives developed at two geographically separate HEI, one in London and the other in the North West of the UK. These initiatives were designed to address specific drivers impacting the delivery and consumption of HE programmes and their employability outputs, from the perspective of the needs of graduates and potential employers across all sectors.

Both HEI can trace their roots back to the 19th Century, where the establishment of vocationally oriented educational provision was driven directly by the needs of manufacturing and industrial employers for skilled workers. Both institutions

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\(^1\) The education continuum can be conceived of as a model whereby at one extreme education is oriented exclusively towards vocational needs (i.e. delivering skills needed for employment) and at the other extreme being focused exclusively on academic output (i.e. purely the pursuit of knowledge).
evolved during the 20th Century to become platforms for non-traditional entrants to HE to access a university level education, and both continue to promote values associated with embeddedness in their local communities and proximity to local communities, despite now serving very different demographic groups than when first established.

The two HEI currently serve diverse communities within the most densely populated parts of the UK (Source ONS, 2015), providing HE from entry level (e.g. Foundation Degrees) to Level 8 (i.e. research based doctoral level qualifications). Both have large and well established student bodies, with the London based institution having nearly 18,000 students and the North West based institution over 11,000. Demographic profiles for both institutions are similar, and reflect a clear widening participation focus.

As a result of the competitive pressure from sector drivers explored later in this paper, senior management at both HEI recognised the need to equip graduates with relevant and value-added skills and knowledge capable of differentiating these students from those graduating from other institutions. Working with academic practitioners experienced in programme design and innovation, both institutions set out to pilot new forms of delivery that would provide market-oriented differentiation for their graduates, and both adopted the principle that any such provision should be made available at no cost to qualifying alumni.

Two case studies, outlining the key features of the initiatives deployed by these HEI, are set out later in the paper. First, however, the specific drivers underlying the development are explored, as these macro forces are common across all forms of HE provision in the UK, yet have resulted in highly divergent responses from HEI across the sector.

**THE CHANGING COMPETITIVE LANDSCAPE FOR HE IN THE UK**

The structural, political and ideological drivers underpinning today’s landscape for British Higher Education (HE) can be traced back more than fifty years to the ideas set out by Lord Robbins (1963). In the decades since Robbins set out his blue-
print for the development of mass-market HE, successive UK administrations have sought to re-structure social expectations and introduce legislation to allow HE to become accessible to a wider proportion of the British population than the ‘elite’ who went to university prior to the 1960s (see Robbins, 1963; Shattock, 2012; Watson, 2014).

The focus of this movement has been aimed principally in two key areas – widening student participation and opening up institutional delivery beyond the ‘traditional university’. It was recognised right at the start of the ‘massification movement’ in the 1960s that the solution could not take the form of simple expansion of the existing ‘elite’ university system, and that instead there would need to be consideration of new forms and formats of HE delivery in order to support wider access to the levels targeted (Watson, 2014; Parry, 2015). Such forms have included the rapid development of degree level delivery of technical and vocational subject areas at specialist institutions, previously known as ‘Polytechnics’, expansion and re-purposing of colleges specialising in teacher education, and then, in 1992, a more comprehensive re-organisation where a range of types of HE provider previously outside the University system were ‘incorporated’ as Universities in their own right (Shattock, 2012; Watson, 2014; Parry 2015).

This momentum continues to the present day, with the most recent government White Paper (BIS 2016) paving the way for legislation in 2017 which will increase the proportion of private provision (i.e. commercial organisations delivering HE programmes and being awarded ‘University’ status).

The ‘Massification’ of HE in the UK has not been without its problems however, for individuals as well as institutions. For example, individual students now entering HE in England can expect to leave at the end of their three or four year course having accumulated significant debt through a combination of tuition fees and living costs – so the stakes (i.e. such as financial risk, pressure to repay debt) are much higher now than they have ever been. Not only that, but due to the increased numbers of students achieving at degree level in the UK, graduate now face much greater competition for ‘graduate level’ employment. Indeed, with figures for undergraduate entry into HE topping half a million in 2015 (UCAS 2015), students starting programmes this year face the prospect of over one million more graduates being in the job market by the time they graduate.

This has led to a phenomenon known as ‘Qualification Inflation’ based on the
economic principle that the more of a commodity that is available in the market, the lower its face value (Tooley, 1996). Many students now face the prospect of having to invest further in their education and development in order to make themselves distinctive from other graduate job-seekers and attractive to potential employers. Whilst some undergraduates use their time at university to engage in extra-curricular activities relevant to entry into employment, for many this might take the form of further study at postgraduate level, which inevitably comes at a cost. Despite recent attempts to encourage greater domestic uptake of postgraduate programmes (UCAS, 2016), for students from low income backgrounds or for whom the ‘graduate premium’ is unobtainable, taking on the additional cost of a postgraduate qualification can be prohibitive. This may mean that HEI whose target student profile is skewed towards this demographic, may find it difficult to recruit sufficient numbers to make postgraduate provision sustainable, as such students just can’t afford to take on additional debt to fund their studies. The result is that many HEI have started to think about alternative ways of demonstrating the value of postgraduate study through initiatives that provide a taste of what is possible, but at a relatively low (or nil) cost compared to conventional study.

Institutions too face problems arising from the move to a “marketised / massified” HE landscape. Despite the (relatively) large numbers of undergraduates entering HE each year, the removal of number-caps means institutions are no longer constrained in terms of their recruitment strategies, which has increased competition for student enrolments and a greater emphasis upon developing brand-loyalty once students have enrolled at lower levels.

HEI attracting larger volumes of so called ‘high tariff’ students, have an advantage over those whose target markets are more aligned with widening participation. Institutions are measured on the quality of their outputs, including graduate destinations into ‘relevant occupations’ (i.e. graduate level employment). Whilst even the most optimistic policy perspectives acknowledge the reduction in the ‘graduate premium’ there appears to be little explicit recognition of the differences in starting point for measurement between HEI (Rodgers, 2007). Hence whilst ‘Russell Group’ universities typically attract a large proportion of ‘high tariff’ students already equipped to cope with the demands of academia, those at the ‘low tariff’ end often recruit students starting from a much lower level of achievement, and with much lower expectations from their ‘student experience’. The trajectory described by the former is quite often higher and more directed than that of their ‘vocationally
oriented’ counterparts in the latter group, and this skews any comparison between outputs from HEI situated in very different parts of the landscape.

Temple et al. (2014 p3) note the emergence of a ‘more competitive environment’ following the introduction of the new tuition fee regime in 2012. At the same time, other government policies were having the effect of increasing competitive pressures in an already competitive higher-education environment. Some of these policies were deliberately designed to increase competition (removing the cap on the number of high-achieving A-level students that a university could recruit, for example), while in other instances the competitive impact seemed to be a side-effect of other policy objectives (a more demanding visa regime for international students, for example).

Students now perceive themselves as consumers within a market based system (Tomlinson, 2015), rather than as participants within a process oriented around academics (i.e. the ‘traditional view’ of HE). This has meant a marked rise in HEI channelling resources into the management of ‘the student experience’ in search of clear and marketable ‘USPs’ associated with their particular approach to HE delivery. Whilst some commentators have questioned the conceptual validity of the concept of the student experience due to the large potential for variability in perception amongst a population numbering nearly three million in the UK, a 2014 study for the Higher Education Academy (HEA) proposes a useful framework for considering the management of the student experience from four key perspectives: Application; Academic; Campus; and ‘Graduate’ (Temple et al., 2014). The study also notes the impact that strategic change has had in terms of what is delivered by HEI of different types, suggesting that HEI have started to use differentiated approaches in these dimensions as a competitive tactic to attract more students.

With the emergence of a more assertive student voice, as a result of higher tuition fees and a shift towards a neo-liberal model, HEI are now, more than ever, conscious of the need to deliver value as perceived by key stakeholders, and for the need to demonstrate ‘value added’ in and around the notional ‘student experience’ (Purcell et al., 2011). Further, as HEI face more intense competitive pressure in terms of student recruitment, a heavy emphasis is now placed on the notion of ‘employability’. This is found not only in changes to curricula, but also in the provision of additional ‘employment related’ support for students at all levels, attempts to build closer links with employers (e.g. advisory boards, employer
input into programme development and validation processes, increased use of placements and internships, employer sponsorship of courses).

Morgan (2012) cited in Temple et al (2014 p8) identifies a range of key dimensions for considering the value proposition from the student perspective. This includes focusing on stages such as: first contact and admissions; pre-arrival; arrival and orientation; induction; reorientation and reintroduction to study (for continuing students); ‘outduction’ – preparing to leave, graduation and beyond. The initiatives outlined later in this paper consider the drivers for HEI to develop initiatives around the final ‘outduction’ phase in this model.

UK government policies for HE, such as those set out in White Papers in 2011 and 2016 (BIS) intend to support the creation of market-like mechanisms and increased competition between institutions in England. One such policy, allowing universities to recruit uncapped numbers of high-achieving A-level students, and thereby stimulating competition among universities to attract such students, helped to crystallise the idea of the student experience as it is now understood (Baird and Gordon 2009). Certainly, in the UK, more detailed information than ever is now available on the views of students at both undergraduate and postgraduate (e.g. through the Postgraduate Taught Experience Survey and the Postgraduate Research Experience Survey) levels, and on all aspects of their academic and broader experiences as students. (Temple et al 2014 p10). So, not only do HEI know that they are under scrutiny from students, they also now have to accept the scrutiny of direct competitors, who are able to access detailed information about their provision, their retention and the trajectories of their students over time – a real ‘double whammy’ of intense attention.

The 2011 higher education White Paper (BIS 2011), identified improving the student experiences as one of three challenges the Government’s reforms sought to tackle (the others were financial sustainability and social mobility). It declared that “institutions must deliver a better student experience; improving teaching, assessment, feedback and preparation for the world of work.” (BIS 2011, p. 4). The White Paper also called for greater employer engagement in higher education in order to enhance student employability.

These changes add up to create a higher education landscape which is both fluid and unpredictable, with major challenges for institutional leaderships and
managements and their academic and professional staff.

PEDAGOGICAL CONSIDERATIONS

As well as choosing what course to study and at which institution, students should also be able to exercise choice over how they study. This Government is committed to increasing choice for all students, particularly those who would benefit from more flexibility in higher education. We are committed to support part-time study (BIS, 2016 p52).

Students are increasingly looking to engage with HE on their own terms, at times and via media that suit their preference, rather than the traditional face to face ‘timetabled’ delivery associated with University level education (Salmon, 2002; Hannan, 2005; Walker et al, 2016). HEI have started to consider how to meet this growing demand, and have been wrestling with the delicate balance between continuing to offer conventional campus based provision and developing new (potentially self-competing) forms of delivery.

The use of the VLE is well established, with Moodle and Blackboard being the two main platforms adopted in the UK, although this is mainly used as an adjunct to conventional provision (Walker et al, 2016). Some HEI, including that at which the author is an External Examiner, utilise the flexibility and coverage associated with virtual platforms as the main-stay of their delivery approach. For institutions where the student base is both geographically and demographically dispersed, this has been a major source of competitive advantage, allowing these HEI to reach areas and student groups previously unavailable other than via the traditional ‘you come to our campus to study’ option.

Traditional campus / classroom based approaches for HE are sometimes criticised for being overly didactic and lacking in engagement opportunities for students, particularly at those larger HEI whose delivery models are based around student numbers per module in the hundreds. Whilst this is less of an issue at smaller HEI where smaller class sizes enable more intensive and personalised engagement with students, the need to improve and enhance ‘the student experience’, coupled with pressure from widening participation, means there is now greater emphasis on student-centric forms of delivery. Pares et al. (2014) comment on the changing nature of our society and the ‘need for new and adaptive perspectives
and approaches to education’ that better meet today’s needs (Pares et al., 2014 p5), and where teachers do more than simply transmit knowledge, and instead accompany students on their path to self-regulated knowledge construction.

This is a key notion when considering postgraduate pedagogy—not only are students expected to be more self-reliant, critical and ‘masterly’ than their undergraduate counterparts, but they are also held more responsible for the quality of their outcomes. In some instances, postgraduate students acquire considerably more expertise and knowledge of aspects of their discipline than that of their instructors. This is how masters-level students gravitate towards Level 8 (Doctoral) study in their selected disciplines (Hammond, 2017 ch5). So, for a masters-level programme to succeed, there needs to be explicit recognition of the need for the instructor to allow for rich and diverse exploration of the curriculum that is unconstrained by their personal perspectives and interests. This is where a ‘Dialogic Learning Model’ is key, as this allows for ‘multiple views and different ways of seeing and knowing, which leads (the student) to reflect upon the syllabus (content), the existence of multiple perspectives and the possibility of subjective realities emerging from the reflection (process) (Pares et al. 2014 p6).

New and ‘non-traditional’ forms of delivery, such as ‘blended learning’ whereby teaching and learning is delivered using a variety of methods, are ideal platforms for the deployment of a dialogic approach for postgraduate study. The use of Virtual Learning Environment (VLE) technology in particular, with its emphasis on flexible access and use of features such as online forums for interaction between tutors and students, provides an effective platform for the use of a dialogic approach, rather than a traditional tutor-led orientation to learning.

In addition, the availability of stable technology both for institutions (e.g. Intranet, VLE), wide public access to the internet and a multiplicity of device platforms for accessing and interacting with content, now means that HEI can deploy blended programmes via VLE confident that this will allow them to re-purpose existing content, to reach further and more flexibly to connect with potential students than ever before, and to do so at a much lower cost per seat than traditional bricks and mortar / campus based delivery. The notion of brand loyalty is not lost on senior management in HEI, and although some institutions have been quicker off the mark in developing alumni channels for repeat business and progression than others, there is a clear opportunity now to use technology to maintain contact with
existing graduates, as a means of converting them at a later stage into loyal paying customers (Palmera et al, 2016; Stephenson & Yerger, 2014).

The role of ‘applied education’ in cementing the links between learning and contributing effectively and early when in employment is well understood. For many years HEI have offered students opportunities to engage with real life scenarios during their programmes, with features such as ‘Industrial Placement’, ‘Internships’ and shorter term project placements often built into undergraduate programmes. However, some areas where employers perceive the need for graduate awareness, such as leadership and management (McAreavey, 2016) cannot easily be translated from the text-book to behaviour, without incurring significant risk both to the individual and their organisation. Advances in computer technology, graphic design and animation now promote the possibility of using ‘Virtual Environments’ as an alternative to ‘learning on the job’. Key benefits are available through allowing students to interact with ideas and situations ‘in context’ but without the consequences associated with real life practice. For example, in engaging with online virtual scenarios, students can play with ideas, run scenarios multiple times, test the impact of different choices and timing on scenario outcomes, reflect on outcomes and internalise learning before re-running scenarios, and receive contextualised feedback about their learning (Xu et al, 2013; Simcova, 2014). Not only that, but virtual environments also encourage student creativity, promote learning as ‘fun’, dissociate learning process from content, and enable self-paced interaction with ideas to suit the pace, ability and personal motivation of the student (Simcova, 2014).

In addition, the familiarity of online content and interacting with it serves to promote levels of engagement with programmes, although it is noted that students following blended or distance learning models ‘need greater self-orientation and self-regulation to achieve their academic goals (Goulao and Cerezo, 2013 p265). The challenge of making students more responsible for their own learning process (e.g. when and how they interact with course content) is further complicated when this is attempted at a new and stretching level, such as for a Masters level qualification.

It is not just students and government that have been calling for changes to the delivery of HE – employers and agencies representing local and regional economic development have long recognised the difficulties inherent in forcing students to participate in campus based educational development (see CMI 2014; BCC, 2014;
Tomlinson, 2012).

The HE system in the UK has been universally slow to react to calls from industry to address perceived skills-gaps (e.g. BCC, 2014, LEP 2014) and attempts to build closer links with employers have been inconsistent between HEI. According to the UK Government, employers report a growing mismatch between the skills they need and the skills that graduates offer (BIS 2016 p43). Recent research looking at employer perceptions and expectations for graduate skills (McAreavey, 2016) suggests that more work is required to close ‘the employability gap’ between what students believe they are capable of and what employers believe is delivered by the HE system.

Whilst the UK remains the 8th largest manufacturing economy in the world (ONS, 2015), the demand for graduate skills has evolved significantly away from manufacturing towards meeting the needs of a ‘knowledge economy’ in the 21st Century. Whereas at the start of the 20th Century, one in four people worked in manufacturing in the UK, today one in four is in full time education. We still need to deliver the skills required by the economy, but these skills have evolved as technology and social change have also moved on.

Thirty years ago, graduates entering the employment market place might have held realistic expectations of obtaining management level work, or at least work with the prospect of promotion to a management or leadership role. Today, despite the massive increase in numbers of graduates, organisations still face a shortage of leadership and management trained and aware candidates, and this has an impact on the overall competitive position of the UK economy (BIS 2012).

“Management and leadership development can and does, in the UK and elsewhere, enhance performance for economic and social benefit. It does not currently do so to its full potential, and there are therefore further performance gains to be had from improving it.” Burgoyne et al. (2004, p77)

The UK has a deficit in management quality relative to the US, Germany, Japan and Sweden. This management deficit is likely to be a cause of our productivity gap with countries like the US, Germany, and Japan. If we want to increase our competitiveness vis-à-vis such countries, then we need to consider how to improve management practices in the UK. Bloom et al (2007)
In 2014, a research published by the Chartered Management Institute (CMI) covering over 4,500 managers, 300 Chief Executive Officers (CEO) and 550 senior Human Resources professional in the UK identified real productivity gains of up to 32% were available to organisations across all sectors where management and leadership capabilities were developed effectively (CMI 2014, p12). This potential was being undermined in the UK, however, due to chronic under-investment in leadership and management training, which had become an early casualty of global recession.

The CMI findings were similar to research undertaken on behalf of the UK Government (BIS 2012) which concluded that, “Quite simply, improving leadership and management skills is the key that will unlock the potential of UK businesses, allowing them to seize the opportunities available to them and achieve sustainable economic prosperity” (BIS 2012, p79).

**LEADERSHIP & MANAGEMENT – EMPLOYER AND STUDENT DEMANDS**

Research undertaken at the University of Bolton in 2016 further reinforced the need for graduates awareness of contextualised leadership and management skills and capabilities (McAreavey, 2016). A survey using characteristics drawn from Pedler et al (2010, 2013) was used to elicit responses from a cross-section of North West UK based employers via social media. This identified a range of leadership and management characteristics that these employers felt were either very important or essential to graduate success, and the relative priority of these as graduate attributes. Over 90% of respondents felt that awareness of leadership qualities and management potential was either Essential (39%), Very Important (26%) or Important (26%). Drilling down further, into specific industry issues, the research found that employers believe that it is vital for graduates to demonstrate awareness of leadership and management issues at an industry level. Nearly 90% of respondents felt this was Essential (30%), Very Important (17%) or Important (39%), with the other 13% reporting neutrality toward the issue. A number of Management Competences are particularly valued by employers, including: People Management Skills; The Ability to Learn; Initiative; Emotional Resilience. The research also identified leadership qualities perceived as most important (for graduates) by employers, including: Skill in dealing with people; Trustworthiness;
Adaptability and Flexibility; Capacity to motivate others; Eagerness to accept responsibility.

The study’s quantitative findings were reinforced by qualitative responses from participants. A good example came from the manager of a £ multi-million major retail branded store who commented:

“It’s vital our graduates are aware of the importance of leadership and management, and the difference between the two, in order to move our business forward and future proof our operation. We require strong leaders to bring alive our core purpose, engage our colleagues in our vision and mobilise our teams to enable them to deliver in their area even when under pressure.”

The results of the employer based research were fed into a subsequent research study conducted within a sample of over 560 graduating students at the University during summer 2016. This was intended to assess the appetite of graduates from all disciplines across the University for Postgraduate Study to enhance employability, and their attitudes towards the development of leadership and management skills, a key finding from the employer based research (McAreavey, 2016).

Students graduating in 2016 were contacted via central Student Services and asked to take part in an online survey into attitudes towards postgraduate study. As part of this survey, students were made aware of plans for a free to access postgraduate initiative, intended to enhance their employability, and asked to comment on their interest in the core theme (Leadership and Management) and propensity to enrol. Nearly 100 responses were received (17.7%) within the short time available to include the results as a design consideration for the initiative under development at the university.

From this survey, 91% of respondents said that further study at postgraduate level was either ‘Something they were committed to doing’ (52%) or ‘Something they would consider’ (39%). Less than 10% of survey respondents said it was something they hadn’t considered, and no-one completely ruled out further postgraduate study. Comments from student respondents included:

“I think in this day and age, unless you are extremely lucky, a degree alone isn’t enough in the majority of cases. It is a very competitive world to enter after
“Graduation, and so further education is necessary for me....”

“Postgraduate study is an essential feature of today’s employment landscape, and it is needed to differentiate from other ‘ordinary’ graduates”

“I think it is an important step in my development”

When questioned about the perceived value of leadership and management awareness and skills for employment purposes, 100% of respondents gave a positive response, with 49% stating this was something they considered ‘Essential’, 40% agreeing it would be ‘Nice to have’ and the remaining 11% agreeing this would ‘Help to progress their employment prospects’. Comments included:

“I believe this is very valuable in any situation whether it be working for an organisation or setting up your own business”

“It will enhance my chances of employment in managerial positions.”

“I think this would help me make a case for promotion and certainly help when it comes to appraisal time”

“I have the potential to contribute to leadership and management, and learning the skills would bring this potential forward.”

“It is essential when thinking about starting up on your own and working within an organization”

All respondents agreed that postgraduate study must be based upon robust and contemporary academic content, and that such study would be enhanced by the opportunity to practice and apply theory in existing or aspired to employment contexts. Comments included:

“. good to see how theory is applied in practice. Expert speakers offer great insight but I think role play and virtual simulations help build confidence”

“It gives the chance to experience real life activities in work environments.”

“The ability to think outside the box, think quickly, would be developed by virtual simulation, and role play. learning from experienced speakers adds the essential
"I think this helps build confidence especially if someone is new to the job role “

“It is good to be able to test out ideas before trying them for real in the workplace”

Finally, the vast majority (97.5%) of respondents felt that postgraduate study should be focused on the development of tangible outputs that are meaningful at an individual / personal level.

These results were synthesised with the findings from employer based research and presented to the University as part of the design considerations and underlying logic for the development of a new programme, validated in June 2016 and deployed in pilot form in Semester 1 2016/17 academic year.

The following section showcases two examples of initiatives designed to add value to student outcomes and trajectory from HEI at the vocational end of the educational continuum are explored below. These initiatives were conceived within geographically distinct HEI serving similar demographic profiles for HE entrants.

**LONDON SOUTH BANK INITIATIVE**

Within the Business School at London South Bank University there was a developing awareness that post-graduation students could benefit from on-going assistance. This was a focus of conversation among academic colleagues going into the academic year 2014/15. A view emerged that further assistance which could facilitate the path into graduate employment would be of meaningful benefit to underemployed and unemployed graduates. With this resolve it was decided to validate and launch a programme which was intended to achieve this and be delivered without fee to recently graduated London South Bank University Business School students. The concept was to block deliver a 30 credit programme of between 9 and 13 weeks. The approach taken was to offer student’s as much flexibility as possible. To that end, “All course and module materials are available on the University’s VLE (Moodle) and communication with students will be predominantly
by electronic means.”³

The rationale and aims for the PGCertLL (Postgraduate Certificate in Lifelong Learning) in Project Management is explained in the Course Specification Document which was submitted for validation in December 2014. In an attempt to meet the varied needs of our students the course was designed so that unemployed students would be found five week placements in order to conduct a piece of project management work within the university. Those students that were already employed had the benefit of a work environment already and undertook their supervised project management practice over a period of nine weeks.

The aim of the course is to prepare students/learners for employment and/or further professional development by helping learners develop the capacity for self--direction, supporting transformational learning, and promoting “emancipatory learning and social action”⁴. Through transformational learning, as the learner matures and reflects on life experiences in relation to his or her self---perception, beliefs, and lifestyle, the learner’s perspective shall be enriched with project management skills And the opportunity to reflect on their application in a practical environment.

In the current competitive job environment, there is a great deal of value to be gained by strengthening ones knowledge and experience. Universities have a strong record of fostering knowledge, innovation, enterprise and skills, developing individuals with the essential skills for practice. This course explores important concepts; principles, methodologies and techniques through practical exercises, and techniques associated within the Body of Knowledge (BoK) activities to facilitate interdisciplinary thought. The scope of the course enables the undertaking of informed practical experience, and preparation for future employment, professional qualifications and training and/or education.

Lifelong learning is the on-going, voluntary, and self-motivated pursuit of knowledge for personal and/ or professional reasons. It does not only enhance social inclusion,

³ Rationale and Overview, PGCertLL (Postgraduate Certificate in Lifelong Learning) in Project Management, School of Business, December 2014.

active citizenship, and personal development, but also self-sustainability, rather than just competitiveness and employability. Linking the PGCert Lifelong Learning with project management provides an all-embracing description of an activity that is multi-faceted and that combines a very wide range of skills, for practical employment in a variety of organisations/institutions/workplaces. All businesses employ managerial and technical management processes that are dealt with via project management methodology tools so in designing the curriculum for this course the aspiration has been practical skill development.

Project management skills in general play a key role in all business areas these days, from business, retail, finance, engineering, IT, telecoms, local and national government, media, sport, leisure, health services, education and many more. Examples of projects are wide ranging and include: conferences, promotional events, software application implementations, organisational restructuring, and new product and service launches.

The course addresses the core skills of project management and the BoK, but does so from the perspective of practical experience through project skills and students are introduced to the emerging paradigms of problem structuring and business skills within the context of project management in a practical work environment. The course has five key aims:

1. The development of rigorous business project management skills to engender practical engagement of BoK skills in work experience and employment;
2. Exploration of the connectivity of the BoK (project management) approaches with orthodox methods to control cost, timescale, quality, scope, risk and benefits in work experience;
3. The application of lifelong learning project management skills in working practices;
4. The development of a critical understanding of key performance methodologies for project management;
5. The integration of project ideas and project management to support lifelong-learning activities innovation and change and their development
Operationally the programme consists of two new modules specifically designed for this course. A 10 credit module titled Business Project Management and a 20 credit module titled Business Project Management Practice both validated at Level 7. Business Project Management is a skills based continuous professional development (CPD) module with Business Project Management themes.

The approach taken covers the Project Management Body of Knowledge (BoK) concepts. It is delivered over three weeks (10 hours of contact time per week). The module links project management with its dual focus on competencies and capabilities and moves learners towards better addressing the needs of employees through complex, critical and changing work environments. The application of project management techniques relating to the structuring of problems at all organisational levels is utilised as an approach to teaching. Throughout the emphasis is on the use of projects for supporting strategy development in practice.

Project Management Practice is intended to develop and provide work related knowledge, skills and capabilities to undertake and complete project management practice. In addition its purpose is to facilitate further work opportunities in fields relating to the degree programmes students have previously studied.

The module is intended to enhance the student’s understanding of Business Project undertakings, organisational structures and working practices. This is done through one to one consultations and the practice work itself. Students are required to undertake practice either in their place of work or within the university. If within the university this practice will be of five weeks duration. If students are already employed the work experience practice will last nine weeks and take place in their place of work. During the practice component students will contribute to a business project under the contact/supervision of their academic project supervisor⁶.

**UNIVERSITY OF BOLTON INITIATIVE**

The Bolton course grew out of a strong desire to support graduates across all disciplines facing either under employment (i.e. in non-graduate jobs) or

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⁵ Course Specification, PGCertLL (PostGraduate Certificate in Lifelong Learning) in Project Management, School of Business, December 2014.
unemployment following graduation. Research during 2016 with UK based employers identified five clear themes across all sectors, seen as key to graduate awareness and capability for Leadership and Management. Parallel research with UK graduates confirmed the need for flexible provision directed at refining industry-specific leadership and management skills. The combination of these perspectives provided a clear rationale for the design and development of the programme which, in recognition of challenges faced by graduates of all disciplines in the contemporary environment, contributed to the choice of blended delivery and the provision of the course free of charge.

The initiative was rooted in a deep commitment to current and graduating students and the acknowledgement of ethical and social responsibility of HE institutions for facilitating employment success. In developing the provision, three key questions were used to anchor pedagogical considerations:

• Can we engage students from heterogeneous disciplines and orient them for success?
• Can we create an inspiring learning space to support students in achieving their best?
• Can we ensure the development of the individual, beyond the acquisition of knowledge and skills, for success as graduates once they leave university?

This led directly to the design, market testing, marketing and deployment of a 20 credit Level 7 module, suitable for graduates of any discipline, delivered in blended learning format using a combination of on campus workshops (2) and online content accessed and e-moderated via the University’s VLE (Moodle).

The module serves to enhance University of Bolton graduate employability relative to other institutions’ graduates and places particular emphasis on principal aims including to:

• Develop an effective personal leadership orientation and profile to enhance perceived effectiveness and employability of UoB Graduates
• Create critical awareness of leadership and management issues in order to develop distinctiveness and value compared to other graduates
• Develop action-oriented leadership and management capabilities through
action learning and personal reflection

- Key features include:
- Peer-grouping with students from complementary academic disciplines for action-learning sets
- Structured exposure to leadership and management challenges as part of a portfolio based approach to personal development
- A focus on cross-discipline perspectives on leadership and management to provide an enhanced and rounded view of personal development needs
- A combination of traditional and blended learning models to support flexible delivery and enhance opportunities for engagement across a diverse participant profile
- The use of a multi-modal architecture for delivery, to allow for a range of learning styles and preferences, but built principally around interactive forums (for discussion of core concepts and themes), virtual simulation (to enable hands-on experience of theory applied in practice) and a focus on building personalised outputs capable of adding value to each student’s employability and confidence.
- Where students are not currently in employment, support is provided to seek engagement with a relevant organisational context
- This programme is offered without charge or fees to University of Bolton Graduates

A range of platforms are used to engage students in goal-oriented learning, supported by conventional tutor-led sessions complemented with peer-driven action-learning sets (ALS) moderated by academic staff. Substantial independent study is expected in order for students to attain the levels of awareness and internalization of key leadership and management theories and models, and how these relate to their own personal priorities and targeted outcomes for the programme.

Action-learning sets around key (prescribed) topic areas form the main formative assessment method, with online moderation of student contribution to assigned tasks used to monitor progress towards program learning outcomes. Regular contact is maintained with students via VLE and other formal communications,
using methods such as forum discussions and individual messaging. Participation in forum discussions is an essential part of successful completion of the module, as is engaging within allocated peer learning sets.

Students are assessed on their participation via VLE in assigned ALS, and the quality of their contributions requiring a pass grade (50%) in order to continue to the second and third phases of the programme. Students produce a report-style Personal Leadership and Management Development Plan (PLMDP), set within a current or aspired to role in an employment context. This includes substantial reference to relevant theory and a Personal Reflective Review (PRR) of the module and the learning accrued through participation. Students are encouraged to think creatively and to produce a highly individual and personally reflective final submission, through negotiation and agreement of content and format for final submission with the Module Lead. Students are encouraged to respond to academic research around perceived priorities for both leadership and management, including current perspectives drawn from University of Bolton staff research. In addition students will be encouraged to undertake their own research within the industry sector they currently work within, or that to which they aspire, enabling a current and employment-oriented / value added focus driven by empirical research in the field.

The initial pilot deployment of the programme took place in October 2016, following intensive marketing to graduating students in the summer, and the generation of nearly 200 ‘expressions of interest’ from eligible candidates wishing to take part. At the time of writing the pilot had achieved retention of over 73% at the end of the second phase (Virtual Leadership Simulation) and formal evaluation for the programme was under development ahead of a wider-scale deployment of the course starting in academic year 2017-18.

**COMMENTARY**

The two initiatives outlined above provide evidence that HEI are responding to drivers such as a more competitive and dynamic landscape for HE provision, increased pressure from students as ‘customers and consumers’, advances in enabling technology and institutional focus on the leveraging of existing knowledge
assets to drive down costs.

Both initiatives reflect an ambition to add value to graduates from each institution, providing them with market-driven skills, knowledge and capabilities suitable for differentiating from other graduates. Both perform an important ‘Brand Loyalty’ function, by providing graduates with an opportunity to experience higher level learning at their existing institution via ‘taster programmes’. The impact of these initiatives in terms of progression to relevant further study and enhanced employment prospects / capability at work provides an excellent opportunity for future research and publication. Both programmes are subject to further refinement and adjustment based on feedback from stakeholders including participants, employers and academic staff involved in their deployment.

Clear similarities in approach are evident when comparing the programmes deployed by the two HEI, despite these being conceived, designed, validated and implemented in isolation from each other. For example, both approaches took a starting focus on unemployed & underemployed graduates, both operate a blended approach via VLE (Moodle) & on campus workshops, both feature a strong skills & applied learning orientation, are built around a reflexive architecture (i.e. action learning sets, assessment), both generate student outputs that are contextualised in current or aspired to employment setting. Both programmes are validated by their institutions and offer a contained Level 7 (Postgraduate Certificate) award for students successfully completing the syllabus and assessment. Finally, both are offered to eligible graduates free of charge by their institutions.

Some dissimilarities also exist between the programmes, with the London based programme featuring a short & intensive 9-13 week delivery time-frame compared to the 9 month ‘extended’ format opted for at Bolton. In terms of functional specialism within Business & Management, the London offering is built around a Project Management theme and skills, whilst the Bolton initiative is designed to develop applied skills and capabilities around Leadership and Management. The conceptual perspective for London based students is the individual and their personal / idiosyncratic learning journey, which is supported by the design of the course specifically for Business & Management students. The Bolton course is purposively designed to accommodate students from diverse subject disciplines across the entire University portfolio, and assumes no prior knowledge of the core themes delivered in the various phases.
Whilst both courses are promoted as being ‘blended’, the London initiative is predominantly campus based, with dedicated and replicated content available in support via VLE. The Bolton course is predominantly delivered and moderated via VLE, with only two well spaced workshops on campus throughout the nine months duration.

Early indications from both courses are very positive, both in terms of the anecdotal feedback from participants about their experience of learning, their improved social capital in the employment market and their development of marketable skills. Employer feedback is somewhat limited at this point, but all employers informally surveyed so far have reported noticeable impacts on employees taking part in these initiatives.

Future research will include analysis of quantitative and qualitative data outputs from the programmes (e.g. student retention, achievement data, quality evaluation surveys etc).

The acid test, for these and similar initiatives at UK HEI will be, do sponsoring institutions continue to deploy value added and free to access programmes in support of graduate employability? Time, of course, will tell.

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TEACHER EDUCATION IN SOUTH AFRICA: A WORRYING FACTOR?

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ABSTRACT

Teacher education in South Africa is a matter of concern. It is a concern because students who choose teaching as a career are few. Immediately after the dawn of democracy in South Africa, the government closed down all teacher training colleges assuming that there is an oversupply of teachers but the passage of time has shown that this assumption was incorrect. The profession is surviving because of students who pass Grade 12 and find out that they are not qualifying to pursue their first prioritized, desired or chosen careers at university and hence turn to teaching as an alternative career. It becomes important to keep these teachers in the profession. It should always be remembered that teaching is a noble profession. It needs a professional individual who is dedicated to his work and who will practice roles of a teacher as per the norms and standards for educators. Teaching needs a professional individual who will be a role model to his learners. Students who choose teaching as a second choice and even those who choose teaching as their first priority career path need to undergo three components of teacher education in order for them to remain in the teaching profession for their entire career. In this research paper researchers would like to emphasize the importance of incorporating three components of teacher education for the career span of teachers. Teacher education is composed of initial teacher training or pre-service teacher education, induction and teacher development or continuing professional development. Initial teacher training in South Africa is currently offered by universities. The paper investigated whether teacher education is practiced in a way that teachers would remain in the career for their entire working span. The paper also discussed the competence of teachers in areas such as subject matter, subject content, subject knowledge, and pedagogical knowledge content. The paper used qualitative design, where interviews and focus groups were conducted to collect data. The population which was used to collect data were fourth year
students who are doing teaching (Further Education and Training), teachers who have been in the teaching field for two to three years and the experienced teachers. Population was purposively sampled. The paper found that teacher education is not practiced satisfactorily as the students indicated that they are not certain about the subject matter, subject content, subject knowledge, and pedagogical knowledge content. Whereas teachers who have two to three years teaching experience indicated that they have never undergone any kind of induction. The experienced teachers indicated that continuous teacher development is done haphazardly and framed it as “microwaving”. The areas which the participants indicated make them to become disillusioned and would consider to leave teaching profession and pursue other careers.

**Keywords:** Initial teacher training. Induction. Continuous Teacher Professional Development. Recruitment. Subject matter. Pedagogical knowledge content.

**INTRODUCTION**

Teacher education is composed of three components or areas which are pre-service teacher training, induction and continuous teacher development. The paper discusses the importance of all these components in order to retain teachers in the teaching profession for the rest of their career time.

**PRE-SERVICE TEACHER EDUCATION**

Pre-service teacher education is education and training provided to student teachers before they undertake any teaching in schools. Common topics include classroom management, lesson plans, and professional development. A major focus during such education programmes is the practicum where the pre-service teacher is placed within a school setting either at primary or secondary school. The pre-service teacher will be given an opportunity to develop skills through lesson plans, teaching lessons and classroom management (Mashau, 2013).

The preparation of pre-service teachers academically and professionally is a vital responsibility of the state and its people through the respective teachers training institutions in South Africa, with universities offer such training (Nzilano, 2013). In South Africa, there is growing concern and doubt on the quality of teachers who
are produced by universities. They are labeled as under-qualified, and the quality of pre-service training is doubtful. Besides concerns people have, it should be in people’s minds that many students choose the teaching career as a last resort. They forget that teaching is a noble career.

**Knowledge of Subject Matter and Pedagogical Content Knowledge**

According to the National Centre for Education Statistics (1999), in order for teachers to provide the highest quality learning experiences for students, they must first understand and be able to communicate the subject matter. Knowledge of content and subject matter is important and succeeded by lesson preparation. Knowledge of subject matter and pedagogical methods does not guarantee quality teachers nor quality teaching but a necessary prerequisites.

Myalla (2014) also emphasizes the importance of knowledge of the subject matter. “A teacher can’t teach what he/she doesn’t know”. All teachers need not be experts in their fields, but possessing knowledge is important. Teachers must continue building their understanding of their subjects throughout their careers. Literature indicates that teachers’ background subject knowledge directly influences student achievement. Teachers’ subject understanding significantly impacts students’ opportunities for learning as teacher content knowledge is a vital component for academic success (Rosas & West, 2011).

Shulman (1986) states that there are three categories which are intertwined in content knowledge-subject matter, that is, content knowledge, pedagogical content knowledge and curricular knowledge.

According to the National Council for Accreditation of Teacher Education (NCATE) (2016), there are three key findings from the existing research on teacher preparation, namely:

- Teacher preparation helps candidates develop the knowledge and skill they need in the classroom;
- Well prepared teachers are more likely to remain in the teaching profession; and
- Well prepared teachers produce higher student achievement.
Two components are critically important in teacher preparation, namely: teacher knowledge of the subject to be taught and knowledge and skills in how to teach that subject. Research and common sense indicate that subject matter knowledge is necessary for effective teaching, but there is a second part of the equation: knowledge and skill in how to teach is also a must. Effective teachers understand and are able to apply strategies to help students increase achievement. They understand and apply knowledge of child and adolescent development to motivate and engage students. They are able to diagnose individual learning needs. They also know how to develop a positive climate in the classroom in order to make it a stimulating learning environment (NCATE) (2016).

According to Park and Oliver (2008) pedagogical content knowledge is an acknowledgement to the importance of the transformation of subject matter knowledge into subject matter knowledge for teaching. It has been described as the knowledge used to transform subject matter content into forms of more comprehensible to learners.

![Figure 1: Knowledge bases for teaching [modified from Grossman (1990)]](image-url)
The development of pedagogic content knowledge involves a studied move in educators’ understanding from being able to comprehend subject matter for them, to be able to clarify subject matter in new ways, reorganize and partition it, cover it in activities and emotions, in metaphors and exercises, and in examples and demonstrations, so that it can be grasped by learners (Shulman, 1987).

Teacher Induction

According to Fabian and Simpson (2002) “induction is the process of introducing the employee to the organisation and the organisation to the employee and it begins at the time of appointment”. Its purpose is to help new staff achieve competence quickly through having the necessary knowledge, support and guidance to carry out his or her duties. Wong (2004) defines induction as a system which is wide, coherent, comprehensive training and support process that continues for 2 or 3 years and then seamlessly becomes part of the lifelong professional development program of the district to keep new educators teaching and improving toward increasing their effectiveness.

Aims of Induction

There are a number of authors and researchers who wrote about the aims of induction. The following paragraphs discuss aims of induction according to different authors. According to Denim (2009) “the aim of induction is to enrich school leaders, educators, newly qualified educators, novice educators and policy makers to develop and pilot a comprehensive induction and mentoring programme”. According to Wong (2004) the following are the aims of induction:

- To solve the problems of loneliness of educators and lack of support.
- To help educators to improve in the academic standards and vision of the district.
- Improve participation by all educators, whether entering the profession from traditional or alternative pathways.
Fulton and Lee (2005) state the following as the aims of induction:

- Improve educator retention: most novice educators leave the profession and especially leave at-risk schools because of lack of support, a poor professional environment and a feeling of isolation.
- Accelerate professional learning of new educators. Novice educators can learn skills for teaching and for classroom management at a quicker pace when they have professional support and information from experienced colleagues.
- Create learning communities of experienced and novice educators. Induction is changing the culture in the school to allow for open observation and professional critiques of practice.
- Change the professional culture of a school. Getting all educators and principals involved in new educator. Induction can change beliefs about how students or about teacher capabilities and roles.

CONTINUING PROFESSIONAL (TEACHER) DEVELOPMENT (CPD)

Continuing professional development is a learning process resulting from significant collaboration with the context, thus time and space, and will lead to alterations in teachers’ professional proactive (action) and in the way they think about their teaching practice (Somo, 2007). Kostadinovic (2011) see Continuing Professional Development (CPD) as an important aspect in the lives of teachers. Kostadinovic (2011) describes the Continuing Professional Development of teachers (CPD) as the systematic maintenance, improvement and broadening of knowledge, abilities and proficiency during the course of a teachers’ working lives. Furthermore, CPD is also viewed as an on-going process of ensuring lifelong learning for professionals to improve performance (Mhozya, Pansiri, Bulawa, Moletsane, 2012). The CPD has nowadays become an institutionalised lifelong learning imperatives, personal development, individual development, updating professionals in the rapid pace of technological advancement, verification and upholding of professional standards to ensure competent and adaptable workforce (Fraser, Kennedy, Reid & McKinney, 2007). However, Lessing and De Witt (2007) state that teachers do not necessarily see teachers’ training as a lifelong process of critical thinking, reflection and self-direction. Therefore, they rely only on rote learning of meaningless facts in their
preparation for the teaching profession (Waddington, 1995).

Thus, to put this in a broader perspective, Day and Sachs (2007), describe the CPTD using the following five components:

- Self-image which refers to the way educators typify themselves as educators;
- Self-esteem which encompasses educators’ personal evaluation of themselves, thus how well they are doing as educators;
- Conative which implies amongst other things, the ultimate motivations that make teachers chose and stay in the profession.
- Task perception which involves teachers understanding and knowing what it take to be good in their profession; what they must do in order to accomplish their job superbly and effectively?; what are teachers’ genuine responsibilities and duties in their profession? Future perspectives which are usually teachers’ future prospects about the future development of the job and the way they feel about it.

In South Africa, the South African Council for Educators (SACE) is mandated to manage the CPD system with the support of the Department of Education. This means that the role of SACE is to endorse PD activities on grounds of their fitness of purpose and quality, and in so doing ensure that professional development is purposeful and effective. It must be noted that the SACE’s vision of the CPD system is to support and facilitate the process of continuing professional development, to revitalise the teaching profession and to reward those who commit themselves to these goals. It is important to note that teachers are expected to earn a target number of 150 PD points in each successive rolling three-year cycle from different range of professional development activities endorsed by SACE on grounds of their fitness of purpose and quality.

AIM OF THE PAPER

The aim of the paper was to investigate whether teacher education is practiced in a way that teachers would remain in the career for their entire working span.

RESEARCH DESIGN AND METHODOLOGY

The paper used qualitative design, where interviews and focus groups were
conducted to collect data. The population which was used to collect data were fourth year students who are doing teaching in Further Education and Training (FET), teachers who have been in the teaching field for two to three years and the experienced teachers. Population was purposively sampled. Data were analysed through themes and coding.

**DATA ANALYSIS AND DISCUSSION**

The following paragraphs discuss analyse data collected from students, inexperienced teachers and experienced teachers.

**Data Analysis from Pre-Service Teachers (Focus Group)**

**Theme 1: Major subjects in the School/Faculty of Education**

All student-teachers indicated that they are taught their major subjects from different schools or faculties.

Participant 1: I am doing Economics, the subject matter and subject content is for students who are doing Economics at level of Economics studies. There is nothing related to school subject content economy. This makes some of us to struggle while we do practice teaching. According to the National Centre for Education Statistics (1999), in order for teachers to provide the highest quality learning experiences for students, they must first understand and be able to communicate the subject matter. Knowledge of content and subject matter is important and succeeded by lesson preparation.

**Theme 2: Relation of subject content (major subjects) taught at university to subject content taught at secondary schools**

All participants indicated that subject content in their major subjects is different from what is being taught is schools.

Participant 10: It becomes struggle for us to comprehend what is being taught and what we are going to teach in school. We realise the difference of what we are taught at university and what is being taught in schools during practice teaching.

Teachers must continue building their understanding of their subjects throughout
their careers. Literature indicates that teachers’ background subject knowledge directly influences student achievement. Teachers’ subject understanding significantly impacts students’ opportunities for learning as teacher content knowledge is a vital component for academic success (Rosas & West, 2011).

**Theme 3: Relation of pedagogical knowledge content taught at university to pedagogical knowledge content at secondary schools**

All of the participant agree unanimously that pedagogical knowledge content offered at university is not related to pedagogical knowledge content at secondary schools.

Participants 3 and 4: when we are out n practical teaching it becomes very difficult for some of us to prepare lessons as we have to read a lot for us to understand what we are going to teach.

Park and Oliver (2008) state that pedagogical content knowledge is an acknowledgement to the importance of the transformation of subject matter knowledge into subject matter knowledge for teaching.

**Data Analysis from Newly Appointed Teachers**

**Theme 1: Understanding of induction**

Teacher A states that induction is a workshop that is done for the newly appointed teachers,

Teacher B states that induction means that new educators must be trained so that they know what is expected out of them.

Teacher C defines it in as a good way by saying that the term induction means an action or a process wherein someone who is going to join the organization is inducted so that they can know how that organization works.

These teacher responses show that they all know that there is something called induction.
Theme 2: Experience as a newly appointed educator

In response to a question on what problems educators experienced when they started at school, the major problem was that the educators were not welcomed in a professional way. Like teacher B, is complaining because no one welcomed him.

Participant C: “I arrived there given the work to do but my problem was that I did not know how to do that work. This educator’s big problem was that he never knew where to start and how to start the work. Teacher C shows that the lack of support from the management. He must experience everything in the classroom. Most educators do not even know on how to prepare the lesson.

Theme 3: Views considered to be the major concerns of beginning teachers.

The major concern from all teachers was that there was no formal induction in schools. The major concern for teacher A for example is that he did not know on how to prepare a lesson and even school curriculum and no one was prepared to offer a help. Educators are not taught on how to mark a register.

Theme 4: Isolated aspects of induction which were critical

Some educators were unable to answer the question as they had not been exposed to induction. Teacher C explained that he did not get induction. There is nothing he can say about the aspects of induction. Novice educator B shows lack of induction and therefore he never knows on how to prepare the lesson, the curriculum knowledge is not well inducted. The other critical aspects being experienced by the novice educators were how to manage discipline to learners, how to prepare lesson plans and education policies.

Theme 5: Methods used to obtain information needed in the school

Novice teachers indicated that they explored various possibilities such as asking other teachers, approaching the head of department, befriending more experienced educators and even approaching the deputy principals. Teacher F had this to say, “Sometimes I get assistance from my deputy principal, colleagues and I have learned practically that some of the information that I am receiving was never taught or told before. I am continuously learning from my colleagues and sometimes from
Data Analysis from Seasoned (Experienced) Teachers

This is an interpretation of the qualitative data collected through one-on-one interviews with ten (10) teachers. This section provides qualitative analysis and discussions with participants with regard to teachers’ perceptions on the impact of continuous professional development on promoting the quality of teaching and learning.

Table 4.1: Profile of teachers who participated in face-to-face semi-structured interviews

<table>
<thead>
<tr>
<th>School Status</th>
<th>Number of Participants</th>
<th>Position and Gender</th>
<th>Participants’ Age</th>
<th>Teaching Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>SIX(6)</td>
<td>Two female CS1(from the same school)</td>
<td>Between 40 years and above</td>
<td>Between 10-30 years.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A male and female HODs (from two different schools)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>One male Principal and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>One female Deputy Principal (from different schools)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>FOUR(4)</td>
<td>Two (2) female CS1educators (from the same school)</td>
<td>Between 35 years and above</td>
<td>Between 10-30 years.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>One HOD( male) and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>One Deputy principal(from the same school)(male)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL PARTICIPANTS: 10

It is important to note that the participants were between the ages of 35 years and above while their teaching experience ranged from 10-30 years.
The themes below provide the participants’ responses with regard to the main research aims and questions:

**Theme 1: Teachers’ perceptions on the impact of continuous professional development in promoting quality teaching and learning**

Participants were asked to define teachers’ professional development. In defining teachers’ CPD, participants provided different ideas and views. Some participants stated that CPD of teachers is about getting teachers equipped to do better in the class. While the other participants stated that CPD is about enhancing professional career growth of teachers through study groups, in-service education and peer coaching. One participant to the interview stated that teachers’ CPD is the process whereby teachers are given new information which suits new educational procedures and are also fully equipped with the necessary teaching skills. Thus, according to other participants, teachers’ CPD is a process wherein teachers are provided with in-service training or study further to equip themselves professionally. One participant who is CS1 primary school teacher had this to say:

**TP1:** “It is the development of teachers to acquire more skills about their careers and to promote quality teaching and learning in schools, and the upgrading and development of teachers’ skills for competency in their field and efficiency in their
Another participant who is an HOD at a primary school noted:

TPH1: "I think is about career growth, individually or in the form of groups, or study groups and by attending workshops".

Another participant who is a Deputy Principal at secondary school added:

SDP: To me a teacher’s PD is not a once off process; it is an on-going process to enhance someone’s knowledge and cannot be done only once as it is a process that has to take place throughout the entire circle and throughout teachers’ careers. In other words, as we take teaching as a profession, developmental strategies should always be in place to improve the way we do things, also following the dynamic changes in the systems itself. This will mean when the system changes we should also change with the system.

Morewood, Ankrum and Bean (2010) note that professional development may be perceived in a differently way by individual teachers as there is evidence of much variation in the teachers’ perception, knowledge and understandings of the processes and products of professional development (Hustler, McNamara, Jarvis, Londra & Campbell, 2003). Different definitions of teachers’ PD provided by participants are in agreement with Grundy and Robison (2004) who noted that professional development serves three functions which are extension, renewal and growth, and is usually initiated through two drivers which are systemic and personal. Systemic professional development is typically associated with renewal whereas personal professional development may serve all three functions (Grundy & Robison, 2004).

In line with these results, literature has shown that professional development of teachers is essential in helping teachers acquire and update knowledge and skills to deal with educational change and to provide teachers with opportunities to enhance their knowledge and skills/competencies in the relevant areas by means of support and training (Coetzer, 2001) and Anderson (2001) cited in Wan (2011). The results indicated that participants see teachers’ CPD as an initiative, strategy or a modus operandi which is not a once off thing, but something that encompasses a circle of process throughout teachers’ careers.
The other question which teachers were asked is: Do you think teachers are being professionally developed to bring about quality teaching and learning in our schools? Why?

When participants were asked as to whether they think teachers are being professionally developed to bring about quality teaching and learning in our schools, the majority of participants stated ‘no’ teachers are only being sent to workshops or seminars by the schools through Department of Basic Education and that such workshops and seminars cannot be regarded as the means to develop teachers professionally.

Participants in these findings stated that by attending some workshops they are being partially developed with knowledge, skills and strategies which are needed by them to cope well with the current curriculum changes they are faced with. The participants stated that such CPD programmes or initiatives are haphazardly done, just ‘cut and paste’ and ‘micro-waved’ kind of workshops which result in little or no understanding of what the teachers need to gain. One participant who is a Deputy Principal at the secondary school had this to say:

SDP: “No, I don’t think teachers are being professionally developed. Taking for an example, I’m the deputy principal of the school. From the 30 minutes interview, I was taken directly into the office, not even being orientated, not even shown how to do the work, but from just an interview to the work. I was never brought through the system of induction, no orientation, and no coaching provided and was just shown the office to start working and that was all. And that is what is normally done when the new educators are coming into the system. The only thing that is done is to show them the classes they are going to teach and give them the subjects they are supposed to teach. No time to sit with them and show them how the subject is supposed to be taught”.

In line with these results Hofmeyr (1991) cited in Ravhudzulo and Ravhudzulo (2012 found that the absence of clear policy, a lack of human and material resources, inadequate support, poor co-ordination and negative contextual factors are some of the main reasons why in-service teacher training (INSET) for teachers’ professional development provision is often ineffective.

Fiske and Ladd (2004) articulated that when teachers attended the professional development workshops for the new curriculum, they were simply subjected to the
“watering down or misinterpretation” of crucial information regarding what they had to do in their classrooms. Robinson (2002) stated that teachers frequently complained that even the district trainers themselves did not always understand the curriculum they are expected to explain to them. Most frustrating to teachers was that the training was seen as removed from classroom realities, and only focused on mastering new and difficult curriculum terminology rather than on the substance of teaching (Review Committee, 2000).

Theme 2: Factors affecting teachers’ perceptions of continuous professional development in promoting quality teaching and learning

Participants stated that they are furthering their studies in management, technology and languages and not necessarily in their area of specialisation or in the subjects that they are teaching. Participants noted that only those who are given study bursaries by the Dept. of Education are the only ones furthering their studies in the areas of their specialisation. One participant who is a primary school Head of Department had this to say:

TPH1: We no longer want to specialise, but we are just developing ourselves, not aiming at development but aiming at increasing a little bit of our salaries and that’s why we no longer go for specialisation. We only go for something that can help us for a time being… and that is increasing our salaries.

When the participant was probed further as to what she is doing then, she had this to say:

TPH1 :“Currently I’m doing my honours in school management with one of the university in Gauteng. The idea is just to get the degree and get my cash bonus. Maybe one day I might be a principal or move to other sectors other than education, coz here we are suffering. When we want a pay rise we have to strike and when we do so, the Department Of Basic Education applies ‘no work no pay’ (LWP)”.

Theme 3: The impact of teachers’ perceptions of their continuous professional development in promoting quality teaching and learning

Participants stated that the PD initiatives make them better teachers in their classes and they have adequate knowledge of the learning areas or subjects they are teaching. Participants also stated that due to the PD initiatives, they feel very
revived and renewed as they are updated with new ideas and strategies to teach well according to the new curriculum requirements. One participant CS1 primary teacher added that through the PD initiatives she was able to gain some knowledge to can teach.

**TP1:** “I have some knowledge, resources and I am more confident when teaching”.

When the participant was probed as to why other teachers are critical of the CPD workshops this was her response:

**TP1:** “Yes we might not be happy with the one day workshops…but what choice do we have? At least I always come back with something and can do one-two three things”.

Responding to the question whether teachers’ continuous professional development programmes help teachers to understand educational policies better, participants indicated that it helps a lot. However, participants stated that sometimes the facilitators in some of the CPD programmes often struggle to explain some of the concepts better. One participant who is a Deputy Principal at primary adds:

**PDP:** “Although the government is trying to help us to understand the policies, the Department of Basic Education is not stable as those who are in charge with implementing the policies are always changing them, when trying to adjust ourselves another policy is implemented”.

Another participant who is secondary school Deputy Principal lamented:

**SDP:** “We are led by politicians not by academic, so the issue of policies is closed one. We are so dull when it comes to the policies. Thus, if the policies are given to teachers, teachers don’t read them and even if these policies are supposed to be followed, teachers will simply ignore such policies. That is posing a lot of problems to teachers in understanding those educational policies”.

When probed further the Deputy Principal had this to say:

**SDP:** “It is only the Department of Health which is headed by someone with knowledge and expertise pertaining to the Ministry. In Education…well, there are so many professors who can do a better job than those who are at the helm
now, people who understand the education system better and had the necessary experience as well as the expertise. Why can’t they put them in charge?”

“With regard to teachers well, to tell you honestly, I don’t know why teacher don’t read those policies, maybe lack of interest or just laziness. It is like now, there are teachers who are unable to understand the pass requirements for Grade 09, but they have all the policies and documents. The principal and I had to explain to them from time to time every year”.

CONCLUSION

Teacher education is compromised in all three areas or aspects. The paper found that pre-service teachers are taught subject matter and knowledge content which differs from content taught in schools. This compromises the quality of teaching and learning in schools. Induction is another area which is not taken seriously in South Africa. Teachers are just thrown at the deep end without receiving induction after they have been appointed. There is no induction programme for newly appointed teachers. Teachers perceive themselves as professionals who need professional development initiatives to promote the quality of teaching and learning in their schools and see the need to have professional development in their entire career life. The paper found that teacher education is not practiced satisfactorily as the students indicated that they are not certain about the subject matter, subject content, subject knowledge, and pedagogical knowledge content. Whereas teachers who have two to three years teaching experience indicated that they have never undergone any kind of induction. The experienced teachers indicated that continuous teacher development is done haphazardly and framed it as “microwaving”, though they need it for quality learning and teaching.

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As a researcher who explores the philosophy and theology of Catholic education, I want to address the questions around the contemporary justification of Catholic education in a pluralist society, such as the UK. In pluralist societies which adhere to the principles of liberal democracies it has become increasingly difficult to justify Catholic education. At many levels it is characterized as at odds to an inclusive and just education. Philosophers of education such as Hirst (1974) argue it amounts to a primitive form of education. Others such as Hand (2003) maintain that all forms of faith school ultimately inhibit autonomy. Government inspired judicial reviews such as the Cantle Report (2001) raise concerns about social cohesion and faith based education. Against this advocates of Catholic education (Sullivan 2001, McKinney 2008) have sought to argue that Catholic schools can be characterized as an inclusive form of education. At the same these advocates have wanted to defend the confessional nature of Catholic education.

Against this context my theoretical research into the theory of Catholic education has used a method that emulates Neurath’s metaphor from the philosophy of science about repairing a boat whilst still on the open waters. This theoretical method makes it possible to use insights from contemporary Catholic theology to reframe and ground the aims and justification of Catholic education along non-Confessional lines. Once this is achieved, the idea of Catholic education largely ceases to be vulnerable to accusations that is not inclusive and that it damages social cohesion. The argument underpinned by this research is able to transform or reframe the theory of Catholic education more effectively than earlier attempts by Sullivan (2001) and McKinney (2008). The paper I want to deliver will begin by quickly mapping out why attitudes in our pluralist society have become increasingly critical of Catholic education generally and of Catholic schools in particular. From
this opening point I will argue that the time has come for a fundamental reappraisal of what the primary goals or aims of Catholic schooling ought to be. If Catholic schools are to be coherently justified in our pluralist society it is no longer adequate to simply appeal to ‘parental rights’ and to assumptions about this serving the common good. The time has come to ‘bite the bullet’ by arguing for and adopting a non-confessional (or non-catechetical) approach to Catholic education. Obviously, the idea of a non-confessional theory of Catholic education is one that many proponents of Catholic education might find difficult to work with. It is normally assumed that Catholic education is committed to using formal schooling in order to actively nurture pupils in the Catholic faith. This is primarily because official Catholic teaching on education repeatedly uses the argument that Catholic schools exist in order to support Catholic parents who want to bring up their children in the Catholic faith.

However, against all this I will argue that there are some sound theological reasons to justify a non-confessional account of Catholic education. The likes of leading theologians such as Karl Rahner provide the inspiration for developing a robust non-confessional account of Catholic education. This would make it possible to explain how Catholic schools could cohere well with our pluralist society. In our secular age Catholic schools could be recast as places open to all pupils and to be the very sites where they are enabled to critically assess their own beliefs and values, as well as the values of their society, including the ideology of consumerism. I will conclude that if Catholic education is to be viewed as having a positive influence in our society in matters of education the time has come to challenge our traditional thinking about the aims of this kind of education. The way forward is to recast Catholic schools along non-confessional lines. This has the effect of transforming critical stances towards Catholic education and provides a way of making abundantly clear that this theory of education is fully inclusive and promotes social justice.

**Supporting argument**

In the contemporary pluralist society it has become increasingly difficult to justify the Church as an educational provider. In many respects the current debates around Catholic schools provide a fascinating insight into the ambiguous place that the Church currently plays in our pluralist society. Forty years ago it was easy to argue that Catholic education was a benign force in society, that Catholic schools were genuinely serving the common good. Now across the UK and in Ireland there
has been a profound shift in attitudes. Catholic schools like all faith schools, are increasingly viewed with suspicion and cited as being at odds with the demands of a pluralist society. This makes Catholic education an important lens through which to address the questions about the relationship socially just and inclusive accounts of education.

It is important to begin by quickly mapping out the ways in which attitudes to Catholic education and Catholic schools have changed in recent decades.

These are testing times for Catholic education. Even twenty years ago it was easy to assume that Catholic schools serve the common good. Now Catholic schools, like all faith schools are increasingly viewed with suspicion. The reality is that Catholic education is facing a range of threats and tensions. These threats are both external, from those who challenge the legitimacy of all faith schools, and internal, from within Catholic theology and reflection. These threats and tensions converge on philosophical questions about the justification, aims and purpose of Catholic education in a pluralist society. I contend that justifying the Church as an educational provider is now a tricky business.

In many parts of world the Catholic Church is still a major educational provider. Even in ‘non-Catholic’ England 10% of all pupils are educated in Catholic schools. Plenty of research into the effectiveness of Catholic schools in the USA pointed to what could be loosely called a ‘Catholic school effect’. In the UK Catholic schools regularly receive good or outstanding OFSTED inspection judgements and many of the top performing state schools are Catholic ones (Morris 2008). When this is coupled with the findings of school effectiveness research, the result reinforces the perception, at least among parents and the popular press, that Catholic schools are highly effective. Catholic schools are often heavily oversubscribed and many non-Catholic parents apply for their children to attend these schools.

It is easy to the impression that Catholic education was basking in a ‘golden age’ just 15 or 20 years ago. However wider events in the pluralist society have brought this to an end. There has been a profound shift in attitudes, such that increasing numbers question whether the Church is a good influence in education.

Taking the UK as an example a catalogue of events happened throughout 2001 that profoundly altered perceptions of faith schools, even well established and effective Catholic ones. First, the Ousley Report (2001) and the Cantle Report (2001) into
the rioting and social unrest in northern cities in England during the summer of 2001 pointed to deep social divisions. This was reflected in the segregation and lack of cultural and racial intermixing in local schools. The Cantle Report called for schools to play a key part in overcoming ethnic and religious divisions in the local area. Second, there was sectarian violence in Northern Ireland directed at primary school children as they and their parents walked to school. For several weeks daily news reports repeatedly showed groups of ‘Protestants’ or ‘Loyalists’ throwing stones and hurling abuse at young children as they made their way to and from their Catholic primary school. A third event was the shocking terrorist attacks on the Twin Towers on 11 September 2001. That such violence was connected with religious beliefs was hugely disconcerting and it demonstrated in a graphic way that religious faith might have some very sinister implications for society.

The events both within the UK and on a global scale were causing a fundamental reappraisal in the way religious belief is viewed and evaluated. Both in the popular press and within political discussion there was a renewed and more critical debate about what ought to be the place of religion and faith in education of our children. Thirteen years later these concerns over faith schools have continued, taking on a new twist with the Trojan Horse concerns. In Birmingham Islamic extremists had infiltrated some faith schools in order to foster extremism.

A closer analysis of the situation in the opening decades of the twenty-first Century indicates that Catholic education is certainly not basking in a golden age. In reality the situation is more complex. There are actually a range of external and internal threats that make an increasing number see the Church’s involvement in education as something which ought to be curbed and called into question.

One helpful way of characterizing these concerns is to classify them into external and internal threats and issues. For not only has there been a reappraisal of the place of religion and faith as a good in human society, but there is also a range of concerns that Catholics themselves have been pondering about the nature and purpose of Catholic education. By spelling out these external and internal threats to Catholic education, it becomes easier to appreciate the full extent of the testing times that Catholic education is currently facing.

There are five sets of external threats facing Catholic education.
Threat 1: The argument that Catholic education is a threat to social cohesion

The key claim is that educating children by dividing them up into members of faith groups (or non-members) is to draw attention to social divisions and differences in society. The issue here pivots around the negative connotations in ‘dividing’ pupils along religious-cultural lines. The claim is that this is detrimental to having a harmonious society because it perpetuates and reinforces already existing divisions in society.

It is important not to underestimate the force of claiming that all faith schools, even Catholic ones, threaten social cohesion. It amounts to a claim that faith schools are contrary to the common good of society. In terms of Catholic education this is a startling claim, one which is the complete opposite to what advocates of Catholic education maintain.

Threat 2: Catholic education is a threat to the ideals of common schooling and comprehensive education

This mounts to a claim that Catholic education is fundamentally at odds with the ideals of common schooling. Ever since the days of Dewey it has been argued that the ideal form of education ought to be the local neighbourhood school where all children, regardless of their class, race, gender, religion and wider culture could be educated together and in so doing, they would learn how to live together in a democracy when they become the future generation. This is the social function of schooling. When it comes to Catholic education, and all faith schools, the educational ideals behind common schools would appear to be challenged. If the ideal type of school is the common school then this means that Catholic ones fall short in some significant or essential way.

Threat 3: Are Catholic schools really more effective?

The third threat is from those who would challenge and reject the claims that Catholic education is more effective than other similar types of education and schooling. Both at the popular level and among educational researchers there has been an increased questioning of the alleged ‘Catholic school effect’. Whilst it is true in the UK that Catholic schools tend to achieve good academic results, the question has been asked about what this really proves about Catholic schools. It has fuelled the suspicion that Catholic schools do better because of the pupils they admit.
This is an area that stands in need of further empirical study. It is possible that further study and analysis will reveal that Catholic schools are not more effective than other types of schooling. At the very least, the question of whether Catholic education is more effective than other similar types of education has now become a disputed one.

**Threat 4: The challenges from political philosophy about Catholic schooling**

A fourth external threat comes from the political challenges to all faith based involvement in state education. At a superficial level these concerns are often couched in terms of taxation policies and raised in the old slogan about having to pay for ‘Rome on the rates’. Why should all taxpayers pay taxes that are used to nurture religious beliefs in young people? It is important to recognise that the real issue here is a fundamental political question about what ought to be the relationship between the state and religion. Relationships between states and religion have often been fraught with difficulties. This leads onto questions about whether the state ought to be given direct funding for any kind of faith school.

**Threat 5: the indoctrination and autonomy challenge**

The final set of external threats to Catholic education comes from a range of arguments developed by many liberal philosophers of education. These call into question the legitimacy of all faith schools because in important regards they clash with the aims and purposes of education. These arguments are not new and they pivot around the concepts of autonomy and indoctrination. In the writings of Wilson (1967), R.S. Peters (1970), White (1982) and Hirst (1974), major concerns are raised about the relationship between religious (Christian) education, indoctrination and the need to educate children to be autonomous. These ongoing concerns about faith based education continue to be raised and given contemporary expression in the debates over the Trojan Horse concerns. The challenge is that all faith schools are incompatible with the central aims of education, because they inhibit autonomy. Personal autonomy requires that children and young adults learn how to question and challenge traditional sources of knowledge and authority. Religious beliefs are often characterised as ‘non-rational’ or even as irrational. Moreover, autonomy is often associated with the concept of democracy because of its integral association with making choices. It can be argued that a fundamental part of being able to participate in a liberal democracy is being able to make autonomous choices, not least about who should govern. Autonomy hinges both on what is taught and
how it is taught. This is of course to raise the spectra of indoctrination and the suspicion that Catholic schools are at least tacitly involved in this damaging form of education.

In addition to these external threats or tensions there are a further three internal ones:

**Tensions caused by changes in Catholic theology.**

In a nutshell ‘Vatican II and all that’. 50 years ago major changes in theology and pastoral practice came about. This is the biggest issue since Trent and the reformation. The Church recognised that it had a global role to play in serving humanity and being a unifying presence in the world. This was summed up in the two central documents Lumen Gentium (1964) and Gaudium et Spes (1965). These theological changes have affected education in two main ways. First, at the general level there continue to be some Catholics who are unhappy with the changes inaugurated at Vatican II and they would want to educate young people to be aware of these problems. This is to bring to bear on Catholic education internal church politics between conservatives and liberals, and traditionalists and progressives. The second facet is that prior to Vatican II it was relatively easy to spell out what it meant to be Catholic. After Vatican II, describing what being Catholic involves became more fluid. It came down to being a certain kind of person, with the emphasis on who you are rather than on what you are or do. A lived-out commitment to the poor and needy became a defining feature of being a Catholic. In the decades after Vatican II, the issue of Catholic identity and the distinctive nature of Catholic schools has become a cause for concern for the Catholic faith community.

**Tension 2: the problem of declining practice**

Less people are going to mass these days despite having so many good Catholic schools. This has fuelled a deep-seated concern that in some respects Catholic education and schooling appears to be failing to yield young people who want to practice their Catholic faith after they have left full-time (Catholic) education. Whilst there are (to date) no longitudinal studies that track the correlation between attendance at Catholic schools and regular church attendance, there are some widely held perceptions about the declining levels of practise amongst younger Catholics.
Tension 3: an uncertainty among Catholics about what the ultimate purpose of a Catholic education is

Given that Catholic education has not been good at producing young people who practise their faith, there has been some serious soul searching among Catholics about what is or should be the purpose of a Catholic education. One response has been to question the adequacy or quality of Catholic education. In the UK a prime example of this was Arthur’s often polemical text The Ebbing Tide: the policies and principles of Catholic education back in 1995. He argues that Catholic schools have lost their way and are not good at transmitting the Catholic religious and liturgical culture. Others, like Professor Gerald Grace have pointed to the tortuous position that Catholic education finds itself in because of government policy over the last thirty years. There is quite literally a deep tension between the mission of Catholic schools and the educational marketplace that they have been forced to operate within. Both Grace and Arthur serve examples of the uncertainty about what Catholic education is primarily intended to do. This reticence could be described as a crisis in confidence about what the primary goal of a Catholic education ought to be.

These internal and external threats converge bringing into focus the way Catholic education is experiencing highly testing times and is under attack. This attack draws attention to a conceptual looseness and to theoretical weaknesses around the nature and purpose of Catholic education and schooling. The primary premise for the rest of this paper is the contentious claim that, despite years of practical experience in Catholic education and schooling, we have not been working with a sufficiently robust theory of Catholic education.

A critical analysis of the official Church teaching draws attention to two key issues. One is a preference for couching treatment of Catholic education in terms of the right of the Church to be an educational provider and how this links with parental rights. A second is a tendency to over use theological slogans to describe Catholic education and schooling. Indeed, little attention has been given to the relationship between theology and education, nor about how this makes the curriculum in a Catholic school distinctive.

The time has come for a fundamental reappraisal of what the primary goals or aims of Catholic schooling ought to be. If Catholic schools are to be coherently justified in our pluralist society it is no longer adequate to simply appeal to ‘parental
rights’ and to assumptions about this serving the common good. I want to argue that there are 3 fundamental weaknesses or deficiencies in the theory of Catholic education.

**Deficiency 1: the problem of ‘Catholic edubabble’**

It was McLaughlin back in the 1990’s who coined this phrase. We settle for vague and indeterminate slogans like ‘Gospel Values’ or ‘Christ at the centre’. They have a stifling effect on attempts to describe the theory of Catholic education. Catholic edu-babble is a deficiency because it is imprecise and it is frequently substituted in place developed ideas and arguments. A robust theory of Catholic education is one that would avoid this kind of vagueness and ambiguity through being clearly spelt out and applied in practical terms to the curriculum.

**Deficiency 2: Ambiguity over the confessional nature of Catholic education**

The second deficiency is the demand that Catholic education should not be characterised as catechesis or the formation of pupils to become Catholics. This is to reject the confessional meaning of Catholic education. In a robust theory of Catholic education the phrase ‘Catholic education’ needs to be taken as one which refers to what Catholic Christians consider education as a whole ought to involve. This is to challenge the widely held assumption that tends to equate Catholic education with catechesis and a confessional account of education.

**Deficiency 3: A lack of relationship between theology and the theory of Catholic education**

Too often within the theory of Catholic education there has been a failure to realise the potential and place of theology in relation to educational theory. It is something that both Newman and Maritain downplayed in their treatments of the theory of Catholic education. In effect there has been a missed opportunity to utilise the insights of theology within educational theory. To clarify further, in curriculum planning theological ideas could be used to guide and inform the curriculum. This is distinct from the theology that crops up within religious education lessons that is formally taught to pupils.

Time to bite the bullet…
The time has come to ‘bite the bullet’ by arguing for and adopting a non-confessional (or non-catechetical) approach to Catholic education.

In the light of these three central deficiencies, the way forward for developing the theory of Catholic education crystallises into shape. These deficiencies can be used to mark out the planks in the theory that need to be repaired or replaced. What is needed is a theory of Catholic education that is non-confessional and which can be theologically justified. Obviously, the idea of a non-confessional theory of Catholic education is one that many proponents of Catholic education might find difficult to work with. It is normally assumed that Catholic education is committed to using formal schooling in order to actively nurture pupils in the Catholic faith. This is primarily because official Catholic teaching on education repeatedly uses the argument that Catholic schools exist in order to support Catholic parents who want to bring up their children in the Catholic faith. However,

Rahner’s theology is marked out by a recognition of the inter-relationship between theology and philosophy. This positive appraisal of philosophy is built around Rahner’s recognition of what is called the ‘anthropological turn’. Rahner builds his theology around ‘anthropology’ rather than jumping ahead to strictly theological concerns. There is a philosophical movement, which is independent from theological claims and beliefs that is able to lead onto a theological movement. Within human experience the philosophical movement draws attention to the bigger picture or horizon against which human life is lived. At the heart of Rahner’s theology is an insistence about the significance of mystery in human life. It will be proposed that this theological insight can be used to inspire and stimulate a range of educational arguments. When developed with reference to Rahner’s method, these educational arguments are able to provide the justification for a non-confessional account of Catholic education. As part of this it will be maintained that the curriculum as a whole has a central role to play in bringing pupils to what Rahner described as the threshold of theology. It is the whole curriculum, rather than just religious education that has a role to play in ensuring that pupils recognise the mystery within human existence.

This argument needs to be carefully argued. It is not mysteries in general that matter, but rather ones which are in principle ones that can never be resolved. I argue that there are three distinct but yet closely connected implications for the curriculum in a Catholic school that result from recognising unsolvable mystery.
The first is a recognition that there is a relationship between unsolvable mysteries and the curriculum as a whole. There are some obvious examples of topics and subjects that routinely deal with these kinds of mysteries. Beyond the obvious examples in science, maths and history lessons there is also a more general relationship. The whole curriculum is wrapped up in developing reason and this ought to inevitably involve drawing attention to the place of mystery in human experience.

The second practical implication arises from the first in that drawing these out will require using philosophical analysis and arguments. To ensure that this occurs and to avoid any practical concerns about teachers lacking the skills to be able to do this I argue that philosophy lessons should be introduced into the curriculum of Catholic schools. This proposal has to distinguish from the bewildering array of approaches typically used to promote the place of philosophy in the school curriculum. A third practical implication for the curriculum, closely connected with the first two, would be a reconfigured account of religious education. This would involve shifting away from the confessional account of religious education that has traditionally been advocated for it within Catholic schools. It will be proposed that both the aims and content of religious education would need to be reassessed if it is accepted that a primary goal of Catholic education is to draw attention to unsolvable mystery rather than to nurture commitment to the Catholic faith. This will of course mean radically re-writing our RE curriculum directory.

The Rahnerian inspired theory of Catholic education can be given concrete expression. The implications for the curriculum have been identified and this serves to demonstrate that it is free from the deficiency of Catholic edu-babble. The theory of Catholic education that draws its inspiration from Rahner’s theology of mystery can be applied in practical terms to the curriculum. There is no need to employ indeterminate slogans and the most significant curricular implications have been identified and spelt out. It is free from the stifling effects of Catholic edu-babble.

Although the Rahnerian inspired theory of Catholic education does not overcome all of the external threats it does overcome two of the most philosophically challenging threats. In particular the autonomy / indoctrination challenge. In a number of key respects the concerns over both hindering autonomy and indoctrination can be successfully rebuffed. To begin with the theological framework that underpins the
repaired theory of Catholic education explicitly prohibits indoctrination. It has been explained that pupils are to be brought to the point of threshold, where theological answers and insights can be meaningfully accessed or grasped at. This is distinct from entering into theology and jumping ahead to present pupils with the prescribed answers of theology. Pupils have to learn how to recognise the wider horizon of mystery against which they exist. The goal of a Catholic education would be for pupils to be able to identify this and begin to engage with the kinds of questions that can lead to the threshold of theology. To seek to indoctrinate pupils would be to sabotage the convergence between the philosophical and theological movements that Rahner described and built into his method of theology. On these theological grounds indoctrination would be antithetical to Catholic education and schooling. Moreover in the kind of curriculum described in Chapter Nine there would be no opportunities for indoctrination to take place within a Catholic school. The presence of both non-confessional religious education and compulsory philosophy lessons would be a practical expression of the way in which this Catholic education is committed to the kind of genuine education that is incompatible with indoctrination. If Catholic education is incompatible with indoctrination then the associated accusation that it is morally questionable also dissipates. This of course is a perfect response to the issues now coming to the fore with the “Trojan Horse” issues.

In terms of the internal threats I believe I have demonstrated a way to move forward. Instead of focusing on Catholic identity or faith formation I have shifted the attention on the curriculum in Catholic schools. The repaired theory of Catholic education results in a curriculum in which the presence of mystery in human existence is highlighted. This is a theory of education that can be offered to all pupils. It is not aimed at forming catholic but rather drawing attention to the significance of mystery. It is about bringing pupils to the threshold of theology. A primary goal of education is to bring pupils to the threshold of theology and to ensure that they are capable of accessing it. Thus, a successful outcome for an effective Catholic education might be that pupils, having reached the threshold, make a choice not to cross it or not to access the insights and answers of theology.

Catholic schools are not about nurturing faith nor a Catholic identity. Rather through the distinctive curriculum that is underpinned by the repaired theory of Catholic education pupils are challenged to engage with the horizon of mystery. In broadly similar terms the concerns that Grace raised about the tortuous situation that head teachers in Catholic schools find themselves in can also be given a clear response.
To guide the argument I use an image from the famous philosopher of science, known as Neurath’s boat. Neurath’s metaphor uses the image of a ship that needs to be repaired whilst it is still at sea. For Neurath the strength of this metaphor is that it draws out the ways in which our scientific knowledge claims are like a ship on the open seas. They are constrained by their context in the world in which they are made. The ship has to remain structurally intact not least because it is being used to stay afloat on, but at the same time it needs to be repaired. To push this metaphor in terms of theory construction, it hinges on the claim that when replacing problematic planks with better ones this must be done in a way that make sure that the planks fit. The repairs need guided by the larger framework within which the problematic plank is located. As a result any replaced planks or sections of the ship have to fit in with the overall structure of the vessel.

The likes of leading theologians such as Karl Rahner provide the inspiration for developing a robust non-confessional account of Catholic education. This would make it possible to explain how Catholic schools could cohere well with our pluralist society. In our secular age Catholic schools could be recast as places open to all pupils and to be the very sites where they are enabled to critically assess their own beliefs and values, as well as the values of their society, including the ideology of consumerism. I will conclude that if Catholic education is to be viewed as having a positive influence in our society in matters of education the time has come to challenge our traditional thinking about the aims of this kind of education. The way forward is to recast Catholic schools along non-confessional lines. This has the effect of transforming critical stances towards Catholic education and provides a way of making abundantly clear that this theory of education is fully inclusive and promotes social justice.

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CORRECTING FOR ‘MISSING WOMEN’ IN GENDER DEVELOPMENT INDICATORS: RESPONSIBLE APPLICATION OF SIMPLE MATHEMATICS IN DEVELOPMENT STUDIES

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ABSTRACT

Simple things are often powerful and power is a double-edged sword. If not used responsibly, it can lead to disaster. One of the striking examples of this is found in works related to development indicators where simple mathematics is employed. This paper revisits one such indicator: gender development index (GDI). The GDI is an inequality adjusted human development indicator. It assesses human development after adjusting for gender inequality. These indicators suffer from the limitation that countries with unbalanced sex ratio get unduly rewarded when the sex ratio favors the better performing gender. This can lead to further additions to ‘missing women’. A correction is proposed to capture this anomaly. The alternative measure satisfies an axiom of Monotonicity with its two corollaries, viz. given attainments the measure maximizes at ideal sex ratio and peters out when one of the genders goes extinct. Empirical illustration taking life expectancy data shows that countries with skewed sex ratio biased towards either gender, like that of gulf countries where male are more than female, get penalized under the new measure. On the contrary, the countries where sex ratio is close to unity improved their ranks.

Keywords: Gender inequality, ideal sex ratio, extinction, gender development index, gender empowerment measure.

JEL Codes: D63, J16, I31, O15

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INTRODUCTION

United Nations Development Program (UNDP) used to measure pre-2010 gender sensitive human development through two indicators, namely, Gender Development Index (GDI) and Gender Empowerment Measure (GEM). These indicators measure the overall achievement taking note of inequality between the two genders. GDI adjusts the average development, measured by Human Development Index (HDI), to reflect the gender inequalities in the three dimensions of health, education and ability to achieve a decent standard of living. GEM captures the inequalities in opportunities between men and women in the three dimensions of political participation, economic participation and power over economic resources. For each dimension of GDI and GEM, an equally distributed equivalent index, $X_{ede}$ is computed by combining female and male indices in a way that penalizes differences in achievement between the two genders.\(^7\) The population-proportion of female and male enter into the formulation of $X_{ede}$ as weights to female and male achievements respectively, like the case of weighted mean. This follows that for a given level of female and male achievements, a rise in the population proportion of the gender with a higher level of achievement will result in higher $X_{ede}$. It leads to rewarding of countries having imbalanced population-proportion biased towards the higher performing gender as shown in the following example. The life expectancy indices of female and male for United Arab Emirates (UAE) are 0.892 and 0.905 respectively, and that of United Kingdom (UK) are 0.895 and 0.903.\(^8\) In terms of $X_{ede}$ of life expectancy, UAE and UK score 0.901 and 0.899 respectively and their ranks are 19 and 21 in the world.\(^9\) This indicates both the countries are close to each other in terms of health dimension of GDI. However, in terms of population-proportion, male/female for UAE is 0.68/0.32 and that of UK is 0.49/0.51. In fact UAE, with more than two males for every female, has the most skewed sex ratio in the world. UK, on the contrary, has a balanced sex ratio. Also, the difference in life expectancy indices of female and male for UK is 0.008 which is less than that of UAE, which is 0.013. Yet, UAE ends up fetching a better rank than UK. Instead of being penalized for imbalanced population-proportion, UAE gets rewarded as the

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7 For the expression of $X_{ede}$, see Section 2 of this paper. The formula for female and male indices is: Index=$(actual-minimum)/(maximum-minimum)$.

8 Life expectancy index is computed by positing a minimum and maximum. The minimum and maximum values for life expectancy at birth (in years) for female are 27.5 and 87.5 and for male, the corresponding figures are 82.5 and 22.5 respectively.

9 The ranks for 173 countries, out of the total 177 countries listed in Human Development Report (HDR) 2007/2008 (UNDP, 2007), are computed on the basis of $X_{ede}$ of life expectancy. Life expectancy data for four countries Antigua and Barbuda, Dominica, Saint Kitts and Nevis, and Seychelles are not available.
imbalance favours male which has higher life expectancy.

The UAE story repeats for countries like Qatar, Kuwait, Bahrain, Oman, Saudi Arabia. Their imbalanced population-proportion acts to their advantage. This anomaly affects all equally distributed indices used in the measure different dimensions of GDI and GEM. These indices signal countries to favour the higher performing gender and neglect the gender which is lower in performance (typically female). This leads to further additions to ‘missing women’.10 For example, a country, where female literacy is lower than male can improve its education dimension of GDI, by improving the male/female ratio; through female infanticide, abandonment of newborn girls, and neglect of daughters. So, as gender sensitive development indicators, the signal of GDI and GEM is counter intuitive. Ideally, these indicators should signal countries to correct their gender imbalances in population-proportion, rather than to distort it further.

This paper revisits the gender-based indicators and proposes a correction so as to account for population-proportion of female and male in such a way that countries farther to the ideal sex ratio are penalized. An axiom of Monotonicity, with its two corollaries: Ideality and Extinction, is posited to characterize the measure. To demonstrate the advantage of the proposed measure, equally distributed life expectancy index has been used.11 The paper makes use of life expectancy data from the latest HDR. (UNDP, 2007) and population data from United Nations (UN, 2008).

**CONVENTIONAL MEASURE**

For a pair of female and male achievements \((X_f, X_m)\), equally distributed equivalent index, \(X_{ede}\), is given by general formula.

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10 ‘Missing women’ is the term coined by Amartya Sen (Sen, 1992) to describe the terrible deficit of women in substantial part of Asia and North Africa due to sex bias in relative care. This term is used in the present paper as an analogy to describe disadvantaged gender which can be male as well. For instance, a country prone to war will have female life expectancy relatively higher due to decimation of men fighting war.

11 The composite indices GDI and GEM are not recalculated here, as aggregated values will be inconclusive on the effect on individual dimensions.
\[ nX_{ede} = \left[\frac{p}{p_i} \right]^{\theta_i} \theta_i \left( X_i \right)^{(1-\varepsilon)} + p_m \left( X_m \right)^{(1-\varepsilon)} \right]^{1/(1-\varepsilon)} \quad \text{for } \varepsilon \geq 0, \theta \geq 0 \text{ and } \varepsilon \neq 1 \\
X_{ede} = \frac{p}{p_i} X_i^{p_f} X_m^{p_m} \quad \text{for } \varepsilon = 1, \theta \geq 0 \]  \tag{3}

where, \( p_i \) and \( p_m \) are proportion of female and male respectively such that \( p_m + p_i = 1 \) and \( \varepsilon \) is the aversion to inequality. For moderate penalty, the value 2 is used for \( \varepsilon \) (UNDP, 2007). With \( \varepsilon = 2 \), \( X_{ede} \) is the harmonic mean of \( X_i \) and \( X_m \), given by

\[ X_{ede} = \left[ (p_i X_i^{\theta_i} + p_m X_m^{\varepsilon}) \right]^{\theta_i} \tag{2} \]

The properties of \( X_{ede} \) are listed in Appendix 1.\textsuperscript{12} Given \((X_i, X_m)\), \( X_{ede} \) varies between \( X_i \) to \( X_m \) as \( p_i, p_m \) vary. Fig.1 plots this variation, with \( X_i = 0.3 \) and \( X_m = 0.8 \). A rise in the population proportion of the gender with higher level of achievement (here male, as \( X_m > X_i \)) results in higher \( X_{ede} \). The boundary conditions are at \( p_m = 0 \), \( X_{ede} = X_i \) and at \( p_m = 1 \), \( X_{ede} = X_m \). All this is counter intuitive for a development indicator sensitive to gender. How can it boils down to the achievement of one gender when the other gets extinct! Does existence or extinction of genders or sex-ratio has nothing to do with gender-development or gender-equity!

\textsuperscript{12} These properties are noted in Anand and Sen (2003), some in the text, and some in Appendices. For details of the proof of the properties, see the same paper. Here, they are collated together in a tabular form for comparison of the present measure with the proposed one.
Since rise in the population proportion of higher performing gender leads to higher $X_{ede}$, a country gets rewarded for deviation from the ideal sex ratio half of the time i.e. when the deviation favours the advantaged gender. The irony is that instead of being penalized for not able to protect the gender, a country maximizes its $X_{ede}$ when the lower performing gender gets extinct. So, $X_{ede}$, and in turn the measures based on $X_{ede}$ do not signal countries to maintain population-proportion of female and male at a balanced state. The gulf countries, for instance, do not get any signal to have policies to balance their sex ratio. Rather they would prefer a more skewed sex ratio biased towards men, as it leads to higher value of $X_{ede}$. The signal of conventional measure of $X_{ede}$ is: ‘more achievement, more proportion – the better’. The correct signal is: ‘more achievement, ideal proportion – the better’. The following section briefs on ideal proportions of female ($p_{fi}$) and male ($p_{mi}$) in human population.
IDEAL SEX RATIO FOR HUMAN POPULATION

The actual average sex ratio of entire world population is 1.01 (UN, 2008). However, the value of ideal sex ratio is under debate and may vary with regions and races. The sex ratio of a population depends on three factors: the sex ratio at birth, differential mortality rates between the sexes at different ages, and losses and gains through migration (Coale, 1991). In the absence of manipulation, the sex ratio at birth is remarkably consistent across human populations, at 1.05 to 1.07 (Coale, 1991, Campbell, 2001). Although sex ratio at birth favors males, differential gender mortality favors females (Teitelbaum, 1970; Sen, 1992, Waldron 1993). Higher life expectancy in females tends to even out the sex ratio in adult population, with male excess among the young and female excess among the old (Klasen and Wink, 2003). But, manipulation at birth manifested by sex-selective abortion, and neglect and abandonment of female children, and international migration characterized by shifting of male population affect sex-ratio. However, like other species, natural human sex ratio is approximately unity and deviation is a threat to the stability and security of the society (Zeng et al, 1993, Park and Cho, 2003, Hudson and Den Boer, 2004). For simplicity, unity sex ratio i.e. equal proportion of female and male ($p_m = p_f = 0.5$) is used in this paper for illustrations.

AXIOM OF MONOTONICITY

This section presents Monotonicity property that a measure of equally distributed equivalent achievement should satisfy with respect to sex ratio.

Axiom of Monotonicity: Given the achievement level of two genders, the equally distributed equivalent achievement, increases as population approaches to its ideal sex ratio. Mathematically, given $X_f, X_m$ ($0 \leq X_f, X_m \leq 1$), $X_{ede}$ increases as $(p_m/p_f) \rightarrow (p_{mi}/p_{fi})$. Referring to Fig. 1, axiom of Monotonicity requires $X_{ede}$ to have a positive and negative slope for $p_m < p_{mi}$ and $p_m > p_{mi}$ respectively. Two corollaries of Monotonicity are axioms of Ideality and Extinction.

Axiom of Ideality: Given the achievement level of two genders, the equally distributed equivalent achievement maximizes at the ideal sex ratio. Mathematically, given $X_f, X_m$ ($0 \leq X_f, X_m \leq 1$), $X_{ede} = \max(X_{ede})$ for $(p_m/p_f) = (p_{mi}/p_{fi})$. Referring to Fig. 1, axiom

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13 Sex ratio is expressed in this paper as (male population)/(female population)
14 Monotonicity, here means in a strong sense.
of Ideality requires $X_{ede}$ to maximize at ideal proportion of female and male (say $p_i = p_m = 0.5$).\(^{15}\)

Axiom of Extinction: Irrespective of achievement levels of two genders, if any of the genders goes extinct, the equally distributed equivalent achievement reduces to minimum possible value i.e. 0. Mathematically, for any $X_f$, $X_m$ ($0 \leq X_f, X_m \leq 1$) $X_{ede} = 0$ if $p_f = 0$ or $p_m = 0$.\(^{16}\) Referring to Fig. 1, axiom of Ideality requires $X_{ede}$ to be 0 at points $p_m = 0$ and $p_m = 1$.

**PROPOSED MEASURE**

The genesis of the weakness of the conventional measure lies with the absence of penalty for deviating from ideal sex ratio. The conventional measure does take note of inequality in the achievements of the two genders (i.e. between $X_f$ and $X_m$) in different dimensions like health, education; but inequality in proportion of population (i.e. between $p_f$ and $p_m$) is not accounted.\(^{17}\) Imposition of axiom of Monotonicity will make the measure sensitive to deviation from ideal sex ratio. Accordingly, a new measure of equally distributed equivalent achievement, $^nX_{ede}$ is proposed.

\[
^nX_{ede} = \left\{ \begin{array}{ll}
\left[ \frac{p_f}{p_i} \left( X_f \right)^{1-\varepsilon} + \frac{p_m}{p_i} \left( X_m \right)^{1-\varepsilon} \right]^{\frac{1}{1-\varepsilon}} & \text{for } \varepsilon \geq 0, 0 \geq \theta & \varepsilon \neq 1 \\
\left( X_f \right)^{\theta} \left( X_m \right)^{\theta} & \text{for } \varepsilon = 1, \theta \geq 0
\end{array} \right. \tag{3}
\]

where $p$ and $p_i$ are the actual and ideal proportion of that gender whose actual population is less than or equal to the ideal. The proposed measure is different from the conventional one in the first term, i.e. the penalty factor, which takes note of the deviation from ideal sex ratio. The factor is powered by $\theta$, which controls

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\(^{15}\) It is not compulsory to assume $p_i = p_m = 0.5$. The debate of ‘what should be the ideal sex ratio’ is out of the scope of the paper. However, axiom of Ideality simply says, $X_{ede}$ must maximize at given ideal, $p_i, p_m$.

\(^{16}\) In general, axiom of Extinction is applicable only to the gender whose ideal proportion of population is non zero. Let us consider a hypothetical specie having ideal population proportion for female and male as 1:0. Here $p_m = 0$ is the condition for Ideality, so $X_{ede}$ maximises. The axiom of Extinction is applicable only to female gender i.e. at $p_f = 0$.

\(^{17}\) Under the assumption of unity ideal sex ratio, deviation from ideal can be captured as difference of population-proportion of female and male.
the aversion to this deviation. Larger the \( \theta \), smaller is the \( ^nX_{ede} \). At \( \theta=0 \), \( ^nX_{ede} \) reduces to \( X_{ede} \) showing no concern for deviation from ideal sex ratio. For \( \theta>0 \), the penalty factor gets actuated. The axiom of Extinction gets satisfied for any \( \theta>0 \). This signifies, once \( ^nX_{ede} \) is sensitive towards deviation from ideal sex ratio, howsoever small the sensitivity may be; it would reduce to zero if one of the genders goes extinct. This is rational, as any gender sensitive development indicator would penalize a society most severely where one of the genders could not survive in the first place, let alone develop.

For a moderate penalty on gender inequality in achievement i.e. \( \varepsilon=2 \), the axiom of Monotonicity is satisfied for \( \theta\geq1 \). So, for \( \varepsilon=2 \), 1 is the minimum value of \( \theta \) for which Monotonicity with both of its corollaries are satisfied; hence 1 is chosen for \( \theta \). For \( \varepsilon=2 \) and \( \theta=1 \), equation (3) reduces to

\[
^nX_{ede} = \left[ \frac{p}{p_i} \right] \left[ (p_f (X_f)^{-1} + p_m(X_m)^{-1}) \right] (-1) \quad (4)
\]

The properties of \( ^nX_{ede} \) are listed vis-à-vis \( X_{ede} \) in Appendix 1.

\[\begin{align*}
X_m &= 0 \\
p_f &= 1 \\
p_m &= 0 \\
p_f &= 0
\end{align*}\]

18 From Eq. (1) and Eq. (3) \( ^nX_{ede} = [p/p] [X_{ede}] \), \( (\partial^nX_{ede}/\partial\theta) = (X_{ede}) [p/p_i] \ln(p/p_i) \). Since \( (p/p_i) \leq 1 \), \( (\partial^nX_{ede}/\partial\theta) \leq 0 \).

19 Proof is in Appendix 2.
Fig. 2. Variation of $nX_{ede}$ with population proportion ($p_m$, $p_f$)

Fig. 2 plots $nX_{ede}$ against $p_m$ and $p_f$ for same values of $X_f$ and $X_m$ as in Fig. 1 i.e. $X_f=0.3,$ and $X_m=0.8$. $nX_{ede}$ is 0 at extinction conditions ($p_m=0$ or $p_f=1$) and maximizes at ideal sex ratio ($p_m/p_f=p_{mi}/p_{fi}=0.5/0.5$). The maximum value, $\max(nX_{ede})$ is the harmonic mean of $X_f=0.3$ and $X_m=0.8$, which coincides with the value of $X_{ede}$ at ideal sex ratio as the penalty factor reduces to 1. For $p_m<p_{mi}$ the profile is represented by curve $IA^C$ and for $p_m>p_{mi}$, curve $IB^C$. The positive and negative slope of $IA^C$ and $IB^C$ respectively, validates the axiom of Monotonicity. The following propositions further characterize $nX_{ede}$.

Proposition. The equally distributed equivalent achievement has a convex-decrease for fall in proportion of higher performing gender from ideal and a concave-decrease for lower performing gender20.

In Fig. 2, since $X_m>X_f$, $IA^C$ and $IB^C$ have convex and convex profiles respectively. The straight lines $IA^L$, $IB^L$ represent variation of equally distributed equivalent achievement with population-proportion under the condition of gender indistinguishability, i.e. both the genders are at same level of achievement, hence are not distinguishable from the achievement point of view. Substituting, X for $X_f$ and $X_m$ in Eq. (4),

$$(nX_{ede})_i = [p/p_i]X \quad (5)$$

Then $\max(nX_{ede})_i=X=(0.48/1.1)$, corresponds to harmonic mean of $X_f=0.3$ and $X_m=0.8$. Under this condition of gender indistinguishability, for $p_{mi}=p_{fi}$, the profiles of $nX_{ede}$ at both sides of ideal are symmetric. $IA^L$, $IB^L$ are a pair of such symmetric lines.

$IA^C$ is below $IA^L$ and $IB^C$ is above $IB^L$. At a given population-proportion, a shift from $IA^L$ to $IA^C$ indicate a movement from gender indistinguishability, where all the population are at common achievement level, to a state where less than the ideal share population move to higher achievement level and rest move to a lower achievement level. Hence the overall achievement will fall. In case of movement from $IB^L$ to $IB^C$ more than the ideal share population move to higher achievement

20 Proof for $\varepsilon=2$, $\theta=1$, is in Appendix 3
level leading to a improvement in overall achievement. This translates to the following lemma\(^2\).

Lemma 1. For any given population-proportion between ideality and extinction, when higher performing gender has more (less) share than ideal share, the equally distributed equivalent achievement is higher (lower) than the condition of gender indistinguishability.

On the basis of the above lemma, for \(p_{fi}=p_{mf}\) it is straight forward to show that for a given population-proportion the equally distributed equivalent achievement is higher when higher performing gender has more share than the case when the proportion is swapped between the two. Also, for \(p_{fi}=p_{mf}\) magnitude wise the slope of \(IA^C\) is higher than that of \(IB^C\) at ideal. This is obvious from the fact that at equal population-proportion of two groups, fall of proportion of the higher quality group entails a greater loss to the society than the lower quality one. This leads to the following lemma.

Lemma 2. For equal population-proportion of genders at ideal the equally distributed equivalent achievement decreases at a faster rate at ideal when population proportion falls for the higher performing gender than for the lower one. For condition of gender indistinguishability, the rate of decrease lies in between.

The proof of the above is straight forward from the fact that \(IA^C\) and \(IB^C\) are convex and concave respectively lying below and above of \(IA^L\) and \(IB^L\) which are symmetric under unity ideal sex ratio.

**APPLYING THE NEW MEASURE TO EQUALLY DISTRIBUTED LIFE EXPECTANCY INDEX**

Taking female and male life expectancy data for countries of the year 2005 from HDR. 2007-2008 (UNDP 2007) and their population-proportion data from Population Division, Department of Economic and Social Affairs of United Nations (UN, 2008) ranks of the countries are obtained on the basis of \(X_{ede}\) and \(nX_{ede}\) (Appendix 5). A value of \(p_{mf}=p_{fi}=0.5\) (i.e. sex ratio 1:1) is used for the purpose. The aversion parameters are taken as \(\theta=1\) and \(\varepsilon=2\). The difference in ranks indicates that a

\(^2\) Proof for \(\varepsilon=2, \theta=1\), is in Appendix 4
negative (positive) value implies a worse (better) performance of the country with the proposed measure when compared with the conventional one. The last column is population-proportion difference expressed as female share of population to male share, a negative value showing where male share is higher. The countries those have lost rank under new measure are referred to as losers. Similarly, those that moved up in the ranks are referred to as gainers. Following are some observations.

Table 1: Biggest Losers

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>United Arab Emirates</td>
<td>0.892</td>
<td>0.905</td>
<td>2.137</td>
<td>19</td>
<td>129</td>
<td>-110</td>
<td>-0.363</td>
</tr>
<tr>
<td>Qatar</td>
<td>0.805</td>
<td>0.868</td>
<td>2.064</td>
<td>41</td>
<td>134</td>
<td>-93</td>
<td>-0.347</td>
</tr>
<tr>
<td>Kuwait</td>
<td>0.868</td>
<td>0.887</td>
<td>1.500</td>
<td>33</td>
<td>101</td>
<td>-68</td>
<td>-0.200</td>
</tr>
<tr>
<td>Bahrain</td>
<td>0.825</td>
<td>0.857</td>
<td>1.323</td>
<td>43</td>
<td>93</td>
<td>-50</td>
<td>-0.139</td>
</tr>
<tr>
<td>Oman</td>
<td>0.820</td>
<td>0.852</td>
<td>1.284</td>
<td>47</td>
<td>87</td>
<td>-40</td>
<td>-0.124</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>0.785</td>
<td>0.797</td>
<td>1.172</td>
<td>66</td>
<td>90</td>
<td>-24</td>
<td>-0.079</td>
</tr>
</tbody>
</table>

The six gulf countries, UAE, Qatar, Kuwait, Bahrain, Oman and Saudi Arabia; stand out as biggest looser as per the proposed measure of equally distributed life expectancy index. These six countries have the dubious distinction of world’s top rankers in terms of unbalanced sex ratio biased towards male. Table 1 illustrates their case. In all these countries, male life expectancy index is more than female. Since men outnumber women by large margins, these countries get the undue advantage under the conventional measure. In the new measure they lost rank because of the penalty for deviation from ideal sex ratio.
### Table 2: Some selected cases for comparison

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Cuba</td>
<td>0.872</td>
<td>0.888</td>
<td>1.000</td>
<td>32</td>
<td>22</td>
<td>10</td>
<td>-0.001</td>
</tr>
<tr>
<td>Kuwait</td>
<td>0.868</td>
<td>0.887</td>
<td>1.500</td>
<td>33</td>
<td>101</td>
<td>-68</td>
<td>-0.200</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>0.792</td>
<td>0.775</td>
<td>1.000</td>
<td>74</td>
<td>58</td>
<td>16</td>
<td>0.001</td>
</tr>
<tr>
<td>Latvia</td>
<td>0.830</td>
<td>0.733</td>
<td>0.842</td>
<td>75</td>
<td>97</td>
<td>-22</td>
<td>0.085</td>
</tr>
<tr>
<td>Iceland</td>
<td>0.927</td>
<td>0.957</td>
<td>1.000</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>Japan</td>
<td>0.970</td>
<td>0.937</td>
<td>0.957</td>
<td>1</td>
<td>2</td>
<td>-1</td>
<td>0.023</td>
</tr>
</tbody>
</table>

Table 2 gives a comparison between some selected gainers and losers. Cuba has less inequality in life expectancy for female and male than Kuwait. But Kuwait has managed to fetch a similar rank as Cuba because of its male biased sex ratio; so a higher weight of male performance contributing to the higher final value. However, under the new measure Cuba performed relatively better for its balanced sex ratio. Kuwait, on the contrary, having three males per two females lost its earlier rank by 68 positions.

It is not always true that men fared better than women. Male have a greater tendency to engage in risk behaviors and violence, thus increasing their risk of premature mortality (Waldron, 1993). Latvia is an example where not only females have more life expectancy, but also they are higher in population-proportion. This is the precise reason for which Latvia occupied a rank next to Nicaragua, which is much more equal in terms life expectancy across gender but also has a balanced sex ratio. Under the new measure, Latvia regresses to a lower rank on account of a biased sex ratio towards female, whereas Nicaragua improved its positions.

Japan tops the list under conventional measure, but when penalty for deviation from ideal sex ratio is introduced, Japan looses its rank to Iceland. As seen from the table Japan’s sex ratio is biased towards females (only 957 males for 1000 females) and females have higher life expectancy index. In fact, Japanese women live the longest in the world. However, Japan got penalized under the new measure whereas Iceland, with equal proportion of males and females (1:1), does not get affected by the penalty.
CONCLUSION

The gender equity-sensitive development indicators as measured by UNDP pre-2010, suffered from the limitation that countries with unbalanced sex ratio get rewarded where sex ratio is biased towards the higher performing gender. This paper questions the rationality of such indicators which take note of, for instance, inequality in life expectancy without consideration of the ‘life’ itself! An axiom of Monotonicity is posited so that equally distributed equivalent achievement increases as the population closes to ideal sex ratio. Two corollaries; axiom of Ideality and axiom of Extinction make the measure respectively to maximize at ideal sex ratio and to reduce to zero when one of the genders gets extinct. A new measure has been proposed which brings in a penalty factor to capture the deviation from ideal sex ratio. The new measure has a convex-decrease for fall in proportion of higher performing gender from ideal and a concave-decrease for lower performing one. Under this proposed measure, gulf countries get penalized for their unnaturally unbalanced sex ratio biased towards male. Countries with higher level of achievement, lower disparity between male and female and population-proportion closer to ideal sex ratio get rewarded. Unlike the conventional measure, the new measure gives appropriate signal to countries to correct for the ‘missing women’. The proposed measure is more flexible with different handles of aversion to proportion-inequality and achievement-inequality. Though a uniform ideal sex ratio of 1:1 is used for the present analysis, the formulation is generic enough to consider different ideal sex ratios for different age group, countries, regions, and races. Moreover, the new measure can be used to find equally distributed equivalent achievement between two groups other than gender where a desired proportion of the two groups are postulated. For instance, the equally distributed equivalent index for education calculated for BPL (below poverty line) and APL (above poverty line) groups (note the desired population-proportion of BPL to APL is 0:1) using the proposed measure not only takes note of the inequality in achievement in education between the two gender, but also rewards a society who have higher proportion of people as APL. However, the proposed measure is applicable to population of two groups. As a future scope, similar measures for more than two groups can be conceptualized.
## APPENDIX 1

### Comparison of properties of conventional measure ($X_{ede}$) and proposed measure ($^nX_{ede}$)

<table>
<thead>
<tr>
<th>Property</th>
<th>Formula/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) $\min(X_f, X_m) \leq X_{ede} \leq \max(X_f, X_m)$</td>
<td>$0 \leq X_{ede} \leq \max(nX_{ede})$</td>
</tr>
<tr>
<td>where $\max(nX_{ede}) = \left[\frac{p_f(X_f)^{-1} + p_m(X_m)^{-1}}{2}\right]$</td>
<td></td>
</tr>
<tr>
<td>Harmonic mean of $X_f$ and $X_m$ at $p_m$, $p_f$. This property qualifies the axiom of Ideality and Extinction.</td>
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<td>(ii) at $\varepsilon = 0$, $X_{ede} = X^a$. For $\varepsilon &gt; 0$, $X_{ede} &lt; X^a$</td>
<td>At $\varepsilon = 0$, $^nX_{ede} = \left[\frac{p/p_i}\right]\theta X^a$. When $p = p_i$, $^nX_{ede} = X^a$ For $\varepsilon &gt; 0$, $^nX_{ede} &lt; \left[\frac{p/p_i}\right]\theta X^a$.</td>
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<td>(iii) Larger the $\varepsilon$, smaller is $X_{ede}$</td>
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<td>(iv) $X_{ede} \rightarrow \min(X_f, X_m)$ as $\varepsilon \rightarrow \infty$.</td>
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<td>(v) $X_{ede}$ is monotonic increasing in both $X_f$ and $X_m$, the increase is at diminishing rate.</td>
<td>Property remains same for $^nX_{ede}$.</td>
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<td>(vi) A unit increase in performance for the gender with higher population but lower level of performance is more valuable socially (higher $X_{ede}$) than the unit increase in performance for the other gender.</td>
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<td>(vii) A rise in the population proportion of a sub group with higher level of achievement will result higher $X_{ede}$.</td>
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<td>(viii) More concave the underlining form of $X_{ede}$, smaller is $X_{ede}$. The present underlining form of $X_{ede}$ is $(1/(1-\varepsilon))X^{(1-\varepsilon)}$.</td>
<td>Property remains same for $^nX_{ede}$.</td>
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<td>(ix) The relative gender equality index, $E$ is maximum for $X_f = X_m$ and $\max(E) = 1$.</td>
<td>The relative gender equality index, $E$ is maximum for $X_f = X_m$ and $\max(E) = [p/p_i]^{\theta}$. When $p \rightarrow p_i$, $\max(E) \rightarrow 1$.</td>
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<td>(x) For equality of proportion, $(p_f = p_m)$ $E$ is symmetric in $X_f$ and $X_m$. $E \rightarrow 0$, if $(X_f/X_m) \rightarrow 0$ or $(X_f/X_m) \rightarrow \infty$.</td>
<td>Property remains same for $^nX_{ede}$.</td>
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APPENDIX 2

Without loss of generality (wlog), Eq. (3) can be expressed in \( p_m \), \( (p_f \text{ is substituted by } (1-p_m)) \)

\[
^nX_{ede} = \left[ \frac{p_m}{p_m} \right]^{\theta} \left[ \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m \left( X_m \right) \left( 1-\varepsilon \right) \right]^{1/(1-\varepsilon)} 
\text{ for } \varepsilon \geq 0, \theta \geq 0 \& \varepsilon \neq 1 \quad (6)
\]

Note the above equation is valid for \( p_m \leq p_{mi} \). For \( p_m > p_{mi} \) the penalty term changes to \( \left[ \frac{p_f}{p_{fi}} \right]^\theta \left[ \left( 1-p_m \right)/\left( 1-p_{mi} \right) \right]^\theta \). To satisfy the axiom of Monotonicity we need to prove \( (\partial (nX_{ede})/\partial p_m) > 0 \) for \( p_m \leq p_{mi} \) and \( (\partial (nX_{ede})/\partial p_m) < 0 \) for \( p_m > p_{mi} \). Differentiating Eq. (6),

\[
\frac{\partial (nX_{ede})}{\partial p_m} = \left( \frac{p_m}{p_{mi}} \right)^\theta \left( \frac{1}{1-\varepsilon} \right) \left[ \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m X_m \left( 1-\varepsilon \right) \right]^{\varepsilon/(1-\varepsilon)} \left( X_m \left( 1-\varepsilon \right) - X_f \left( 1-\varepsilon \right) \right)
\]

\[
+ \theta \left( \frac{p_m}{p_{mi}} \right)^{\theta-1} \left( \frac{1}{p_{mi}} \right) \left[ \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m X_m \left( 1-\varepsilon \right) \right]^{\frac{1}{1-\varepsilon}}
\]

\[
= \left( \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m X_m \left( 1-\varepsilon \right) \right)^{\varepsilon/(1-\varepsilon)} \left( \frac{p_m}{1-\varepsilon} \right) \left( X_m \left( 1-\varepsilon \right) - X_f \left( 1-\varepsilon \right) \right)
\]

\[
+ \theta \left( \frac{p_m}{p_{mi}} \right)^{\theta-1} \left( \frac{1}{p_{mi}} \right) \left[ \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m X_m \left( 1-\varepsilon \right) \right]^{\frac{1}{1-\varepsilon}}
\]

\[
= \left( \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m X_m \left( 1-\varepsilon \right) \right)^{\varepsilon/(1-\varepsilon)} \left( \frac{p_m}{1-\varepsilon} \right) \left( X_m \left( 1-\varepsilon \right) \right) \left( \theta + p_m \right) + \left( \frac{p_m}{1-\varepsilon} \right) \left( X_f \left( 1-\varepsilon \right) \right) \left( \theta - p_m \right)
\]

\[
= \left( \left( 1-p_m \right) X_f \left( 1-\varepsilon \right) + p_m X_m \left( 1-\varepsilon \right) \right)^{\varepsilon/(1-\varepsilon)} \left( \frac{p_m}{1-\varepsilon} \right) \left( X_m \left( 1-\varepsilon \right) \right) \left( \theta + p_m \right) + \left( \frac{p_m}{1-\varepsilon} \right) \left( X_f \left( 1-\varepsilon \right) \right) \left( \theta - p_m \right)
\]

where \( C_m = \left( \theta + \frac{p_m}{1-\varepsilon} \right) \) and \( C_f = \left( \theta - \frac{p_m}{1-\varepsilon} \right) \)

for \( \varepsilon < 1, C_m > 0 \). So, for \( (\partial (nX_{ede})/\partial p_m) > 0 \) for all values of \( X_f, X_m, C_f > 0 \), implies

\[
\theta \left( 1-p_m \right) \geq \frac{p_m}{1-\varepsilon} \Rightarrow \theta \geq \frac{p_m}{1-\varepsilon} \left( \frac{1}{1-p_m} \right) \Rightarrow \theta \geq \frac{p_m}{p_f} \left( \frac{1}{1-\varepsilon} \right)
\]

for \( \varepsilon = 0.5, p_m = 0.5, \theta \geq 2 \); so \( \theta \) should be at least 2 to satisfy the axiom of Monotonicity.

for \( \varepsilon > 1, C_f > 0 \). So, for \( (\partial (nX_{ede})/\partial p_m) > 0 \), for all values of \( X_f, X_m, C_m \geq 0 \), implies

\[
\theta p_m \geq \frac{p_m}{(\varepsilon-1)} \Rightarrow \theta \geq \frac{1}{(\varepsilon-1)}
\]
for $\varepsilon=2$, $\theta \geq 1$; so $\theta$ to be at least 1 to satisfy the axiom of Monotonicity for $p_m \leq p_m'$. Similarly, for $p_m > p_m'$, for $\varepsilon=2$ it can be shown $\theta$ to be at least 1 to satisfy $(\partial^2 nX_{ede})/(\partial p_m^2) < 0$.

**APPENDIX 3**

Wlog, for $p_m \leq p_m'$ Eq. (3) can be expressed in $p_m$ ($p_f$ is substituted by $(1-p_m)$). For $\varepsilon=2$

$$nX_{ede} = [p_m/p_m']^{\theta}(1-p_m)(X_f)^{(1)} + p_m (X_m)^{(1)}$$

Differentiating with respect to $p_m$

$$\frac{\partial(nX_{ede})}{\partial p_m} = \theta \frac{p_m^{\theta-1}}{p_m'} (1-p_m)X_f^{-1} + p_mX_m^{-1} + \left( \frac{p_m}{p_m'} \right)^{\theta} (1-p_m)X_f^{-1} + p_mX_m^{-1} - 2(X_m^{-1} - X_f^{-1})$$

$$= \frac{p_m^{\theta-1}}{p_m'} (1-p_m)X_f^{-1} + p_mX_m^{-1} \left( \theta - \frac{p_m(X_f - X_m)}{p_m(X_f - X_m) + X_m} \right)$$

Differentiating again and simplifying,

$$\frac{\partial^2(nX_{ede})}{\partial p_m^2} = \frac{p_m^{\theta-2}}{p_m'} (1-p_m)X_f^{-1} + p_mX_m^{-1} \left( \theta - \frac{p_m(X_f - X_m)}{p_m(X_f - X_m) + X_m} \right)$$

For $\theta=1$, 

$$\frac{\partial^2(nX_{ede})}{\partial p_m^2} = \frac{p_m^{\theta-2}}{p_m'} (1-p_m)X_f^{-1} + p_mX_m^{-1} \left( \theta - \frac{p_m(X_f - X_m)}{p_m(X_f - X_m) + X_m} \right)$$

Hence, for $X_f > X_m$, $\frac{\partial^2(nX_{ede})}{\partial p_m^2} < 0$, the increase slope is diminishing i.e. the profile is concave. For $X_f < X_m$, $\frac{\partial^2(nX_{ede})}{\partial p_m^2} > 0$, the slope is convex. Similar proofs can be
obtained for $p_m > p_{mi}$.

**APPENDIX 4**

Wlog, let's consider $X_m > X_f$. For $p_m < p_{mi}$ we need to prove

$$[((p_m/p_{mi})(1-p_m)(X_f)^{(1)} + p_m(X_m)^{(1)})^{(-1)}] < [(p_m/p_{mi})X]$$

where $X$ = Harmonic Mean of $X_f$ and $X_m$ at condition of Ideality $p_m = p_{mi}$, $p_f = p_{fi}$.

Replacing the value of $X$ in the above equation, the proof requires,

$$[((p_m/p_{mi})(1-p_m)(X_f)^{(1)} + p_m(X_m)^{(1)})^{(-1)}] < [(p_m/p_{mi})(1-p_m)(X_f)^{(1)} + p_m(X_m)^{(1)})^{(-1)}]$$

Cancelling the common factor $(p_m/p_{mi})$, the proof requires,

$$[((1-p_m)(X_f)^{(1)} + p_m(X_m)^{(1)})^{(-1)}] < [(1-p_m)(X_f)^{(1)} + p_m(X_m)^{(1)})^{(-1)}]$$

The above inequality is true from property (vii) of $X_{ede}$ as mentioned in Appendix 1. Also this can be seen from Fig. 1 (in the text) where for $p_m < p_{mi}$, $X_{ede}$ increases with increase of $p_m$. Similarly, for $p_m > p_{mi}$, the inequality $[(p_f/p_{fi})(1-p_m)(X_f)^{(1)} + p_m(X_m)^{(1)})^{(-1)}] > [(p_f/p_{fi})X]$ can be proved.

**APPENDIX 5**

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**REFERENCES**


(Footnotes)

1. This resembles to Rawlsian maximin situation where achievement is judged purely by the achievement of the worst off group.
2. The diminishing rate of increase is not valid for all concave functions; but for standard cases like constant relative inequality aversion \(Xede = (1/(1-\varepsilon))X(1-\varepsilon)\) and constant absolute inequality aversion \(Xede = -\gamma x\) (Anand and Sen, 2003).

3. \(E = (Xede / Xa)\) is the ratio of the \((1-\varepsilon)\) average to the arithmetic mean (AM). The result is intuitive as \((1-\varepsilon)\) average of two numbers is same as AM only when the numbers are equal; in all other cases \((1-\varepsilon)\) average < AM.
PEDAGOGICAL PRINCIPLES AND PRACTICE DRIVING STAKEHOLDER ADDED VALUE IN MULTI-DISCIPLINARY LEADERSHIP AND MANAGEMENT LEARNING

Malvika Rajeevan, Assistant Professor, Srinivas School of Engineering, Mukka, Mangalore, Karnataka, India.

Deepak M.D., Research Scholar, National Institute of Technology, Surathkal, Mangalore, Karnataka, India

ABSTRACT

Companies prefer a partnership basis for working for the goal of achieving the target result and mutual benefits. Maintaining partner relationships in the implementation of construction projects brings a number of benefits, such as dispute resolution, improving communication, increasing productivity and reducing the time and cost of the project. Partnering involves the parties to a construction project working together in an environment of trust and openness to realize the project efficiency and without conflict. In the paper the study is basically on contribution of human attributes such as trust and responsibility, top management commitment, effective communication and dispute resolution in the successful completion of a partnership project. A comparison between different methods of assessing partnerships such as Delphi system and other logical approaches are carried out to determine the effectiveness of the measured variables. Partnering can bring significant benefits, including fewer adversarial relationships and increased end-customer satisfaction, to the construction industry. A hypothesis has been put forward that partnership attributes, communication behavior, and conflict resolution techniques are related to indicators of partnership success and these hypothesis are tested at various levels of management to seek solutions for a smooth flow of human attributes in partnership projects. The model was tested using structural equation modelling. Outcome of analysis indicate that the primary characteristics of partnership success are: partnership attributes of commitment, coordination, and trust; communication quality and participation; and the conflict resolution technique of joint problem solving. The findings offer an insight for a better management of these relationships to ensure success in partnering business in construction industry.
INTRODUCTION

Construction partnering is a kind of business partnering used in various fields such as architecture, engineering and construction industry. Partnering is intended to assist project teams with setting goals, resolving disputes and improving project outcomes. The construction partnering is a team comprising of the client, the consulting engineers or architects, the contractor and other key project stakeholders. Since 1980s construction partnering has been used as a methodology to reduce litigation and improve productivity. Partnerships are strategic relationships for serving a purpose between independent firms for sharing compatible goals, striving for mutual benefit, and accepting mutual interdependence. They together put efforts to achieve a common goal that each firm could not attain alone easily. The objective of construction partnering is to reduce project costs and schedules, eliminate change orders and claims, and improve communication by developing mutually agreed upon project and partnership success goals and by monitoring the achievement of these goals for the duration of the project. Several researches have come forward for investigating the benefits of success in partnering performance, difficulties faced in partnering and analysis of conceptual and theoretical models of construction partnering over the past few decade. Partnering in construction has a potentially important way of improving construction project performance by bringing direct benefits to both clients and contractors.

Researches oriented to this aspect of partnering state that performance, in terms of cost, time, quality, build ability, fitness-for-purpose and a whole range of other criteria can be improved to a large extend if participants adopt more collaborative ways of working. Partnering is a broad term used to describe a collaborative management approach that encourages openness and trust between parties to a contract. The parties become dependent on one another for success and this requires a change in culture, attitude and procedures throughout the supply chain. It is most commonly used on large, long-term or high-risk contracts. By formation of alliances between organizations which can be called as a contemporary management strategy can be used to improve business performance. Partnering can be adopted for a one-off project, or can be a long-term relationship over a number of projects (such as a framework agreement). The longer the contract, the greater the benefit of partnering as there is more opportunity for building working relationships, finding improvements and planning investment. Where a partnering relationship is for a specific project, it is known as ‘project partnering’. Where it is a
multi-project relationship it is known as ‘strategic partnering’. Successful partnering should enable long-term integration of the entire project team for the mutual benefit of all, and so it is crucial that the right partners are selected. Partner’s commercial objectives and culture should be aligned, use of party’s resources should be optimised and risks should be allocated to those most able to mitigate them. Partnering requires both expertise and commitment from the client to set up and manage the process effectively and to act as an adjudicator of disputes. It can be arranged either by use of a traditional contract with a separate partnering agreement, or by use of a contract with an aligned partnering agreement. It can be either a two-party or multi-party arrangement. The terms partnering and alliancing are often used in the same context irrespective of not being apparent about its meaning. Alliancing is often used to refer to partnering on single projects and partnering is used in the context for a life time project. Partnering is now a well-established approach to contracting in the US, UK and Australia and a lot of studies are undergoing that sets out to demonstrate its main principles, practices and benefits.

**LITERATURE REVIEW**

Jakki and Robert (1994) proposed a research that sheds light on issues related to factors affecting partnership success and offers an improved understanding of the form and substance of the interaction between partners. Study suggests that trust, the willingness to coordinate activities, and the ability to convey a sense of commitment to the relationship are key factors. Critical aspects related to partnership success are the communications strategies used by the trading parties. Trading parties get a sound note on planning and goal setting through quality information transfer and joint participation by partners. Joint participation enables better understanding the strategic choices facing each other. Such kind of openness has to be improvised by management and communications skills are developed and learn to accommodate or modify decision autonomy. For achieve mutually beneficial goals the management must also move towards processes and behavioral mechanisms that support partnering. A conflict resolution mechanism is the best way to resolve problems in a partnering project. Problem solving can be improved by the partner’s ability to take the other’s perspective and attempt to reconcile differences.

Yeung in 2007 introduced a paper with a study by using the content analysis method
definition and distinguishing the concepts of partnering and alliancing was studied with Sunflower model based on the German philosopher Ludwig Wittgenstein’s family-resemblance philosophy. It is found that trust and long term commitment are core soft elements. The difference between partnering and alliancing is that the former relies on partnering charter with no legal and contractual binding force whereas later includes formal contract with real gain-share and pain-share arrangement. Fuzzy approach performed comprises of Fuzzy Set theory, Fuzzy Logic Theory and Other Fuzzy Techniques categorizing performance, evaluation, modelling, decision making and others. Some of the key performance indicators (KPIs) were identified to measure the partnering performance and making a note of it with respect to projects. A Delphi technique was used to provide weighted KPIs for evaluating success of partnering projects in Hong Kong and evaluate several rounds and finalize certain attributes. Some Quantitative Indicators (QIs) and Quantitative Requirements (QRs) were established could eliminate interpretation and judgment. The reliability, objectiveness and practicality of the performance evaluation model were uplifted using these studies.

John et al in 2007 conducted a study on the Delphi method which is a highly formalized method of communication that is designed to extract the maximum amount of unbiased information from a panel of experts. The topic of Key Performance Indicators (KPIs) in construction has been discussed. The descending order of the top seven weighted KPIs identified were found to be time performance, with the weighting of 0.167; cost performance, with the weighting of 0.160; top management commitment, with the weighting of 0.150; quality performance, with the weighting of 0.143; trust and respect, with the weighting of 0.143; effective communications, with the weighting of 0.131; and innovation and improvement, with the weighting of 0.106. As a result, the Index to measure, monitor and upgrade the performance of their partnering projects has been used by project managers and senior executives. In order to achieve outstanding partnering performance the current body of knowledge and understanding are useful for both academics and practitioners in the construction industry.

John et al in 2008 proposed that the aim of this paper is to establish suitable quantitative indicators (QIs) and reasonable quantitative ranges (QRs) for each KPI in order to avoid any possible discrepancies in interpreting the meaning of each KPI and provide objective evaluation results based on quantitative evidence. By conducting five structured face-to-face interviews and two rounds of a Delphi
A questionnaire survey in Hong Kong, a set of QIs were developed to measure the seven most important KPIs, including: time performance; cost performance; top management commitment performance; quality performance; trust and respect performance; effective communications performance; and innovation and improvement performance. The QIs identified with the highest mean ratings for each KPI were found to be: ‘Variation of actual completion time expressed as a percentage of finally agreed completion time’, with the mean rating of 4.53 for measuring time performance; ‘Variation of actual project cost expressed as a percentage of finally agreed project cost’, with the mean rating of 4.45 for measuring cost performance; ‘Percentage of top management attendance in partnering meetings’, with the mean rating of 4.51 for measuring top management commitment; ‘Average number of non conformance reports generated per month’ for measuring civil works and building works, with the mean rating of 4.10 for measuring quality performance; ‘Perceived key stakeholders’ satisfaction scores on trust and respect by using Likert scale’, with the mean rating of 3.77 for measuring trust and respect performance; ‘Perceived key stakeholders’ satisfaction scores on effective communications by using Likert scale’, with the mean rating of 3.51 for measuring effective communications performance; and ‘Cost saving resulting from innovation expressed as a percentage of total project cost’, with the mean rating of 3.85 for measuring innovation and improvement performance.

**METHODOLOGY**

In order to perform an analysis on different human attributes and its impact in partnering performance, a questionnaire survey was conducted. A Questionnaire is a series of questions used for gathering information for statistical analysis to benefit a group of individuals. The responses are aggregated to draw a conclusion and further discussions can be carried. A performance indicator or key performance indicator (KPI) is a type of performance measurement to evaluate the success of an organization or of a particular activity (such as projects, programs, products and other initiatives) in which it engages. The importance of the excellence of the attributes where discussed with precisely these key performance indicators (KPIs) such as trust, responsibility, top management commitment, effective communication and dispute resolution. KPIs are chosen after referring many review papers. Each KPIs have sub-factors controlling its effectiveness. Sub-factors of trust comprises of directly addressing, demonstration of trusting others, being flexible and patient enough to the truth aspect, respect the time by making it comfortable to see their
availability, not to deliver the unexpected orders and finally the truth aspect of it. Secondly, sub-factors of responsibility include loyalty and faith, reasonable care that the workers find it easy to resolve problems with the managers, nature and extend of partner’s liability and management of work assigned or taking the role and doing their duties. Thirdly, top management commitment can be analyzed by sub-factors like moving goals without opportunistic behavior, balancing or resolving short term problems effectively then and there and getting feedback about performance to improve further, being passionate and consistent with the work as it is important skeleton of the commitment aspect and nurture the relationships from various levels of management to the bottom level. Fourth level of assessment is about effective communication and the sub-factors are partnership agreements in which enough freedom is given to float problems and resolve it together, client satisfaction is another core aspect as it is the main motive of the project, the mutually beneficial part decide the comfort in which the communication can be effective and then finally clear expectations of addressing the issues. In a partnership project dispute resolution play a vital role. Sub-factors of dispute resolution comprises of reducing the time and cost to resolve disputes, outcome satisfaction of the case, minimizing further disputes, providing other channels of communication for easy settlement, enhancing the job relationships and also deciding the type of dispute resolution method that can be adopted to solve various problems in the industry. The inter-relationships between these attributes are analyzed using Kendall’s Coefficient of Concordance (W) adding weight to each attribute and finally finding the PPI.

PARTNERING PERFORMANCE INDEX (PPI)

A conceptual framework is developed for identifying KPIs to evaluate the performance of partnering projects. A model through applying Delphi survey method is generated to measure the performance in partnering projects. Certain value is given to each factor as weight using the survey data. A series of weighted KPIs is developed from the questionnaire. The procedure is continued using Kendall’s coefficient of concordance method. The weighted KPIs are calculated using this formula.
\[ W_{KPIa} = \frac{M_{KPIa}}{\sum_g M_{KPIg}} \quad \text{for } a = 1 \]

\( W_{KPIa} \) – represents the weighting of a particular selected KPI

\( M_{KPIa} \) – represents the mean ratings of a particular selected KPI

\( \sum_g M_{KPIg} \) - represents the summation of mean ratings of all the selected KPIs

With the calculation of weight of KPIs multiplying it with respective attribute will give the partnering performance index. If the Concordance Coefficient is equal to 1, it means that all the experts rank the KPIs identically. In contrast, if the Concordance Coefficient is equal to 0, it means that all the experts rank the KPIs totally differently.

**DELPHI STUDY**

The Delphi method is a structured communication technique or method, originally developed as a systematic, interactive forecasting method which relies on a panel of experts. The experts answer questionnaires in two or more rounds. After each round, a facilitator or change agent provides a summary of the experts’ forecasts from the previous round as well as the reasons they provided for their judgments. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of the answers will decrease and the group will converge towards the “correct” answer. Finally, the process is stopped after a predefined stop criterion (e.g. number of rounds, achievement of consensus, and stability of results) and the mean or median scores of the final rounds determine the results.

**RESULTS AND DISCUSSIONS**

The questionnaire survey conducted by classifying the attributes are given below:
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<tr>
<th>KPIs FOR PARTNERING PROJECTS</th>
<th>Average of all 34 responses of each sub factors</th>
<th>Average of each KPIs</th>
<th>Corresponding weighting</th>
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<tbody>
<tr>
<td>1.TRUST</td>
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<td></td>
</tr>
<tr>
<td>a) Demonstrate that you trust others</td>
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<td>b) Directly address issues</td>
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<tr>
<td>c) Be flexible and patient</td>
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<td>d) Respect their time</td>
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<td>f) Truth</td>
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<td>c) Nature and Extent of Partner’s Liability</td>
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<td>d) Management</td>
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<td>c) Seeking feedback</td>
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<td>d) Being passionate and consistent</td>
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<td>e) Nurture relationships</td>
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</tr>
<tr>
<td>d) Clear expectation</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.DISPUTE RESOLUTION</td>
<td>4.5</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>a) Reducing time to resolve disputes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
b) Reducing the costs of resolving disputes 4.5

c) Providing a satisfactory outcome of case 4.5

d) Minimizing further disputes 4

e) Opening channels of communication 4.5

f) Preserving or enhancing job relationships 4.5

g) Type of dispute resolution

<table>
<thead>
<tr>
<th></th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbitration and Expert Determination (35.5%)</td>
<td></td>
</tr>
</tbody>
</table>

Sum of corresponding weighting (W) = 0.98

If the W value is 0 it indicates a no relationship between the attributes and when it is 1 it indicates that there is a strong positive relationship.

PPI= 0.18 trust + 0.2 responsibility + 0.19 top management commitment + 0.2 effective communications + 0.21 dispute resolution.

The coefficients are individual factor weightings, which are calculated using the above formula.

For the value of W obtained ie 0.98 it is almost equal to 1 which signifies there exists a positive relationship between factors analyzed above while considering contribution of human attributes towards partnering projects. Moreover dispute resolution has higher weighting than other factors and hence its importance with respect to partnering can be understood.

From the questionnaire survey conducted most of the responses where from project managers of residential projects by a percentage of 58.8% followed by commercial projects by a percentage of 47.1%. Transportation and infrastructural projects and others vary by a percentage of 20.6% and 14.7% respectively. Secondly, project delivery methods adopted by companies vary from a percentage of 44.1% for design built, 41.2% for item rate contract, 38.2% for lump sum, 35.3% for construction management, 26.5% for Engineer-Procurement-construct, 23.5% for turnkey, Public-private partnerships for 11.8%, Integrated project delivery for 8.8% and others 5.9%. The survey also gave classification of data based on the
Partnering type and type of partner. Joint venture, consortium and others had a percentage of 29.4%, 23.5% and 32.4% respectively. Of all those responses, 70.6% were private partner, 29.4% of public-private and 17.6% public partnership. These data can be used to analyze those factors that will be more susceptible to decide the success of the project to some extent. Hence these results lay stepping stones to a new research in determining economical project delivery methods and what kind of partnering can be beneficial for project success etc. there by contributing towards responsible research innovations in the field of construction.

CONCLUSION

The aim of the research was to develop a reliable and practical performance evaluation model to objectively measure the factors determining performance of partnering projects in the construction industry. The top five weighted KPIs identified from the research are the following: trust (0.18), responsibility (0.2), top management Commitment (0.19), effective communications (0.2) and dispute resolution (0.21). Different partnering projects can then be evaluated and compared objectively based on this Partnering Performance Index (PPI) established. This research shows that Key Performance Indicators (KPIs) for partnering project is vital because it can help boost a wider application through identifying critical success factors. It also helps in developing a best practice framework for implementation of strategies that lead to project success. Furthermore, the variability of project nature could affect the applicability of PPI. This study is focused and developed locally based on projects in India, further research should be conducted in other geographical locations like USA, UK and Australia to understand the similarities and differences within the construction industry. Emerging responsible researchers can bring new innovations analyzing these KPIs in other geographical locations and also compare using some new statistical tools for successful partnerships in construction industry.

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IMPACT OF MOTIVATION ON TURNOVER INTENTION AMONG DOCTORS ACROSS VARIOUS HEALTHCARE SET UPS

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Dr. Navjot Kaur, Professor School of Management Studies.

Dr. Sanjeev Sharma, Director UIAMS

Presenter: Dr. Sukhmani Mann, Research Scholar. Punjabi University, Patiala. 
Guest Faculty UIAMS, PU, Chandigarh

ABSTRACT

Work is a complex phenomenon in the context of hospitals. Work takes on different shades of meaning and most important is the intrinsic meaning that it has for the individual and for the group which he is part of. Motivation is a basic psychological process. It refers to the force within the person that affects direction, intensity and persistence of voluntary behavior. According to the Self Determination Theory Intrinsic motivation has the most positive outcomes followed by integrated and identified regulations whereas introjected and external regulation lead to the most negative outcomes. A Study was carried out to establish whether any relationship exists between various aspects of motivation and its impact on Turnover Intention across 200 doctors working in Punjab and Chandigarh tricity across two strata government owned medical colleges and hospitals and private owned (corporate, trust, minority institutes). Data was collected through the following instruments Niehoff and Moorman for Organizational Justice, (OJ) & Extrinsic and Intrinsic Motivation Scale (WEIMS) Deci & Ryan, (Motivation). Data analysis showed significant findings among motivation concepts and turnover intention. The mediating role of affective commitment was also observed.

Keywords: Organisational justice, healthcare human resource policy, Intrinsic Motivation, Extrinsic motivation, Amotivation.

Hospitals are work organisations that come with their own peculiar set of challenges
It has a diverse workforce. Employees work motives affect productivity. This holds true in case of healthcare personnel as well. One of management’s jobs is to channelize employee motivation effectively towards achieving organizational goals. Physicians may either be motivated by the idea of intrinsic rewards such as pride/self-respect, or by extrinsic rewards or financial benefits such as salary.

HR in hospitals have to deal with a range of challenges. Few of them are

- Hospitals are complex organizations and their dynamics are not easy to assess.
- Healthcare outcomes are complex and become very difficult to rationalize them into rewards. Only patient appreciation comes out as good result.
- Hospitals are very dynamic places. Most of the outcomes are uncertain and difficult to assess. No two situations and doctors would work in a similar manner.
- Only profits don’t judge hospitals.
- They are highly labor-intensive organizations. The healthcare personnel range from non-medical personnel to highly qualified professionals.
- A motivated workforce would be the biggest asset any hospital can boast of. It is vital to understand what keeps the doctors motivated.

**RELEVANCE OF STUDY**

The study will help us understand the reasons for high turnover intentions in doctors employed at all levels and also across various kinds of hospitals.

There is a shortage of 5,00,000 doctors and 10,00,000 nurses alone in India based on international standards, whereas Indian medical education capacity is 31,000 per year. The cost of manpower resources is increasing each day. Companies are literally bidding for good talent and attracting them with tempting salaries and designations.

For any HR in the healthcare industry, retaining its employees is need of the hour. In super-specialty set-ups attrition rates are sometimes as high as 70-80 per cent (Indian Express).
To keep the workforce motivated would be most essential for the best functioning of the hospital. A motivated doctor would go beyond the call of duty to take care of his patients. Motivation parameters become even more relevant in the case of doctors as they work in high stress situations and have to consistently keep at it day in and out irrespective of the number of work hours and at times compromising their work life balance.

**MOTIVATION**

Work motivation is the set of energetic forces that originate both within and beyond an individual being, to initiate work related behavior and to determine its form, direction, intensity and duration. To study motivation among doctors we have used Extrinsic and Intrinsic Motivation Scale (WEIMS) by Deci & Ryan which has been found acceptable for the same.

The various aspects of motivation as measured by this scale are –

- **Intrinsic motivation** which is the natural, inherent drive to seek out challenges and new possibilities
- **Amotivation** is a psychological condition associated with diminished inspiration to participate in social situations and activities, with episodes of apathy caused by an external event, situation, substance (or lack of), relationship (or lack of), or other cause.
- **Externally regulated behaviour**: Is the least autonomous, it is performed because of external demand or possible reward. Such actions can be seen to have an externally perceived locus of control.
- **Introjected regulation of behaviour**: describes taking on regulations to behaviour but not fully accepting said regulations as one’s own. Deci and Ryan claim such behavior normally represents regulation by contingent self-esteem, citing ego involvement as a classic form of introjections
- **Regulation through identification**: Is a more autonomy driven form of extrinsic motivation. It involves consciously valuing a goal or regulation so that said action is accepted as personally important.
- **Integrated Regulation**: Is the most autonomous kind of extrinsic motivation. Occurring when regulations are fully assimilated with self so
they are included in a person’s self evaluations and beliefs on personal needs.

Intrinsic motivation has the most positive outcomes followed by integrated and identified regulations whereas introjected and external regulation lead to the most negative outcomes as per historical research and theoretical constructs. So we measured this along with turnover intention in our subjects. Hinshaw & Atwood (Turnover Intentions) instrument was used for the parameters of measuring turnover intention.

STUDY, RESULTS & DISCUSSION

The study was carried out in corporate, trust, minority and government hospitals wherein data was collected from 200 doctors was further divided into suitable categories according to the following -

Type of organization

-18.5% of the doctors were from the government organizations. 49% belonged to the trust type of organization and 31% belonged to the corporate type of organization.

Gender

According to the data males filled 42.5% of the questionnaires. Females filled 40% of the questionnaires, Around 17.5% did not mention their gender while filling up the forms.

Tenure at the organization

The next category of the data defines the number of years spent of doctors with the current employer. This was categorized in time spent as up to 1 year in which were 24.5% of the doctors. The next was the category of spending 1-3 years in which were 25.5% of the doctors. The doctors who had spent 3-5 years with the organization were close to 11.5%. The ones who had spent more than 5 years with the same organization were around 38%.

The doctors have been categorised as two - the one with little intention to leave and the ones with very high intention to leave.
The values for the parameters for the above categories were calculated.

The mean values in each category was measured and t test done and the results were found to be significant.

![Bar Chart](image)

Above shows the frequency distribution as per tenure in present hospital categorised on basis of turnover intent. This above graph clearly indicates that the doctors who have been with the organisation for more than five years have the least intention to quit followed by the ones who have been with the organisation for upto one
year then the ones who have been with the organisation for 1-3 years. The ones who have been with the organisation for 3-5 years have the least numbers in the category of little intention to quit. In the category of strong intention to quit, the doctors who have a tenure of between 1-3 years have the maximum strong intentions to quit followed by the ones in the tenure category of upto one year and the tenure category of more than five years. The ones in the 3-5 years tenure bracket have the least numbers in the strong intention to quit.

When the same was subjected to chi square tests the following output was achieved.

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>14.903a</td>
<td>3</td>
<td>.002</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>14.925</td>
<td>3</td>
<td>.002</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>3.083</td>
<td>1</td>
<td>.079</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.51.

The above table clearly show that chi square is significant among categories. The doctors that are most likely to quit and change with a tenure of 1-5 years category. The vulnerability is quite high during this period.

The main aim of study was to check different hypothesis of turnover intent with different aspects of motivation. The application of t-tests output was achieved as following.

<table>
<thead>
<tr>
<th>turnover_intention</th>
<th>turnover intention</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>int_mot Intrinsic motivation</td>
<td>1.00 little intention</td>
<td>137</td>
<td>16.4526</td>
<td>3.69811</td>
<td>.31595</td>
</tr>
<tr>
<td></td>
<td>2.00 strong intention</td>
<td>52</td>
<td>15.5192</td>
<td>3.53964</td>
<td>.49086</td>
</tr>
<tr>
<td>ext_mot Externally regulated behaviour</td>
<td>1.00 little intention</td>
<td>138</td>
<td>14.6667</td>
<td>3.52330</td>
<td>.29992</td>
</tr>
<tr>
<td></td>
<td>2.00 strong intention</td>
<td>55</td>
<td>13.9273</td>
<td>3.69612</td>
<td>.49838</td>
</tr>
<tr>
<td>amot Amotivation</td>
<td>1.00 little intention</td>
<td>135</td>
<td>10.0148</td>
<td>4.60691</td>
<td>.39650</td>
</tr>
<tr>
<td></td>
<td>2.00 strong intention</td>
<td>55</td>
<td>12.4000</td>
<td>4.00278</td>
<td>.53973</td>
</tr>
<tr>
<td>Equal Variance</td>
<td>Levene's Test for Equality of Variances</td>
<td>t-test for Equality of Means</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------------</td>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
<td>df</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>int_mot Intrinsic motivation</td>
<td>.361</td>
<td>.549</td>
<td>1.568</td>
<td>187</td>
<td>.119</td>
</tr>
<tr>
<td>ext_mot Externally regulated behaviour</td>
<td>.803</td>
<td>.371</td>
<td>1.298</td>
<td>191</td>
<td>.196</td>
</tr>
<tr>
<td>amot Amotivation</td>
<td>2.010</td>
<td>.158</td>
<td>-3.357</td>
<td>188</td>
<td>.001***</td>
</tr>
<tr>
<td>Regulation through identification</td>
<td>.597</td>
<td>.441</td>
<td>2.458</td>
<td>190</td>
<td>.015**</td>
</tr>
<tr>
<td>intro Introjected regulation of behaviour</td>
<td>2.643</td>
<td>.106</td>
<td>-3.29</td>
<td>189</td>
<td>.743</td>
</tr>
<tr>
<td>integ integrated motivations</td>
<td>.428</td>
<td>.514</td>
<td>1.670</td>
<td>190</td>
<td>.097*</td>
</tr>
</tbody>
</table>
As Levene’s test for equality of variance is non significant hence variances can be assumed to be equal. The significant has been made bold in above table as to different hypothesis,

**1. INTRINSIC MOTIVATION**, which is the natural, inherent drive to seek out challenges and new possibilities.

H0 There is no relation between turnover intention and doctor’s intrinsic motivation levels.

H1 There is relation between turnover intention and doctor’s intrinsic motivation levels.

The mean values for intrinsic motivation for both categories were calculated. The means for ones with little intention to quit is 16.63 and the one with strong intention to quit is seen at 15.42. This clearly depicts that the mean for doctors with higher motivation have little intention to quit as compared to the ones with lower intention to quit as compared to the ones with lower intrinsic motivation. The difference is statistically significant as p <.05. Hence we accept the alternative hypothesis that there is relation between turnover intention and motivation levels of doctors.

**2. Amotivation** is a psychological condition associated with diminished inspiration to participate in social situations and activities, with episodes of apathy caused by an external event, situation, substance (or lack of), relationship (or lack of), or other cause.

H0 There exists no relation between TI and amotivation levels or doctors.

H1 There exists relation between TI and amotivation of doctors.

In case of amotivation the doctors with little intention to leave have mean values of 10.15 whereas the ones with strong intention to leave have mean values at 12.27. The ones with strong intention to leave have higher means and highly significant. Hence there exists a relationship between TI and amotivation.

**3. Externally regulated behaviour:** Is the least autonomous, it is performed because of external demand or possible reward. Such actions can be seen to have an externally perceived locus of control.
H0 There is no relation between turnover intention and extrinsic motivation or externally regulated behavior.

H1 There is relation between turnover intention and extrinsic motivation or externally regulated behavior.

In this case of externally regulated behavior for the two groups the ones with little intention to quit have mean of 14.80 and the ones with strong intention to quit have the mean of 13.98. This is again highly significant since p <.05 and hence there exists a relation between TI and extrinsic motivation.

4. Introjected regulation of behavior: describes taking on regulations to behavior but not fully accepting said regulations as one’s own. Deci and Ryan claim such behavior normally represents regulation by contingent self-esteem, citing ego involvement as a classic form of introjections.

In case of introjected regulation of behavior –

H0 – There exists no relationship between TI and introjected regulation of behavior.

H1 There exists relationship between TI and introjected regulation of behavior.

The mean values for the two categories are as follows –

The doctors with little intention to quit have mean of 14.82.

The doctors with strong intention to quit are at 14.90.

Since in this case p is not <.05 and it is =0.08 we accept the null hypothesis and reject the alternate one.

5. Regulation through identification:

Is a more autonomy driven form of extrinsic motivation. It involves consciously valuing a goal or regulation so that said action is accepted as personally important.

H0 There exists no relationship between TI and regulation through identification.

H1 There exists relationship between TI and regulation through identification.
The mean values in this category for the two types of doctors – the ones with little intention to quit is 15.88 and the one with strong intention to quit is 14.31.

This is again highly significant since p <.05.

Hence the null hypothesis is rejected and alternate hypothesis is accepted.

6. Integrated Regulation: Is the most autonomous kind of extrinsic motivation, occurring when regulations are fully assimilated with self so they are included in a person’s self evaluations and beliefs on personal needs.

H0 – In the null hypothesis there exists no relationship between the doctors with turnover intention and integrated regulation.

H1 – There exists a relationship between the doctors turnover intention in regard to integrated regulation.

The mean values for the doctors with little intention to quit is 16.18,

Whereas the doctors with strong intention to quit have mean value of 15.13.

Since p value is significant in this case, though at 10% since it is a social study we can consider it significant hence we reject the null hypothesis and accept the alternate hypothesis.

The mediating role of affective commitment: literature suggested that affective commitment may play some kind of role in turnover intention. The same was checked using the regression. Firstly we checked the model of impact of affective commitment on turnover intention and found that with a F value of 67 it was highly significant with adjusted r square of 269 (table –I).

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), affective_commitment
### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>211.368</td>
<td>1</td>
<td>211.368</td>
<td>67.443</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>564.127</td>
<td>180</td>
<td>3.134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>775.495</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: turnover_intent
b. Predictors: (Constant), affective_commitment.

(Table –I)

Thereafter we checked the summary model for impact of Regulation through identification, Amotivation, Intrinsic motivation on turnover intention. The results as shown predicted a significant impact but much lower r square (.110) (Table –II). As clear the amotivation was highly significantly impacting the turnover intent.

### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Change Statistics</td>
</tr>
<tr>
<td>1</td>
<td>.332a</td>
<td>.110</td>
<td>.095</td>
<td>.02501</td>
<td>.110</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.344</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>178</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.488</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Regulation through identification, Amotivation, Intrinsic motivation

b. Dependent Variable: turnover_intent_new

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.000</td>
<td>.825</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>-.079</td>
<td>.077</td>
<td>-.131</td>
</tr>
<tr>
<td></td>
<td>Amotivation</td>
<td>.126</td>
<td>.034</td>
<td>.266</td>
</tr>
<tr>
<td></td>
<td>Regulation through</td>
<td>-.032</td>
<td>.073</td>
<td>-.444</td>
</tr>
<tr>
<td></td>
<td>identification</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adj R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.543a</td>
<td>.295</td>
<td>.277</td>
<td>1.77479</td>
<td></td>
<td>1.580</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), affective_commitment, Amotivation, Intrinsic motivation, Regulation through identification

b. Dependent Variable: turnover_intent

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>5.402</td>
<td>1.062</td>
<td>5.087</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>-.079</td>
<td>.070</td>
<td>-.137</td>
</tr>
<tr>
<td></td>
<td>Amotivation</td>
<td>.041</td>
<td>.032</td>
<td>.089</td>
</tr>
<tr>
<td></td>
<td>Regulation through identification</td>
<td>.065</td>
<td>.067</td>
<td>.119</td>
</tr>
<tr>
<td></td>
<td>affective_commitment</td>
<td>-.223</td>
<td>.033</td>
<td>-.503</td>
</tr>
</tbody>
</table>

a. Dependent Variable: turnover_intent

Finally to check if there was a mediation effect which was being provided by affective commitment we entered all the variables together. It resulted in an improved model with higher adjusted r square of .277 and all the motivation
concepts turning insignifact contributors with affective commitment being highly significant. This shows a classical case of affective commitment providing a mediation effect.

**CONCLUSION**

Hence from the above observations we can clearly conclude that understanding the aspects of motivation is of utmost importance for healthcare managers in today's time. The Human resource department needs to have an understanding of the various aspects of motivation in case of doctors so that they can keep their workforce well committed and motivated. This will help to devise ways and means for keeping the highly skilled workforce motivated enough to avoid turnover intention. High attrition rates not only cost the organization but also adversely affect the patient satisfaction levels.

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PROMOTION OF CULTURAL RESPONSIVENESS: ETHNIC MINORITY STUDENTS’ CONSTRUCTS OF ETHNIC DIVERSITY AND IDENTITY IN HONG KONG SECONDARY SCHOOLS

Ming-Tak HUE, Department of Special Education and Counselling
The Education University of Hong Kong

PRESENTATION OUTLINE
The presentation will cover the objective of the research study with an introduction to 3 brief real life stories. Research questions and the background of Hong Kong education system will also be included. The theoretical frameworks of the study and the construct ‘Out of school’ will be examined. Research methodology and method for the study will be shown in the presentation. Findings and research implications will be discussed at the end.

OBJECTIVES OF STUDY
To examine students’ constructs of ethnic minority, and teachers’ narratives of cultural responsiveness in relation to the cultural diversity of ethnic minority students (EMS) in secondary schools.

The study aims to find out:

• How teachers constructed their multicultural competency and the cultural diversity of EMS;
• What challenges and difficulties they had in supporting EMS in relation to cultural, social and psychological changes and the creation of a culturally responsive classroom;
• What strategies and skills they adopted for the management of cultural diversity and the creation of a culturally responsive classroom.
**Story of Student A**

Student A is a five year old Bangladeshi girl. Her family has four members. They are actually living below the poverty line, that is, HKD14,300 (a household of four members in Hong Kong has been identified. Due to the immigration rules in Hong Kong. Her father is not allowed to get financial support and allowance from the government. The immigration status also restricts his working hour, as well as restricts her mother to do any work in HK.

**Story of Student B**

Student B is a Pakistani boy from Form one, at the risk of school drop out. He studied primary in a Chinese medium school and was doing better in Chinese language subject as well as in English. However, he was invited to ‘leave school’ in the completion of his Form one due to his lower academic result, but his parents refused. He had only 30% marks in the form 1 final examination which was far below the requirement to get promoted to the next form.

**Story of Student C**

Student C is a 13 years old Pakistani boy studying, Form one. He was doing well in his all subjects in primary school. But from Form one, his result significantly went down especially in mathematics. He was not happy with his mathematics teacher as he found his teacher was very rude and unjust to him in several occasions. He was also involved in a part-time restaurant job in the community where he lives, even at his age 13, where the official age to get into work in HK is 15. His father is paralyzed and his family leads their life with the comprehensive social security assistance (CSSA). His Chinese teacher strongly predicts that Student C is at serious risk of dropping out anytime.

**Focus**

Students at the risk of “school drop-out” and the issue of “out of school”

Two common threads across all the participants, who were out of school or at the risk of school drop-out, are that they experience learning difficulties and faced some sort of racism either inside school or outside in their life in Hong Kong.
Questions

This study sought to answer the following research questions:

- What is the extent of ‘out of school’ ethnic minority young people in Hong Kong?
- What are the reasons for ethnic minority young people being ‘out of school’?
- What is the life of ‘out of school’ ethnic minority young people in Hong Kong?

HK Context: Ethnic minority population

‘Ethnic minorities’ refers to the ‘people from non-Chinese ethnicities’ (Census and Statistics Department, 2001, 2007, 2012, p. 2). According to the 2011 Census (2012, p. 18), about 6.4% (exact figure is 451,183) of the total population of HKSAR were ethnic minorities mainly belonging to the ethnic group of Indonesians, Filipinos, Indians, Pakistanis, Nepalese, White, Japanese, Thais, Pakistanis, Koreans, Bangladeshi etc.

The 2006 by-census (2007, p. 15) reported about 5% (exact figure is 342,198) of the total population of HKSAR were ethnic minorities which means an increase of the total number of ethnic minority population by 31.8% over 5 years’ time. In 2011, south Asians collectively represented 14% of the total ethnic minority population which increased by about 20,000 compared to 2006 by-census.

In policy context

What is the educational policy on EM education?

In HK, so far, the development of EM education has been driven by the antidiscrimination policy, i.e. the Racial Discrimination Ordinance. According to the Ordinance, schools are not allowed to discriminate against any students on the ground of race in terms of admission. But, it notes that it is NOT mandatory for schools to make any change or special arrangement for EMS. Also, exception for use or failure to use a particular language is allowed.

From the perspectives of policy makers and school managers, the Ordinance means…
• Schools cannot discriminate against EMS in terms of admission, or refuse to offer placement for these students
• Once these students entered the school, they are not lawfully required by the Ordinance to do anything to fulfill the learning needs of these students and help them cope with the difficulties of learning Chinese Language

**Literature**

Meeting the Rights of Education of Ethnic Minority: Cultural Responsiveness for Multiculturalism.

Cultural responsiveness refers to the knowledge, skills and practices used by teachers to make the school experience of ethnic minority students more compatible with their learning needs (Gay, 2000, 2010).

The idea of cultural responsiveness has been used by various educators for the promotion of multicultural education and addressing issues of cultural diversity, for example in Culturally Responsive Pedagogy (Ladson-Billings, 1995), and Culturally Responsive Teaching (Gay, 2000).

Gay (2000, 2010) a three-dimension model:

a. promoting academic achievement of students
b. enhancing teachers’ cultural competence
c. raising teachers’ sense of sociopolitical consciousness

Banks (2004, 2007) a five-component model:

a. integration of curriculum content
b. the process of knowledge construction
c. reduction of prejudice
d. promotion of equity
e. empowerment of school culture and social structure
Theoretical Frameworks

This study draws on a number of theoretical frameworks as well as literature across developed and developing context:

- The discourse of ethnic versus civic citizenship within the nation-state (Bloemraad, Korteweg, & Yurdakul, 2008), and Bauböck’s (2011) work of ‘temporary migrants, partial citizenship and hyper-migration’
- Insights from Bekerman & Geisen’s (2012) work on critical discourse on understanding culture
- The politics of education are explored through critical race theory and methodology following López (2003) and Solórzano & Yosso (2002)
- Two frameworks ‘Five Dimensions of Exclusion’ from the education (UNICEF and the UNESCO Institute for Statistics, 2010) and CREATE’s ‘Seven Zones of Exclusion’ (Lewin, 2007), and subsequently a summarized and extension form of it
- Rumberger’s (2011) conceptual framework that unpacks the dropout issue in the context of the United States
- Hunt’s (2008) work on school dropout in the context of developing countries

Research methods

The study is informed by critical race theory and in its line of inquiry to understand critically the issues of ethnic minority students’ school experience in general, and specifically, for this purpose of this presentation, examine the group of students who were regarded at the risk of school drop-out in Hong Kong context.

The qualitative study employed the case study method (Stake, 2000) and interviews with 32 teachers and 20 interviews with students. Among the students, 5 were regarded as at the risk of school drop-out, while 6 were the drop-out.

Findings

Trend analysis: Ethnic minority students in Hong Kong in and out of education.

The data (Census and Statistics Department, 2012, p. 25-27, 59; 2007, p. 51; 2001,
p. 47) reveal that a total of 11,920 ethnic minority students in the age-group below 15 were not recorded as being in any full time courses at school in the year 2011. This represents 27% of this age-group ethnic minority population. The numbers of ethnic minority young people below 15 were not in any full time education were 8,845 (27.4%) and 11,767 (30.9%) respectively in the years 2006 and 2001. For the whole population below 15, these numbers were 163,564 (19.9%), 142,572 (15.2%) and 161,970 (14.5%) respectively in the years 2011, 2006 and 2001.

‘Out of school’ ethnic minority students

School attendance data (Census and Statistics Department, 2012, p. 48-50) show that:

- In 2011 about 13.1% ethnic minority children were not attending to school in their pre-primary ages while this rate for whole population was 8.7%.
- 24.3% and 86.2% of ethnic minority young people were out of full time education by the time they reached to upper secondary and post-secondary education respectively.

Table 1 - School attendance rates in 2011 by ethnicity

<table>
<thead>
<tr>
<th>Age-group</th>
<th>Chinese</th>
<th>Indian</th>
<th>Pakistani</th>
<th>Nepalese</th>
<th>Overall ethnic minority</th>
<th>Whole population</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>91.6%</td>
<td>96.7%</td>
<td>79.5%</td>
<td>88.6%</td>
<td>87.3%</td>
<td>91.4%</td>
</tr>
<tr>
<td>6-11</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>12-16</td>
<td>98.6%</td>
<td>100.0%</td>
<td>95.9%</td>
<td>98.0%</td>
<td>97.6%</td>
<td>98.6%</td>
</tr>
<tr>
<td>17-18</td>
<td>86.4%</td>
<td>81.5%</td>
<td>72.7%</td>
<td>50.0%</td>
<td>74.6%</td>
<td>86.2%</td>
</tr>
<tr>
<td>19-24</td>
<td>45.6%</td>
<td>34.6%</td>
<td>21.4%</td>
<td>13.1%</td>
<td>12.9%</td>
<td>44.0%</td>
</tr>
</tbody>
</table>

Source: (2011 population Census 5% sample data set)

Table 1 reveals that more than 20% of Pakistani children were not attending in any pre-primary education. In the 12-16 age-group there were 4.1% Pakistani ethnic minority children were not attending any junior secondary education. More than one-fourth of Pakistani and half of Nepalese young people were out of full time upper secondary education. Over 65% Indian, about 80% Pakistani and about 87% Nepalese young people were not attending any full time post-secondary education.
Table 2 Number of students’ drop-out in a project school (The number of dropout students from 2007 to 2012)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>55</td>
</tr>
<tr>
<td>2008-2009</td>
<td>29</td>
</tr>
<tr>
<td>2009-2010</td>
<td>29</td>
</tr>
<tr>
<td>2010-2011</td>
<td>37</td>
</tr>
<tr>
<td>2011-2012</td>
<td>19</td>
</tr>
</tbody>
</table>

Factors contributing to being ‘out of school’

Table 3A - List of factors contributing to being ‘out of school’

<table>
<thead>
<tr>
<th>Research participants</th>
<th>Factors contributing to being ‘out of school’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student E (dropout)</td>
<td>Low academic achievement in mathematics and science, differences in schooling culture, peer and community factors, dropout history in family, racism</td>
</tr>
<tr>
<td>Student B (dropout)</td>
<td>Low education aspiration, over-age, poor academic achievement and behavioral problem, involvement with gang, dropout history in family, racism</td>
</tr>
<tr>
<td>Student F (dropout)</td>
<td>Failure in HKCEE, Chinese and school’s language policy, peer factors, dropout history in the family, racism</td>
</tr>
<tr>
<td>Student G (dropout)</td>
<td>Low academic achievement, struggle in Chinese, issues in teaching, differences in schooling culture, employment, racism</td>
</tr>
</tbody>
</table>

Table 3B - List of factors contributing to being ‘out of school’

<table>
<thead>
<tr>
<th>Research participants</th>
<th>Factors contributing to being ‘out of school’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student H (dropout)</td>
<td>Harassment, parental factors, intergenerational and cultural gap, peer factors, dropout history in the family, illness, racism</td>
</tr>
<tr>
<td>Research participants</td>
<td>Factors contributing to being ‘out of school’</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Student L (at risk of drop-out)</td>
<td>Low academic achievement, struggle in Chinese, racism</td>
</tr>
<tr>
<td>Student A (at risk of drop-out)</td>
<td>Family poverty, immigration policy, racism</td>
</tr>
<tr>
<td>Teachers View</td>
<td>Academic achievement, inadequate schooling provisions for ethnic minority students, low education aspiration, Chinese language, behavioral problem, stereotypes of ethnic minority students, health issue, special education needs, employment, family factors, school factors, peer factors, technology when ‘deviator’ instead of ‘mediator’, inadequate educational support and lack of quality assurance, racism</td>
</tr>
</tbody>
</table>

**Table 3C - List of factors contributing to being ‘out of school’**

**Low academic achievement**

The most common factor found across all dropout participants, and all at risk of dropping out participants, was low academic achievement. While the failing subjects list included almost all school subjects such as Mathematics, Liberal Studies, Chinese, Science, Biology, Chemistry, English, Business, Accounting and Financial Studies, the first three subjects in the list emerged to be the main subject areas where many ethnic minority participants had not done academically well.
Struggle in Chinese

“At first I was very curious to learn Chinese, but when I found it difficult to learn I lost all my interest. Then I was not paying much attention and sometimes sleeping in the class…. I found it always different Chinese writing and speaking and difficult. The written form of Chinese doesn’t follow the speaking form and they are completely different. I was writing something but I was speaking something different. I found it very difficult to learn even after I tried several times”. (Student G)

Differences in schooling culture

“I was very regular in school as I loved it. But I really never had any attention from any teacher; even if I couldn’t complete my homework, I found (them) not to scold me. In Nepal, it was other way round. If I missed homework any day, I was scolded by teachers and sometimes they reported to my guardians”. (Student E)

Issues in teaching

“Our teacher wasn’t that good. He was not speaking good English and it was very difficult to follow his English. He was speaking so fast, in spite of our repetitive request he never stopped speaking fast. Many of my classmates also faced same problems in understanding him. When he finished his teaching he kept sitting on his chair. And we were allowed to make fun with our friends. So, we were not bothering much later what he was teaching, just was waiting when he finishes”. (Student G)

Racism

“We were the first batch of ethnic minority students in my last secondary school. There were big debates among teachers in the school at that time whether they should continue admitting ethnic minority students. Many times actually teachers were debating in front of us….Many Chinese students in school were teasing us saying foul languages like: we are dirty, smelly etc….from my early high school years I can still remember many Chinese people teased me saying ‘acha’ while I was walking on the street, even if I wasn’t talking to any of them they were always saying this word to me. Now-a-days I hardly see anyone teasing me saying that word”. (Student I)
Reasons for being ‘out of school’

• It was found that ethnic minority young people’s school failure was more than simply a consequence of academic failure, rather there were many other interrelated factors.

• In fact an array of factors was found that contributed to the school failure of ethnic minority young people.

• Similar to work on school failure in both developed and developing contexts, the key influences are multi-level – with individuals themselves, within families, within schools and within the community (Hunt, 2008; Rumberger, 2011).

Reasons for the risk of “drop-out” and “out of school”

• However, there are also some other factors found in this study that wider literature cannot explain.

• This study unearthed the relationship between school failure and differences in schooling culture, a factor not previously identified in the international literature.

• It also uncovered the relationship between school failure and factors such as citizenship status and racism in the context of Chinese privilege in Hong Kong and provided insights into these.

• The results of the study reported here strongly suggest that focusing only on Chinese proficiency is a limited response on the part of government towards the issue of ethnic minority students’ school failure.

Implication for the promotion of cultural responsiveness

In achieving this goal, it is necessary to promote cultural responsiveness, as way to assure students’ school success, in terms of not only teaching strategies, classroom management, managing language diversity, effective communication and emotional management, and to have a better understanding and knowledge of how the families, societal, economical, policy and cultural factors affecting the features of student diversities and their learning in the classroom, the school, and the community.

Three components of as revealed in the interview study in general:
1. Redressing the ethos of difference and equity
2. Learning and re-learning of cultural knowledge
3. Promoting cultural congruities between school, home and community

**Theoretical implications**

- Ethnic minorities are a group in Hong Kong who are living in the intersection of multiple inequalities and disadvantages. They are poor, with limited citizenship status and associated rights, and often subject to racial hatreds.

- The disadvantage such as at the risk of drop-out and ‘out of school’ issue for them is not due to any reason at their individual level rather inherited social disadvantages. And it is systematically perpetuating them at the edge of disadvantages and structural inequalities for long time.

- Drawing on critical race theory it can be also argued that associating school failure to the factor at their individual level only will uphold deficit and racialized notions against them and will only add another story to the majoritarian storytelling. This will ultimately oppress them by silencing and distorting their epistemologies. Telling the ‘out of school’ story for ethnic minority young people from their epistemology strengthens their voices who have been historically silenced and marginalized.

**Implications for Policy and Practices**

- At policy level, it questions whether the ‘no-loser’ principle of HK education reform is being applied when it comes to ethnic minority students.

- At the practice level, the findings of the study might be useful for all concerned parties including schools, government, NGOs, international human rights organizations, supra national agencies to devise their strategies in addressing the issue.

- At the level of theory, it is significant in conceptualizing multiculturalism and cultural responsiveness in a Hong Kong context and its response towards diversity.
"Responsible research" in the social sciences has come to mean connecting our research to the practical concerns of the public in a way that contributes to positive social change. We assume that the public wants our results, our advice, and our insight. We know that the relationship between Colleges of Education and K-12 teachers is very close; however, academics in social sciences, hard sciences, humanities, and business often fail to connect to our counterparts in high schools. This failure contributes to the perception among politicians and the public that Universities are irrelevant – full of “ivory tower” academics. This research asks local K-12 government school teachers how those in academic disciplines can best meet their needs, where they fall short, and what they can do to increase support of their efforts in bringing the best possible students to the University.

This paper first reviews the relevancy of the university and the role of universities in communities, with a particular focus on the relationship between high school teachers and university academics – and the lack thereof. It then argues that the way university academics have been taught to regard their research is unproductive in the larger context, and that we in the university setting are missing opportunities to better support our counterparts in high schools. Academics make a number of assumptions about what local communities and local teachers need and want. However, we very often fail to ask them directly. The paper reviews a survey conducted to ask secondary teachers their perceptions of academic research and the responsibilities of the university.
CONNECTIONS TO HIGH SCHOOL TEACHERS

“Universities should be required to teach employment skills as part of degree courses because employers believe too many graduates are unfit for the workplace” (Paton, 4 June 2011). Universities should prepare their students for the workplace. In fact, that is the primary connection between universities and high school teachers. We give those students the skills and knowledge they need to be successful teachers. Sometimes, we go beyond that relationship to offer professional development seminars. These connections are almost exclusively managed by Departments and Colleges of Education. Beyond the teaching of job skills and professional development, however, universities have much to offer their local communities.

“Virtually every institution, whether public or private, urban or rural, large or small, residential or commuter, two-year or four-year, technical or liberal arts, impacts its local community in many significant ways” (Nichols 1990, 4). I argue, here and elsewhere, that the impacts can be broken down into three rough categories: 1. economic, both direct and indirect; 2. cultural, both direct and indirect; and 3. educational, both direct and indirect.

The first set of economic impacts is direct. That is, universities are significant employers, creating a number of jobs at many levels that are typically filled by local community members. According to the University of West Georgia’s website (the home of the writer), the university is home to over 1300 employees. According to the website BuyGeorgia.com, the university is the fourth largest employer in the county, while the first is the county school system. Clearly education is very important in an economic sense. Students and staff demand a number of services from real estate to restaurants, grocery stores to gasoline. In addition to the many direct economic effects that universities have on their communities, the indirect effects can be significant as well. I include here the fact that a large pool of labor is brought into the university community as well as may other factors. For example, human resource development (and transfer): that is, universities train their workers, who then go on to work in private industry or in health care, and universities provide flexible training programs to locally employed individuals.

Beyond economic impacts, colleges and universities have a strong cultural impact
on their communities. Universities bring many positive cultural effects. University theatre programs produce plays; music departments provide jazz ensembles and other musical acts; student services bring in nationally known acts and Nobel-prize winning speakers. All of these are open to community attendance, and often an incredibly low cost very close to home. In addition, universities employ New York Times bestselling authors; accomplished scientists; renounced artists, actors, and musicians; and nationally known poets. All of these people live as well as work in the community, and all benefit.

Finally – and I am saving the most critical impact for last – universities have both a direct and indirect educational impact on their communities. Many of the books and articles that review university-community relations actually gloss over these impacts, calling them “obvious” without actually detailing what they are. Universities pursue a number of scholastic activities. Courses, degrees, and certificates – all of these provide educational opportunities both to local traditional students and to local non-traditional students. Many of the so-called economic impacts of the University have educational components. Clearly, a university educates the workforce, whether traditional students or those who are going back to school after a period of time working.

However, the work on responsible research here steps into its own. Beyond educating our students and educating the next generation of government schoolteachers, universities can provide learning opportunities to our communities. The most important connections made are between our researchers in our academic disciplines and our local teachers who provide education to thousands of young people. The relationship between Colleges of Education and teachers is obvious. However, how can academics in science, business, social science, humanities, and the arts connect with and provide support to our local high schools? How can our research connect to our secondary counterparts?

**ACADEMIC RESEARCH**

In the simplest terms, academic studies are those that, in the eyes of at least two unpaid, expert reviewers, make a contribution to our understanding of the world. Academics spend many years perfecting methods, both quantitative and qualitative, and can spend years on a particular study. Academic studies have a series of non-linear steps: we find ourselves returning to earlier stages to change
the question, for example, in response to new information. The stages of research helps explain the process of academic research, and highlights those areas in which we fall short of a standard of responsible research.

Academic, scientific research begins with a unique and noteworthy question, continues with a suitable methodology, moves to an interesting answer, and then presents the results openly. Academics must ask a question in a new way, or answer a previous question with new ideas. We might find a topic that hasn’t been studied before, or apply literature from another discipline or theory to an old question. Academics must use the scientific method – not necessarily quantitative methods, but certainly must employ the logic of scientific enquiry (King, Keohane, and Verba 1999). Some disciplines, like philosophy, are focused on more esoteric questions; hard sciences typically focus on the physical world, and social sciences on the human world.

Why, then, do we continually see reference to the disconnect between research, theory and practice? Joseph Lepgold and Miroslav Nincic, writing in the rather narrow field of international relations theory, contend that the academic environment itself creates this problem. The academic working within what Lepgold and Nincic (2001) call the “academic incentive system” (that is, the university tenure system) is unable to focus on practical application and concerns. This is true for three reasons. First, in the ongoing struggle to find an interesting and novel question to study, researchers “are increasingly inclined to tackle smaller, often trivial, research problems, rather than questions of a more fundamental nature and broader reach (Lepgold and Nincic 2001, 15). We as academics fail to ask the questions to which the public needs answers. We do this because we must convince two or three experts that we are making an innovative contribution, and we feel that the basic, practical questions are less likely to impress our peers. It is easier to make a unique contribution in a niche no one else has yet occupied.

Secondly, according to Lepgold and Nincic, “technique has triumphed over substance in IR research programs”. This was certainly true when they were writing – but it goes back much further. Weber wrote, “Science… presupposes that what is yielded by scientific work is important in the sense that it is worth being known” (Weber 1919, “Science as Vocation”, originally speech given to Munich University 1918). As King, Keohane and Verba (1999) put it, “the content is the method”. We become so focused on methods in our graduate research programs
that we, brandishing a particular method as one might brandish a hammer, go round searching for a nail to hit. We ignore other types of problems in our search for that elusive nail.

“As science came to require highly technical procedures, it ceased to be an amateur activity; to be able to do scientific work, one had to become an accomplished craftsman in those techniques. [This] has allowed techniques to define the essence of some disciplines and research traditions, aside from any independent assessments of their substantive results. For example, according to a respected game theorist, so many formal models have been developed that political scientists cannot meaningfully compare their empirical performance. Failing such a test, ‘the discipline of political science bases its evaluation of them on their mathematical elegance, the complexity of their notation, the journals in which they appear, or simply the reputations of those who design them’” (Lepgold and Nincic 2001, 16; quoting Ordeshook 1995, 178).

Finally, the academic structure within which most of us operate creates an incentive to impress our peers within the ivory tower, rather than those outside of it. That is, our careers, and our advancement in them, depend upon our ability to impress our fellow scholars. A dozen or so people who are top in our particular subfields have the ability to crush our careers if we go too far outside what they think is important – what Lepgold and Nincic call the “fad”. Influencing politicians or policy stakeholders isn’t rewarded by the tenure structure; indeed, colleagues who are asked to present knowledge in a relevant and practical way are often dismissed as a “talking head” or a “pundit” – not a serious researcher at all.

MAKING RESEARCH RESPONSIBLE

Given the academic strictures outlined above, it is difficult to see how academics can make their research more practically applicable for local teachers. That is, how can we, as academics, formulate our research responsibility for positive social change and to positively support our local high school counterparts, without damaging our own careers? According to Lepgold and Nincic, the answer is that not all scholarship is perfectly practical. There is room for knowledge for knowledge’s own sake. However, they claim, there is no inherent reason that theory and practice must be separate.
Three practical strategies exist that enable researchers to bridge the divide and make their research practical – to make it responsible. First, researchers should leave out any jargon possible, and explain any specialized language that they may use. I am not only talking to my peers, and therefore, if I want my research to matter outside the ivory tower, I must not use language that creates the feeling of the “out-group” in the reader. Second, I have always argued that a researcher must be asked to answer the question, “so what?”. Why does a particular result matter, practically speaking? If a result exists, who should care and why? The third conscious activity is to always recommend ways to use the new knowledge from this study to make a positive change for some group or groups.

Although Lepgold and Nincic seem to worry above all that our questions are not the right ones, I believe that we can make our research accessible and practical even when it is fills an academic niche – we just need to make the conscious effort to do so.

WHAT DO HIGH SCHOOL TEACHERS WANT FROM ACADEMICS?

We know that the relationship between Colleges of Education and K-12 teachers is very close; however, academics in social sciences, hard sciences, humanities, and business often fail to connect to our counterparts in high schools. When we do make those connections, we tend to provide professional development seminars, and not much else. My research asks local K-12 government school teachers how we in academic disciplines can best meet their needs, where we fall short, and what we can do to increase support of their efforts in bringing the best possible students to the University.

Not only is this study in support of the movement toward responsible research, its necessity and aims, the study is responsible internally: that is, the University of West Georgia is asking the impacted population what it is they need, with a view to actually accomplishing those tasks within the Murphy Center for Public Service. In particular, ask teachers about their relationship and knowledge of the European Union in anticipation of applying for an outreach grant from the commission. The research is responsible – it takes care to connect its own aims to the needs of teachers in the local community.
The research questions the assumptions that the literature has made. Firstly, the literature assumes that academia and the academy are disconnected from the “real world” – or at least, that the public believes that we are. Secondly, the literature assumes that we as academics fail to talk to the public in a way that is useful for them. Part of the problem is that academics publish our research in difficult to access journals that are aimed only at other academics. Finally, the literature makes an assumption that policy stakeholders want our assistance and insight. The following hypotheses derive from these views in the literature:

**H1:** Teachers believe that academia is disconnected from the real world.

**H2:** Teachers believe that academia fails to help them deliver high quality education to children.

**H3:** Teachers believe that academia’s primary audience is itself, and that academics doesn’t do enough to make its findings accessible to high school teaching professionals.

**H4:** Teachers believe that academia has a responsibility to make knowledge accessible, but that academic articles fail to provide this.

**H5:** Teachers believe that academics should spend more time researching real problems, and that academic journal articles should be focused more on real-world knowledge and positive social change.

**H6:** Teachers believe that academic journals are difficult to access, aimed only at other academics; and they don't read academic journals.

**H7:** Teachers would read more academic journals if they were freely available, and if they avoided jargon and provided practical tools to help them educate teenagers.

**H8:** Teachers believe that academia has a responsibility to provide free or low-cost workshops on their research, and would attend applicable workshops and public lectures.

**RESEARCH METHODOLOGY**

The best method for discovering the beliefs and opinions of high school teachers is
to ask them. Through an expert survey of teachers and administrators in local high schools, a picture of the best way academics can do policy research in concert with our policy stakeholders will emerge. This survey is available to the broadest possible set of responders, and does not claim to be representative; indeed it is meant as an expert survey.

Expert surveys are quite widely used in comparative politics, particularly in European studies. They have been used with success in uncovering party issue positions, voter opinions, and policymaker activity (see for example the works of Gary Marks and others, including myself). However, there is some question of whether they are valid instruments. It is therefore very important, according to Steenbergen and Marks (2007) to optimize survey design. The survey was created using Survey Gizmo (see Appendix I). The survey has been accomplished electronically and contains one open-ended question, but is primarily focused on a series of statements to which teachers have been asked to agree or disagree (along with identifying information about their position, though not their personal details). The survey instrument is therefore very straightforward.

There are further ghosts to tame with this particular design. The responses of the teachers might not accurately reflect either reality or their true opinions. In the context of this research, however, I am primarily interested in finding out whether teacher opinions match the assumptions in the literature and in whether academia can improve those opinions so as to improve town-gown connections.

The problem of the respondents perhaps hiding their true opinions is one that all survey research faces. However, the researcher has put in place safeguards that protect the identities of the respondents, so that they will face no consequences for giving their true opinions. The research, with its safeguards and survey instrument, was approved by the University of West Georgia Institutional Review Board and was only administered in schools with principal approval – and the principals sent the survey to their staff lists.

The University of West Georgia is located in Carroll County, Georgia, USA. The survey was sent to principals in 9 local high schools. Three responded favorably and in turn sent it to all teachers and academic administrative staff in those schools. This represents a very small group of teachers – estimated at about 200 at the highest end. I have had 27 responses.
RESULTS

Before this paper delves into the results, it is important to discuss exactly who answered these questions.

Table 1.

<table>
<thead>
<tr>
<th>Secondary Teacher in PSU Disciplines</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary teacher in STEM disciplines</td>
<td>25.93%</td>
</tr>
<tr>
<td>Secondary teacher in arts disciplines</td>
<td>7.41%</td>
</tr>
<tr>
<td>Secondary teacher in humanities disciplines</td>
<td>11.11%</td>
</tr>
<tr>
<td>Secondary teacher in social science disciplines</td>
<td>25.93%</td>
</tr>
<tr>
<td>Secondary teacher in technical disciplines</td>
<td>3.70%</td>
</tr>
<tr>
<td>Secondary teacher in business disciplines</td>
<td>3.70%</td>
</tr>
<tr>
<td>Secondary teacher in other disciplines</td>
<td>14.81%</td>
</tr>
<tr>
<td>Secondary education administrator (principal)</td>
<td>7.41%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 1 shows that over half of the respondents were teachers in STEM and in social science disciplines. I rather suspect that those teachers were predisposed to answer a survey. Interestingly, 60% of the respondents had been working in secondary education for more than 10 years. The longest tenure was 47 years and the shortest was 1 year. Sixty-three percent of the respondents were female. Eighty-eight percent fell between 31 and 60; 37% were between 41 and 50. Nearly 70% had a master’s degree. These are learned people who value what we in academia do. They should be our most ardent supporters.

Hypothesis one is confirmed: Teachers believe that academia is disconnected from the real world: a margin of 58% agreed, 8% neutral, and 32% disagreed. Hypothesis two is somewhat mixed: on the one hand, 50% say that subject matter academics are out of touch with what they need to do their jobs, but on the other hand, 65% agreed that academics do a good job helping them deliver high quality education to students. This suggests that academic records are somewhat mixed; and that over the course of their careers, secondary teachers have had a varied relationship with academics.

Secondary teachers believe that academia’s primary audience is other academics. Only 27% disagree with the statement that academic research is difficult to
understand, while 54% say that our audience is ourselves and a further 12% are neutral. An incredible 92% agree that academics have a responsibility to provide real world findings, but only 12% believe that academics do enough to make their research accessible to busy secondary teachers – a whopping 77% say we don’t do enough. Sixty-nine percent believe that academic research fails to provide real-world applications and recommendations to them. Fifty-eight percent say that subject matter academics should spend more time researching real problems and providing information to secondary teachers. We can only conclude that hypothesis four and five are confirmed. We don’t do enough to make our research accessible.

Academic journals are, according to secondary teachers, difficult to access and are aimed at other academics (58%). Teachers also believe that these should be focused more on real-world problems (69%). Sixty-two percent say they don’t read academic journals. However, the research does provide reason to hope: 77% would read journals if they were easier to access (that is, freely available), and 81% would read them if they were more focused on practical matters important to them.

While only 58% believe that the university has a responsibility to provide workshops at low cost to teachers, 65% believe that universities have a responsibility to provide lectures to secondary teachers, and only 46% believe that the university has a responsibility to provide lectures to the public, 92% would attend low-cost, relevant workshops and 77% would attend lectures.

**RECOMMENDATIONS**

The results of this survey are compelling. Teachers, like policy stakeholders in pervious research, believe that academics are disconnected from the real world and real world problems. They have somewhat mixed feelings about whether we do a good job at helping them bring the best students to the university. They believe academic journals are expensive, difficult to access, difficult to process, and only aimed at other academics anyway. However, they are open to attending public lectures, attending teacher professional development workshops, and reading open-access journals that provide more practical advice.

The open-ended responses were also telling. On the one hand, respondents value subject matter courses. One respondent said, “Subject matter courses are
probably more important that the Education courses.” Another adds, “I think subject matter academia are of great value to my position as a secondary teacher. I would consider these researchers to be experts in their field, and their inquiry assists me in delivering more quality education to my students.” A third said,

“Subject matter should be the primary educational focus for secondary educators. Quite frankly, those that can teach at that level do not benefit much from extensive pedagogy training. It is different than elementary education. Teachers should be EXPERTS in their field.”

Unfortunately, while they value what we do, some are unconvinced they can access or evaluated it. “I think that subject matter academia is very important to their field. However, what makes for good research in the hard sciences often doesn’t translate to the “real world” of K-12 instruction. I think it is important in that teachers of those subjects get a glimpse into a world outside of education... but it doesn’t give the researchers a glimpse into the world of K-12 education.” Another put it much more succinctly: “Theories and research are great. But HOW does it apply to my students needs?”

The frustration of secondary teachers with academics – traditional, stodgy, and unconnected – is palpable. “The work of the academy is critical to the ongoing growth of the discipline. However, it is depressing to see those in the academy, especially the ones who focus on research over teaching, continue to repeat the research strategies they learned in their preparation. With the modern technologies available, the digital accessibility of primary sources, and the broad look at topics spawned by multiple perspectives and the inclusion of voices denied us in Cold War days, or other times of repression, academics rarely avail themselves of the mass of information now available. As a teacher of young people, I do not need more knowledge about any period of history, in my case, that I could have gotten through the years, via traditional sources. What I would be interested in is sources of information on newer eras, and new information on older eras, that I can bring into my classroom electronically. Especially in history, we have moved from military and political history to a more social, cultural, and economical view of the stories of life through the centuries. Yet, because that was not a part of the canon when we matriculated through higher education, we long for access to it now. The few things I have attended at the college have really been refresher courses in what I
already knew. Bring academics into the modern world.”

These secondary teachers should be our closest allies. They, with advanced degrees, should understand implicitly what we are doing. But we have closed them out – using too much jargon, limiting their access to our journals, and dismissing their concerns. Too often, subject academics assume that they know best. After all, they have been studying something for years and have an arsenal of research tools at their proposal. We are far too dismissive of our secondary counterparts. However, here is my practical advice to researchers and university officials:

Open Communication. Host workshops that bring teachers together to discuss their needs and figure out ways we can collaborate. One way would be to host periodic open house events, or workshop events, aimed at certain segments of the secondary teacher population. Our school of business does this, for example. However, university should be initiating contact with these people, and not waiting for them to come to us. We can offer so much, if we only try to make our research practical and interesting. We need to show them what we can do and how we can help. In addition, we should work with local policy stakeholders to provide student service learning activities to help these policy stakeholders with particular goals they themselves have identified.

Create Open-Access Journals. I make this recommendation often: the best way to make our research accessible is to eliminate financial barriers to it. The university can, with small financial support, create open-access journals that would provide a forum for peer-reviewed research and academic service. Academics can publish their best work that incorporates practical advice and the university increases the opportunity for its own faculty to provide a serious service to their various disciplines. The new journals should connect academia and public stakeholders in a practical fashion. For the University of West Georgia, the journal would best be created under the auspices of the Murphy Center for Public Service, to meet the aims and goals that both academic discourse and our expert policy stakeholders deem desirable.

Underwrite a Lecture Series and Workshop Series. The university should work with secondary teachers and other stakeholders to identify topics for both a lecture series and a workshop series. These lectures and workshops can be held with our own resources – we have the space, and we have the expertise.
All of these recommendations are attainable. The resources of the university are considerable, and we should use those to improve our image among the secondary teachers – who should be our biggest allies – in our neighboring communities. In order to make the extra work for the faculty worthwhile, however, these activities, which bridge the gap between academic work and service (and indeed go beyond both of these) must be valued in the tenure process – else why, as the literature points out, would anyone bother doing them? We must value open-access, peer-reviewed publishing as we would any other publishing activity. We must not discount published work just because the journals are not printed by a company that then sells them for hundreds of pounds to University libraries. Given the disincentives created by the academic tenure process, it is critically important that faculty are rewarded for participating in seminars, workshops, and lectures. It’s as much work to convert your research and university lectures into workshops that are applicable for teachers as it is to publish. University tenure processes must value the organization and teaching of workshops and lectures as an activity worthy of, perhaps, course releases, credit toward tenure as grant work might be credited, or the like.

**CONCLUSION**

This paper first reviewed the role of the university in its community. Then, it examined the relevancy of academic research completed in a university setting, arguing that the way social scientists have been taught to regard their research is unproductive in this larger debate. The paper then reviewed survey results that confirmed a number of assumptions in the literature, demonstrating that secondary teachers feel underserved and ignored by ivory-tower academics. Finally, the paper makes concrete recommendations to academics and to universities in order to change the negative perceptions and better serve our secondary school counterparts. If our disciplines are seriously concerned with responsibility in research, we must open communication with secondary teachers and others and credit academics that do this work. We must make secondary teachers our allies in the public debate and help them bring the best students to the university. It’s a great way to help others help us.
BIBLIOGRAPHY


Appendix I: Survey Instrument

Responsible Research - Secondary Teachers

- Responsible Research Attitudes among Secondary Educators
- You have been asked to participate in an expert survey. The purpose of this expert survey is to examine the ways that teachers in K-12 view academic research. We will ask questions related to the responsibility of academic disciplines beyond Colleges and Schools of Education to teachers in secondary education. Your participation in completing this survey is voluntary and you may decide to stop at any time with no penalty, or you may choose not to answer some of the survey questions. All responses will be kept confidential; no identifying information is collected by the survey (names, etc.) and the email list requesting participation will be kept totally confidential. This survey should not take more than 15 minutes. If you have any questions or concerns about the nature of this research or the survey please contact Dr. Heather A. D. Mbaye, Associate Professor, 678-839-4988, hmbaye@westga.edu, or contact the IRB at irb@westga.edu. By continuing the survey, you acknowledge that I am at least 18 years of age, have read the above information, and provide my consent to participate under the terms above.

1 Which of the following best describes your primary job status?

- [ ] secondary teacher in STEM disciplines (1)
- [ ] secondary teacher in arts disciplines (2)
- [ ] secondary teacher in humanities disciplines (3)
- [ ] secondary teacher in social science disciplines (4)
2 How many years have you held this position?

- less than 2 years (1)
- 2-5 years (2)
- 5-10 years (3)
- more than 10 years (4)

3 What is the total number of years you have worked in secondary education, in all positions?

4 What is your gender?

- Male (1)
- Female (2)
- other (3)
- prefer not to answer (4)

5 What is your age?

- 20 and under (1)
- 21-30 (2)
- 31-40 (3)
- 41-50 (4)
- 51-60 (5)
- 61-70 (6)
6 In this survey, “subject matter academia” refers to researchers who study subject matter that is not typically related to pedagogy, classroom management, and other topics normally housed in Colleges and Schools of Education. “Secondary educators” are all teachers and administrators of secondary education (i.e., grades 9-12). What do you think of subject matter academia in relation to their academic research? This is your general opinion of subject matter academics and their research duties and interests.

7 Which of the following categories most accurately describes your highest level of education?

- O No college degree (1)
- O 4 year undergraduate degree (2)
- O Master degree (3)
- O Terminal professional degree (law, medical, dental, etc.) (4)
- O Doctorate in an academic subject matter (5)
- O Doctorate in Education (6)

8 For each of the following statements, indicate whether you agree or disagree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not Applicable (1)</th>
<th>Strongly Disagree (2)</th>
<th>Disagree (3)</th>
<th>Somewhat Disagree (4)</th>
<th>Neither Agree nor Disagree (5)</th>
<th>Somewhat Agree (6)</th>
<th>Agree (7)</th>
<th>Strongly agree (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject matter academia is disconnected from the real world. (1)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Subject matter academia does a good job helping me deliver high quality education to students. (2)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Subject matter academic research performed by academia is hard to understand. (3)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Subject matter academia is out of touch with what we need to do our jobs. (4)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Subject matter academia’s primary audience is itself, not secondary educators like me. (5)  

Subject matter academia doesn’t do enough to make its findings accessible to busy professionals like me. (6)  

Subject matter academia has a responsibility to make important real-world findings. (7)  

Subject matter academic articles fail to provide recommendations to secondary teachers like me. (8)  

Subject matter academic should spend more time researching real problems and providing information to secondary teachers. (9)  

Subject matter academic journals are difficult to access because they are expensive or only housed in University libraries in print form. (10)  

Subject matter academic journals are aimed only at other academics. (11)  

Subject matter academic journals should be focused more on real-world information and positive social change. (12)  

I don’t read subject matter academic journals. (13)  

I would read more subject matter academic journals if they were freely available. (14)  

I would read more subject matter academic journals if they provided more practical advice to stakeholders like teachers. (15)  

Subject matter academia has a responsibility to provide free or low-cost workshops on subject matter to secondary teachers like me. (16)  

I would attend workshops on subject matter, if they applied to me and were not expensive. (17)
<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject matter academia has a responsibility to provide free lectures on their research to the public. (18)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Subject matter academia has a responsibility to provide free lectures on their research to secondary educators like me. (19)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>I would attend lectures on subject matter issues, if they applied to me and were not expensive. (20)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
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</tbody>
</table>

9 How can subject matter academia best assist you in providing the best possible education to your secondary students most efficiently?
Research is systematic investigation (observation, experiment, critical thinking), which aims to increase knowledge and help us to draw valid inferences. Generally, conclusions are drawn based on observations. Innovation on the other hand is a more specific concept and more closely related to business, industry or scientific technology. It can be described as a process of using information and existing phenomena to improve human lives by creating better products, services and technologies that are readily available to markets, governments and society.

In responsible research and behavioural sciences, researchers are often interested in studying theoretical constructs that cannot be observed directly. These constructs are termed latent variables or factors. Examples of latent variables in psychology are self-concept and motivation; in sociology, powerlessness and anomie; in education, verbal ability and teacher expectancy; and in economics, capitalism and social class. It is important to measure these constructs in some other context. For example, in biological sciences, fever (latent variable) is measured through temperature, body ache and headache (may be on five-point or seven-point scale). Obviously, all these variables (latent or observed) may contain errors, generally, called measurement errors. These errors are measured through statistical techniques (like regression or measurement error models, including structural equation modeling), which involves the distinction between exogenous (independent) and endogenous (dependent variables). Exogenous latent variables ‘cause’ fluctuations in the values of other latent variables in the model. Changes in the values of exogenous variables are not explained by the model. Rather, they are considered to be influenced by other factors external to the model. Background variables such as gender, age, and socio-economic status are examples of such
external factors. Endogenous latent variables are influenced by the exogenous variables in the model, either directly or indirectly. In this research paper, several measures have been suggested to counter these errors, and the most prominent ones are reliability and validity.

Reliability is the degree to which an assessment tool produces stable and consistent results. It allows us to study the properties of measurement scales and the items that compose the scales. The Reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Cronbach’s alpha, test-retest, split-half and Guttman procedures are some commonly used reliability measures for observed variables. On the other hand, Validity is described as the degree to which a research study measures, what it intends to measure. For latent variables, validation process is important. We need to validate, whether the actual items are falling under the same construct or not. Most commonly used measures of validity are ‘goodness of fit/adjusted goodness of fit’, convergent/divergent validity and some indexes like ‘normal fit index’, comparative/relative fit index etc. In the present research, we shall address all these issues, their utilities and implementation, particularly in the area of responsible research and innovation.

Keywords: Latent variables, reliability, validity, Cronbach’s alpha, goodness of fit, factors.

INTRODUCTION
What is Responsible Research and Innovation (RRI)?

- The deliberate focus of research and the products of innovation to achieve a social or environmental benefit.
- The consistent, ongoing involvement of society, from beginning to end of the innovation process, including the public & non-governmental groups, who are themselves mindful of the public good.
- Assessing and effectively prioritising social, ethical and environmental impacts, risks and opportunities, both now and in the future, alongside the technical and commercial.
- Where oversight mechanisms are better able to anticipate and manage
problems and opportunities and which are also able to adapt and respond quickly to changing knowledge and circumstances.

- Where openness and transparency are an integral component of the research and innovation process.

**WHAT AREAS DOES IT COVER?**

The debate is currently centred on science and technology-based research and innovation, in particular on emerging technologies - notably nanotechnologies, genomics, synthetic biology and geoengineering. However, the use of the word ‘innovation’ is commonly used to describe the application of any type of invention which significantly improves products, systems or services.

Responsible Research and Innovation could therefore also encompass, for example, financial instruments, ICT, public policy or community innovations, distribution, service or system innovations, which usually develop separately from the university-led research pathway followed by science and technology and may require different interventions.

RRI aims not to be a barrier to innovation but a stimulus for success. Growth based on genuine innovation; which brings to life sustainable development and involves society in the creation of its vision, the articulation of its values and the shaping of its products will allow Europe to be a hub of innovation for the benefit of us all.

RRI is about trying to get better at anticipating problems, taking into account wider social, ethical and environmental issues and being able to create flexible and adaptive systems to deal with these unintended consequences. This is sometimes called ‘Anticipatory Governance.

“We need to do much better at turning our research into new and better services and products if we are to remain competitive on the global marketplace and improve the quality of life. Innovation is society in the making and when we change the way we communicate, we change society. One of the most significant challenges of RRI is to consider carefully what information and engagement people want and need to help them give an informed opinion and deliver it clearly and effectively.

RRI seeks to better anticipate and prevent the negative consequences of innovation,
but it also looks to consider how governance can be made more effective, and understand where it is important to be flexible, whilst safeguarding citizens and the environment.

Before we proceed to understand reliability and validity measures, we must understand the nature of the data to deal with.

**Nature of the data:** It is of two types i) Structured data and ii) Unstructured data.

**Structured data:** The data which can be monitored in numerical terms like age, income, height, weight etc. is called a structured data. However, the data in terms of coded form (e.g. Gender: male=1, female = 2), socio-economic status (lower=1, middle=2, upper=3), also comes under the category of structured data.

**Unstructured data:** The data which cannot be put into numeric form is called an unstructured data. For example, lot of information is available on social media websites including Twitter, WhatsApp etc. but it cannot be converted into numeric form.

Most of the time in RRI, we deals with structured data, which is also the focus in this article.

**Measurement scales:** This may be defined as the assignment of numbers to objects or events according to a fixed set of rules. It is important to understand the role of various scales used in statistics. Here is the brief description about these scales.

**Nominal scale:** It is categorical in nature and there is no preference of one category over the other. Nominal data has no ordering and it is not metric. E.g. gender, religion etc.

**Ordinal scale:** It is also categorical but order is important. For example, severity of disease, mild, moderate, severe.

**Interval scale:** In Interval data mathematical operations may not be valid. Plus or minus may be but not multiplication and division. It is metric in nature. Moreover, zero has a meaning, for example, temperature etc.
**Ratio scale:** In ratio scale all mathematical operations (+, -, *, /) are valid. It is also metric in nature, for example, height, weight etc.

Nominal and Ordinal scales are used for categorical data and Interval and Ratio for measurement data. Of course, with some expertise, conversions are also possible.

Education system in general comprises a classroom management, handling assignments, effectual communication skills and conducting different question answer session and quiz with students (Shulamn, L.S. (1987)). Teachers’ beliefs are considered as part of knowledge for teaching, which plays a vital role in giving impact on teaching. Point-Biserial Correlation, Pearson Correlation, KR-20, Cronbach-Alpha, etc are the various statistical tests, which are used to estimate the validity and reliability of instruments using in any educational systems. Various instruments recently have been used to measure the validity and reliability by using Confirmatory Factor Analysis (CFA). Structural equation modeling (SEM) is a confirmatory technique used for exploratory purposes. SEM includes two components i.e. CFA and structural model. CFA depicts the pattern of observed variables for those latent construct hypothesized model. Confirmatory factor analysis plays the role of validating and finding the reliability of any measurement in most social science studies.

Now, what will be the appropriate statistical test used to test the validity and reliability of research instruments in the field of education, which uses an ordinal scale in data collection. If we use an interval or ratio scale, then Pearson r test can be used. However, if the scale used is nominal or ordinal, then the use of the test statistics will be wrong. The added problem is associated with the number of samples. In general, samples which are used in testing the instrument are relatively smaller than the actual number of samples size acquired during data collection. Now the question is whether this relatively small amount of sample is representative to make inferences from the results of the testing instrument? In order to takeover these tribulations; we have use Confirmatory Factor Analysis (CFA) in Structural Equation Modeling (SEM) to test the validity and reliability of the instruments in the field of education (Burgers, A. et al (2000), and Burke (2002)). We need to understand definitions of Reliability and Validity.

**Reliability**

- Reliability means consistency. It is the degree to which an instrument/
tool/technique will give similar results for the same individuals at different times.

• Reliability is used to describe the overall consistency of a measure.
• A measure is said to have a high reliability if it produces similar results under identical conditions.

Reliability is the degree of consistency of an instrument. Reliability is divided into four types, namely:

• **Test-retest reliability** indicates the repeatability of test scores with the passage of time. These estimates also reflect the stability of the characteristic or construct being measured by the test. Some constructs are more stable than others. For example, an individual’s reading ability is more stable over a particular period of time than that individual’s anxiety level. Therefore, we would expect a higher test-retest reliability coefficient on a reading test than on a test that measures anxiety. Karl Pearson’s correlation coefficient is the best measure access test-retest reliability.

• **Alternate or parallel form reliability** indicates how consistent test scores are likely to be if a person takes two or more forms of a test. A high parallel form reliability coefficient indicates that the different forms of the test are very similar which means that it makes virtually no difference which version of the test a person takes. On the other hand, a low parallel form reliability coefficient suggests that the different forms are probably not comparable; they may be measuring different things and therefore cannot be used interchangeably.

• **Inter-rater reliability** indicates how consistent test scores are likely to be if the test is scored by two or more raters. On some tests, raters evaluate responses to questions and determine the score. Differences in judgments among raters are likely to produce variations in test scores. A high inter-rater reliability coefficient indicates that the judgment process is stable and the resulting scores are reliable. Inter-rater reliability coefficients are typically lower than other types of reliability estimates. However, it is possible to obtain higher levels of inter-rater reliabilities if raters are appropriately trained. Cohen’s kappa coefficient is generally computed to access inter-rater reliability.
• **Internal consistency reliability** indicates the extent to which items on a test measure the same thing. A high internal consistency reliability coefficient for a test indicates that the items on the test are very similar to each other in content (homogeneous). It is important to note that the length of a test can affect internal consistency reliability. For example, a very lengthy test can spuriously inflate the reliability coefficient. The most common internal consistency measure is Cronbach’s alpha.

**Validity**: Validity is the measure of the accuracy of an instrument used in a study (Linn, R.L, 2000; Stewart, C.D., 2009). Validity determines whether the research truly measures what was intended to measure or how truthful the research results are. It is of two types:

**Internal**: Degree to which results of an observation are correct for a particular study group.

**External (generalization)**: Extend to which the study’s results can be applied to those beyond the study sample.

As with the reliability, validity also consists of several types, namely

• **Content Validity**: It is estimated by testing the validity of the content of the instrument by rational analysis or through professional judgment.

• **Criteria Validity**: It requires the availability of external criteria that can be used as the basis of test score instrument.

• **Construct Validity**: It is the validity of theoretical involving building variables to be measured. An instrument is said to have construct validity if the items are arranged in a matter of instruments to measure every aspect of thinking of a variable to be measured by these instruments. Construct validity testing of the instrument is rarely carried out among students, but is often done is to test the validity of the criteria.

**Example**: Multinational company’s performance during the last 5-years was measured using 5-point Likert scale. In all, 47 questions were included into study to capture various dimensions of performance. First of all, Explanatory Factor Analysis (EFA) was carried out and only three factors with Eigen value more than one were extracted. Out of the 47 variables 18 variables with significant loadings were extracted. The extraction method was based on Principal component analysis
These three factors viz. F1(includes Q4, Q5, Q13, Q27, Q14, Q6), F2 (includes Q7, Q9, Q10, Q8, Q12, Q18, Q19) and F3( includes Q42, Q26, Q44, Q47) were related to Progress, Employees Attitude and Job Satisfaction of employees. In order to establish reliability and validity of the extracted factors, Confirmatory Factor Analysis (CFA) was run and model with results are listed below:

The above figure represents the multiple regression model in which the latent variables viz. F1, F2 and F3 which were shown in the oval shape and these were predicted as the linear combination of the observed variables shown in rectangles. Every single headed arrow represents the standardized regression weight of the observed variables on underlying latent constructs. The double headed arrows represent the correlation between the constructs and the values associated with them are the correlation coefficients.

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q6</td>
<td>F1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14</td>
<td>F1</td>
<td>0.667</td>
<td>0.086</td>
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<td>***</td>
</tr>
<tr>
<td>Q27</td>
<td>F1</td>
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<td>10.712</td>
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</tr>
<tr>
<td>Q31</td>
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<td>0.95</td>
<td>0.095</td>
<td>9.97</td>
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</tr>
<tr>
<td>Q13</td>
<td>F1</td>
<td>0.957</td>
<td>0.091</td>
<td>10.508</td>
<td>***</td>
</tr>
<tr>
<td>Q5</td>
<td>F1</td>
<td>1.008</td>
<td>0.087</td>
<td>11.642</td>
<td>***</td>
</tr>
<tr>
<td>Q4</td>
<td>F1</td>
<td>1.07</td>
<td>0.084</td>
<td>12.68</td>
<td>***</td>
</tr>
<tr>
<td>Q7</td>
<td>F2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The above table represents the statistics involved in the model which is represented in above figure. The estimates or standardized path coefficient was calculated for various constructs, by keeping one of regression weight as 1 for reference and calculated others according to that. Such as, for F1 construct Q6 variable was the reference and weights for Q14, Q27, Q31, Q13, Q5 and Q4 were calculated according to that.

For F2 construct, weight for variable Q7 has assigned as 1 and weights for Q9, Q10, Q8, Q12, Q18 and Q19 have predicted according to that. For latent construct F3, weight for variable Q47 assigned with the value 1 and weights for variables Q44, Q26 and Q42 were predicted according to that. And all the estimates were predicted with the extreme significance as p-value is less that 0.001 and hence all resulted in acceptance.

**MODEL FIT**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Estimate</th>
<th>Threshold</th>
<th>Interpretation</th>
</tr>
</thead>
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<tr>
<td>CMIN</td>
<td>239.417</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>DF</td>
<td>130</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>1.842</td>
<td>Between 1 and 3</td>
<td>Excellent</td>
</tr>
<tr>
<td>CFI</td>
<td>0.944</td>
<td>&gt;0.95</td>
<td>Acceptable</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.068</td>
<td>&lt;0.08</td>
<td>Excellent</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.072</td>
<td>&lt;0.06</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

The measurement model exhibited an acceptable model fit of the data (CMIN =
239.417, df = 130, p <0.001; CMIN/df = 1.842 (<5); CFI = 0.944 which lies in the acceptable region; TLI = 0.934; IFI = 0.945; NFI = 0.89; PNFI = 0.887; PCFI = 0.802; PRATIO = 0.85 and RMSEA = 0.072). All the indicators are loaded, with very high significance, on the latent variables. The values of the fit indices indicate a very good of the model with the data. Overall, the measurement model confirms to the three-factor structure.

**RELIABILITY**

The Cronbach’s alpha is the measure of internal consistency, that is, how closely related a set of items as a group. It is basically a coefficient of reliability. The Cronbach’s alpha for the factors F1, F2 and F3 were 0.884, 0.874 and 0.826 which are acceptable and this shows that the factors are reliable. Moreover, the proofs of the reliability of the scale is provided in the table, which shows the composite reliability and average variance extracted scores of the different factors F1, F2 and F3. Composite reliability (CR) of all the latent variables is greater than the acceptable limit of 0.70. The average-variance extracted for all the factors is greater than 0.5 which is acceptable (Curran et al (2005), Ndubisi et al (2005), Rafaeli et al (2008), Yangz et al (2004), Yoo et al (2007)).

**Construct validity**: Construct validity is the extent to which a set of measured variables actually reflects the latent construct they are designed to measure. Construct validity is established by establishing the face validity, convergent validity and discriminant validity. Face validity was checked by adopting the observed items used in the study from the existing literature and adapting the same to the present research context.

Convergent validity was established by observing the factor loadings and average variance extracted of the constructs. All the indicators had significant loadings onto the respective latent constructs (p < 0.001) with values varying between 0.671 and 0.889. Furthermore, the average variance extracted (AVE) for construct F1, F2 and F3 is greater than 0.50, which further supports the convergent validity of the constructs.

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>0.912</td>
<td>0.601</td>
<td>0.775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2</td>
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<td>0.435</td>
<td>0.757</td>
<td></td>
</tr>
<tr>
<td>F3</td>
<td>0.904</td>
<td>0.703</td>
<td>0.46</td>
<td>0.587</td>
<td>0.838</td>
</tr>
</tbody>
</table>
Divergent validity can be checked from the above table by comparing the average variance extracted of the corresponding covariance of the factors. As we can see the values of the AVE with itself is maximum as compare to the others constructs, which supports the discriminant validity of the constructs. Thus, the measurement model reflects the better construct validity.

REFERENCES


MICHEL DE CERTEAU, GUY DEBORD & EVERYDAY LIFE: CURRICULAR TACTICS & PEDAGOGICAL MANOEUVRES

Dr. Craig A. Hammond, Liverpool John Moores University (School of Education)

DE CERTEAU: STRATEGY AND TACTIC

Michel de Certeau’s work The Practice of Everyday Life (1984) reworks the notions of the strategy and the tactic. For de Certeau, the remit of strategy defines and frames the parameters and pervasiveness of organisational and institutional power; whereas, the notion of the tactic operates to identify and uncover more radical tenets, in the form of the dynamism and fluidity of subjective agency. Elaborating these definitions, de Certeau argues that strategy encompasses a set of processes and activities that are shaped and executed by those who dominate and administer the parameters of a named and identified space:

I call a strategy the calculation (or manipulation) of power relationships that becomes possible as soon as a subject with will and power (a business, an army, a city, a scientific institution) can be isolated. It postulates a place that can be delimitated as its own and serve as the base from which relations with an exteriority composed of targets or threats (customers or competitors, enemies, the country surrounding the city, objectives and objects of research, etc.) can be managed. (de Certeau, 1984: 35-6).

In contrast, the very different notion of tactic suggests a range of liberating and transformatory possibilities; tactics can pose a direct and political challenge and contradiction to the strategy, (or the powerful strategist). As de Certeau notes, the tactic refers to:

the space of the other. Thus it must play on and with a terrain imposed on it and organized by the law of a foreign power. It does not have the means to keep to

22 Aspects of this paper have been developed from material from my recent book Hope, Utopia and Creativity in Higher Education: Pedagogical Tactics for Alternative Futures, published by Bloomsbury Academic (January 2017).
itself, at a distance, in a position of withdrawal, foresight, and self-collection: it is a manoeuvre “within the enemy’s field of vision,” … It operates in isolated actions, blow by blow. It takes advantage of “opportunities” and depends on them … In short, a tactic is an art of the weak. (ibid: 37)

In sum, individuals subjected to the strategic prescriptions of bureaucratised space, rarely adhere to the range of structural compulsions and bureaucratic diktats in their entirety. At the level of the individual, anti-conformist tactics can be conceived and developed in creative ways; this means that strategies that emanate from the administration of a political body are never fully or purely implemented. Each organisational context harbours a littering of opportunities – in the form of gaps and bureaucratic ruptures – where subversive tactical practices can start to emerge. Approaching rules and policies in adaptive ways, means that subjective tactics (and maverick tacticians) can alter and indeed subvert them; such tactics can serve to rescue vestiges of individual autonomy from the stranglehold of bureaucratic pressures. As micro-political manoeuvres, adaptive tactics can generate conditions for democratic and empowering manoeuvres, which can flourish between the gaps of strategic and organisational contexts. Individual tacticians should therefore seek ways of utilising the cracks, fissures, and inconsistencies that open up amidst the governmental tendencies of regulation and control.

De Certeau’s distinction, between strategy and tactic, provides a flexible schema that can be effectively applied to the context of Higher Education – and indeed other learning and educational contexts. The strategic architecture of educational institutions are based on mechanisms of punitive monitoring and surveillance; as localities, they are politically and structurally appropriated. Bureaucracies, policies, and micro-managed processes render the ‘learning’ environment as a regulated space that yields intimidating power over its subjects. Surveilled and monitored, academic subjectivities are funnelled (and continually shaped) into pre-specified roles and pre-defined parameters, through systemic and concentric strategies which operate to herd meandering and disparate subjectivities in to spaces and flows, ‘that can be observed and measured’, and thus controlled (de Certeau, 1984: 36). However, for de Certeau shards of alternative possibility always rip and glimmer through the seams of strategic rules. Where strategic power is bound by its enshrinement and visibility, the invisibility and flexibility associated with subjective tactics murmur and expand in the gaps between the institutional scaffold of rules and expectations. Tactical fluidity, operating within the fissures of the invisible, is
therefore always and unpredictably possible.

Two Situationist tactics as responses to Strategic control.

Guy Debord (1931-1994), a French Marxist theorist and intellectual provocateur was the leader of a group of artists and radicals known as the International Situationists, (referred to throughout this paper as the Situationists). At the 1957 founding meeting of the Situationists, Debord issued his manifesto, (with the unwieldy title of Report on the Construction of Situations and on the Terms of Organization and Action of the International Situationist Tendency), to set out its constitutional basis, and a number of key Situationist principles. From this, the Situationists developed and honed the dérive, and détournement as an array of tactics aimed at challenging and disrupting the mundane routine of everyday life. Debord’s later work, the Society of the Spectacle, (1967) emphasised the necessity to challenge the extent to which everyday life was being strategised into a ubiquitous and debilitating ethos of consumption. Whilst loaded with longings, dreams and hopes, the personal experience of everyday life, was (and is) being drained of any scope for democratic and politico-creative engagement.

For Debord academic, artistic and political concerns need to defibrillate the radical and active notions of revolution, in order to confront and tackle the democratic malaise being generated by the malignant tendrils of consumption. Knabb (2006) points out that the Situationist analyses and associated tactics, have continued to grow in their relevance and momentum where the ‘business’ of education is concerned. The spread of consumption – and educational-consumers – across colleges and universities, replete with marketing, advertising, and branding

23 This concept (and the concept of détournement) is defined and explored in more detail later in the chapter; but, by way of an initial definition, Coverley (2010) notes that the theory and practice of the dérive refers to experimental behaviours which strive to invoke, ‘a technique of transient passage through varied ambiances’ (Coverley, 2010: 93). Adding a little clarity to this, Wark (2015) asserts that the ‘dérive is the experimental mapping of a situation’ (Wark, 2015: 57), one that allows dérivers to follow impromptu and unpredictable discoveries; from the desire to explore and wander, new places and new experiences can emerge. Coverley (2010) also usefully notes that the notion and practice of the dérive has a long and varied history – one that predates the Situationists. As such, it is appropriate to note that Debord and the SI didn’t originally conceive of the dérive, but they developed and enhanced it as a key Situationist and political strategy.

24 Coverley (2010) again notes that détournement is a method which encounters and tackles – with a view to creatively transforming – entrenched, established and routinised cultural practices, knowledge, or artefacts. To détourn means to seek out ‘a word, statement, image or event from its intended usage and to subvert its meaning … Détournement creates new and unexpected meanings by hijacking and disrupting the original’ source of published culture (Coverley, 2010: 95).
industries, have all converged to create a strategic machinery, which interpellates all facets of academic and student activity. Despite the fact that as practitioners and learners, we crave dynamic and vibrant everyday environments, which foster regenerative activities of self-realisation, we are increasingly stranded in an educational consumer-wasteland. For the Situationists, the only way to counteract this and empower individuals, is to recognise, or believe, that a potent flotsam of creative resistance remains. As such, the Situationist tactics of the dérive and détournement (elaborated in more detail below) can be utilised and adapted as micro-political techniques, to confront the psychological Lethe indoctrinated by the juggernaut of consumption.

**Tactic one: The Dérive**

In his essay Theory of the Dérive (1958), Debord defines the Situationist adaptation of the dérive as literally “drifting”, ‘a technique of rapid passage through varied ambiances. Dérives involve playful-constructive behaviour and awareness of psychogeographical effects, and are thus quite different from the classic notions of journey or stroll’ (Debord, 1958: para 1). In one sense, the dérive is to be associated with the physical act of wandering, a kind of purposeful getting ‘lost in the city’; essentially, and of paramount importance for Debord, it is about actively transiting from psychic states of stultifying conformity. However, the Situationist dérive is not to be confined to a specific set of practical instructions for ‘getting lost’, it is more fluid than this. Wark (2015) clarifies that the Situationist dérive, should be understood as ‘aquatic, conjuring up flows, channels, eddies, currents, and also drifting, sailing or tacking against the wind. It suggests a space and time of liquid movement, sometimes predictable but sometimes turbulent. The word dérive condenses a whole attitude to life’ (Wark, 2015: 22).

The Situationist tactic of the dérive therefore refers to a shift or transition in a state of mind, it is an adaptive conceptual mechanism that should be practised in order to challenge oneself, and to resist the compulsion to conform to establishment and other external expectations. As such, the dérive can be adapted to almost any routine and habitual situation, with the aim of jolting normally passive participants out of the ruts of banality and familiarity. Hence, the constructive actions of a dériveur can manifest as adventurous ideas and actions, which ‘neither collapse back into the dead time of routine, nor ossify into [a] mere artifact’ (Wark, 2015: 103); they can be translated to all forms of human relationship and organisational
contexts. Adapting the dérive as Situationist tactic into educational spaces and environments, suggests that new relationships and actions can and must emerge. In this sense, the dérive, as an open and flexible approach to thinking and organising, has the potential to creatively and democratically resituate the wider framing of knowledge and the activities of the practitioner and the learner. Co-constructive possibilities can start to emerge in ways that can directly change and alter the ways in which the pedagogical parameters of curricular space are framed, shaped and experienced.

**Tactic two: Détournement**

The Situationist notion of détournement – basically, to detour – identifies re-interpretive cultural practices. To restate Coverley’s definition from the footnote above, to détourne is to seek out ‘a word, statement, image or event from its intended usage and to subvert its meaning’ (Coverley, 2010: 95). Wark notes, it could, ‘be a single image, a film sequence of any length, a word, a phrase, a paragraph’ (Wark, 2015: 40). The Situationist essay Détournement as Negation and Prelude identifies two related aspects of the practice of détournement; initially, in order to be perceived as a fluid and contributory building block of culture, the cultural object being détourned must be stripped of its reified context and ownership. Secondly, once stripped of its false value, it should become part of a ‘brand new ensemble’; a new and creative expression (SI, 1959: para 1). There is no particular size, shape or context that must be associated with the source of a détourned object; simply, the source of the original artefact must be de-composed and rendered unimportant; the subsequent and creative detour, thus produces, ‘a negation of the value of the previous organization of expression’ (ibid: para 3); what matters, is that fresh and refracted associations generate new meaning.

Any ‘random’ cultural fragment, could thus serves as a potential piece of détourned material and creative catalyst. To détourne is to resist authorial expectations and corporate standards; again, as with the dérive, to engage in an act of détournement is to adopt a micro political and subversive stance, geared towards challenging marketised standards of strategy and control. Détournement thus entails the political poaching of segments of published cultural works; to hijack the artificial containment of its meaning, and in so doing, reuse them to create and produce new and unintended meanings.
Dérive, Détournement & Pedagogy

Increasingly infiltrated with consumer-based expectations, with HE students paying for their degree, a proliferation of consumer-based narratives and expectations has started to emerge in Higher Education: the compulsion for readily available performance and success data; clear and accessible course and modular details and material; equitable and uniform standards of assessment and award. Inadvertently – or otherwise – these tendencies are serving to generate a state of standardised pedagogical practice and curricular mediocrity: institutionally regulated knowledge, routinely channelled and functionally churned out, is anathema to creative and critical thinking. As a response to the commodification, consumption, (and increasingly debt) associated with the expensive and exclusive realm of Higher Education, the Situationist critical emphasis on technology, bureaucracy and the consumer society, means that their ideas and tactics contain a haunting and contemporary relevance.

As imperfect though feasible responses, the Situationist tactics of the dérive and détournement are ripe for revival and redevelopment, to tackle and target the consumer confinement of knowledge and learning, and the corporate routinisation of pedagogical strategies and techniques. For Knabb (2006) the current and ongoing reconstruction of universities along the lines of large businesses corporations, is operating to reduce them to institutions of efficient ignorance. As uncritical organisations, their financial and standardising purpose is serving to generate a ‘mass production of uneducated students who have been rendered incapable of thinking’ (Knabb, 2006: 410-411). The financial necessity of budgets, markets, and the corporate ‘brand’ means that, ‘the anarchy of individual construction has been officially sanctioned, and taken over by the authorised organisms of power’ (Vaneigem, 2004: 121-122). Subjected to strategies and processes of routine and conveyance, castrated consumer-students, bombarded by instructional and ceremonious façades, are being initiated in to a, ‘rehearsal for [their] ultimate role as a conservative element in the functioning of the commodity system’ (Knabb, 2006: 408-409). Pedagogies of imposition and instruction, serve to construct, dupe, and regurgitate students in the guise of production line operatives. Within any – and all – such contexts, Debord would assert that educational practitioners need explore and start to engage in experimental methods of radical transformation (Debord, 2004: 53).

Hence, malleable pedagogical tactics, adapting facets of the dérive and
détournement, are all the more necessary. The increasingly sanitised spectator environment of Higher Education learning – along the lines of a step-by-step approach to ‘knowledge-by-numbers’ – can only produce curricular voyeurs. Rather than continue to induct fledgling followers into tranches of bordered readings and policed interpretations of knowledge, pedagogical embraces of the dérive and détournement should be considered. Practitioners must set out to discover, creatively experiment with, and implement new pedagogical frontiers, as ‘[n]o one can develop in freedom without [first] spreading freedom in the world’ (ibid: 247). Rather than accept and obey the imposition of then consumer strategy as a categorical imperative, pedagogical practice should be opened up to a new cartography of dynamic knowledge, ‘characterised by a complete disregard for traditional and habitual practices’ (Coverley, 2010: 90). To experience and pursue pedagogical co-constructions of micro moments and events of creative discovery, practitioners, and students, can engage in the challenge of developing and inhabiting tactics of alternative and transformatory practice. Resisting the pressure to conform to business standards, all can start to resist, and call in to question, the emerging practices of a system based upon the routine fulfilment of pre-assigned tasks and outcomes; negating pre-specified formulas and institutional narratives, a Situationist-esque experimental pedagogy, can lead towards practices and developments that are as yet to be defined.

**Bibliography**


ABSTRACT
For centuries, the Indian Caste System has created a form of segregation among its followers. This has lent to a disparity among the classes. Though this has produced a disparity in social, economic and educational establishments, the focus of this study is primarily in education. The question of this study was, “Can teaching special lessons to improve the cultural capital of students from poor communities have a positive impact on them?” The assumption was that the social capital of students from the lower caste communities is significantly inferior to that of students from affluent homes. The focus of the school was four schools from the poor low-caste communities were chosen for this research and special instructional intervention was used to see if the lessons improved personal factors related to cultural capital. The focus of the instruction provided was on improving three constructs related to cultural capital: self-esteem, locus of control and sense of hope. Prior to instruction, students were given a survey to measure their current level of cultural capital, of the students, 45 were selected for pre-instruction interviews. Once these pre-surveys were completed, students from grades 6th to 8th received special instructional intervention for five days to target their understanding of the previous mentioned constructs. Where pre-interview helped to establish the levels of students’ cultural capital, the post-interview identified changes that occurred in students’ thinking. The survey result showed that majority of the students had an average level of self-esteem, but they had low levels for locus of control and very little sense of hope. In the post interviews, every student demonstrated a profound change in his or her thinking about himself or herself. They felt that the lessons made them to realize that for their self-esteem to improve they had to set high goals and work on reaching them. Every student mentioned that they felt their caste level determined their identity; and it was associated with where they were in the caste ladder. Most of them expressed their sense of low self-identity, but the lessons made them think about changing their situations. After
the lessons, they expressed their desire to change the constricting effect of caste on their self-esteem. Their sense of who they were and what values directed their lives became clearer to them. Regarding locus of control, students showed that their lives were centered on their home and community, and felt they were bound by their parents’ expectations. They felt that they had no control over their lives.

In their sense of hope, pre-interviews indicated that every student expressed his or her desire for better life for himself or herself, but did not feel confident that they could. After the lessons, many of them showed a positive attitude about their future and mentioned that the lessons taught them to hope for better life. This study confirms that children from the poor communities need positive affirmations about who they are and how they can better themselves. Strategically targeted instruction and training in the areas of cultural capital can certainly benefit them and quality education should provide such learning experiences.

INTRODUCTION

The Indian Caste System has been prevalent in India for centuries. This segregation of people based on religious status has created a disparity in society that spans multiple social, economic and educational areas. The focus of our academic exploration is the centuries old effects that this system has created on education for children and how we can change this through appropriate programs. The study we conducted on the education, social and economic conditions of children living in poor, marginalized communities asked one simple question: Can children from these poor communities be taught self-esteem and goal setting through specialized programs to overcome their difficulties and persevere towards their goals?

The educational disparity that exists in India has been an area of interest for academic exploration and serious educational inquiries with a critical approach. In order to bring new knowledge and understanding on societal problems scholars engage in studies that address issues of critical importance and develop solutions. The foundation to the problem of educational disparity lies in the nature of the Indian community, which is built on its ancient cast divisions that continue to thrive in rural villages even today. In the cities, caste distinction is not as obvious, but there are evidences that indicate that lower caste communities continue to live in poverty and poor living conditions. The level of education in these communities is low quality, because government schools there do not have any amenities to support quality learning. In addition, students coming from underprivileged
communities are unable to match the demands of traditional education. Students from low caste communities, including the schedule castes and tribal groups, face many social, economic, and academic challenges in schools.

There is enough data to support that a high number of poor students drop out from school after their elementary school completion. It has been estimated that the majority of dropout children are from Dalit and indigenous communities, and the proportion of girls dropping out is much higher than the boys. (Tukdeo, 2008). Currently, schools are focused on social reproduction of the traditional culture and its values, undermining the capacity for students coming with low levels of economic, social and cultural capital to achieve traditional educational goals. Using the critical theoretical perspectives, this study explored, understood and found possibilities to this problem to improve the cultural capital of students from underprivileged communities.

The cultural capital these students bring to the school has been shaped and influenced by their home life, their neighborhood culture and the economic standing they have had in the society. It has been stated that, “socially backward sections, especially scheduled castes and tribes (SCs and STs) have gained little from the new prosperity which rewards disproportionately those with assets, skills and higher education” (Kurian, 2007, p. 374). These students come with meager level of cultural-capital to participate in the educational opportunities that schools intend to offer.

Critical theory as an analytical tool provided insights (Anyon, 2009) into the relationship between injustice perpetuation in the educational system and the acceptance of the injustice by marginalized people. It allowed us to think about changing the paradigm of unequal educational practice and opening the door of quality learning for all students. In the highly hierarchical Indian society the caste system has prevented for thousands of years social mobility of people across the classes. In India all religious groups “covertly practice caste-based discrimination. Dalits who are outcastes are the worst victims of caste discrimination…..” (Kurian, 2007). Children coming from the tribal communities also experience many kinds of discrimination. The educational system in India is also paradoxical. Private schools of many kinds compete with each other to teach children who can afford higher quality education. Students in those schools receive knowledge and skills to compete not only at the national level also at the global level. On the other
hand the government schools where most of the poor and low caste children get educated is not of good quality. In the villages and tribal areas the schools are not up to the expected educational standards. In many poor urban areas within the Hindi speaking states, there are no schools to educate their children.

Public and private schools have a responsibility to improve the academic abilities of all students to match the demands of 21st century world. Classroom instruction should focus on children improving their innate abilities and enhancing their weaknesses to match up the expected educational standards. In the case of children coming from underprivileged communities the low level cultural and social capitals they bring should be recognized and boosted by teachers and school leaders. Efforts should be taken to improve their capital and help them to overcome the cycle of poverty and illiteracy. Literature supports that high-poverty schools face many barriers that are related to student success. Some due to institutional failures others to emotional and mental conditions students bring with them.

**PURPOSE OF THE STUDY**

Therefore, this study wanted to inquire if students can be empowered through a focused set of instructional lessons to improve their innate abilities, emotions, cultural habits, which are some of important components of cultural capital. The purpose of this qualitative phenomenological study was to inquire if poor students’ cultural capital level could be boosted to a higher level through a specially designed instruction. The study wanted to find out how the highly motivating learning experience could challenge their thinking and bring changes in their psyche. Specially designed lessons were taught for five days to make impact on students’ thinking and experience. The students were taken through a phenomenon of Change in their thinking. Data was collected through pre and post interviews to find out if any changes in the thinking of students occurred about themselves. Pre-data gave evidences on their initial levels of thinking while the post-data showed what changes took place in their thinking and experience about their self-esteem, internal locus of control and their sense of hope after the special lessons.

**RESEARCH PROBLEM**

The students from the communities of our focus face multiple disadvantages in
spite of efforts to help them have come from various agencies. The following quote taken from the World Bank report highlights the problem this study has undertaken to inquire about.

Our evidence shows that although considerable progress has been achieved, female disadvantage in India continues, and women die unnecessarily both in infancy and in motherhood, with the poorest outcomes among scheduled castes and scheduled tribes. Caste has been the predominant marker of deprivation and privilege in India. It is rooted in a ritually backed ordering of occupation drawn from ancient Hindu texts.2 Stratification along caste lines is solidified through a system occupational segregation and rules of purity and pollution, which play out in strict adherence norms of intermarriage and who may eat with whom. In practice, the caste system developed into Re a broad social framework, and each caste has hundreds of endogamous sub-castes, or jatis, which are the operative social units. (The World Bank, 2011, p. 1, 4).

Besides, it is clear that culturally rooted systems such as the caste system perpetuates inequality and sustains a culture of poverty that afflicts underprivileged groups continuously. It is like they are caught within the inequality traps that perpetuate it. The subordinate groups that we are concerned with are kept under poverty. As a result their behaviors and preferences for what is good can be limiting.

In order to break such inequitable traps schools have an important role to play in developing an educated and ethical population. Learning that takes place in schools with high motivation and student engagement provides for a positive social and personal development of academic skills and processes. Declaration of Human Rights recognizes schools as significant tools for development of an educated and ethical population promoting motivated and ethical citizenship (Wilson, 2015). Besides if schools focus on providing an ongoing learning process that provides not only knowledge and skills but also other cultural and social skills for personal development of these students their achievement gap could be narrowed. There has to be a deliberate effort put forth by the schools to provide learning experiences that incorporate cultural capital development in their schools.

THEORETICAL SUPPORT

This study was based on the Cultural reproduction theory that Bourdieu brought
forth in the late 70s. He argued that Cultural capital refers to an asset children acquire and possess from their home and family environments. Pierre Bourdieu (1977, 1984) while bringing out his cultural reproduction theory argued that the cultural resources individuals gain from their family background can be seen as a form of “capital” enabling to economic and social networks and connections. He was very passionately concerned with class and inequality and used this theory to expound the economic, social and cultural divides that exist in the society. “Bourdieu expands on the meaning of capital by using the term beyond the typical economic signification as a metaphor to include economic, cultural, educational, social, symbolic and honorific connotations. Basically, Bourdieu explains capital as an individual’s ability to exercise control over their own future or that of another. Capital is necessary for people to move up the social ladder, and therefore is a form of power.” (Strickfaden & Heylighen, 2010, p. 122).

“Cultural capital is used by individuals or groups positioned at different levels in social hierarchies as a means of either promoting relative social advantage or as a generalized currency that can be exchanged for other economic or social assets.” (Jaeger, 2011, p. 283). It can also be described as “a potential of social knowledge, the power of social integration, or cohesion, which reinstates new forms of (non-capitalist) social relationships.” (Gregorcic, 2009, p. 358). It also refers to a type of endowments that they gain from their background such as their knowledge, language, mannerisms and skills. (Dumais, 2002). It is also clear that “age, income, education and social class are closely connected with cultural capital” (Kim & Kim, 2009, p. 309) and they influence the cultural experience of people. In their study they showed that there were divides in cultural experiences according to income.

Although the discussion on Cultural capital in the literature does not specify what exact behaviors it represents, it is clear that students’ ways of thinking, assumptions and values that they hold determine the quality of their cultural capital which influences their educational functioning levels. “Bourdieu argued that individuals’ and families’ cultural resources comprise a distinct form of ‘capital’ which should be regarded on equal terms as economic resources and social networks and connections…at the most general level cultural capital pertains to knowledge of the dominant conceptual and normative codes inscribed in a culture.” (Jaeger, 2011, p. 283).

There is a general understanding that children coming from socioeconomically
advantaged families and environments possess a high level of cultural capital; they also have other skills that promote school success. In addition the educational system has been “designed to recognize and reward cultural capital of the children. This structural mechanism implies that teachers and other gatekeepers systematically misinterpret children’s cultural capital, namely, their demonstrated familiarity with high-status cultural signals as manifestations of actual academic brilliance and develop upwardly biased perceptions of children.” (Jager, 2011, p. 283). The total learning process has been intertwined with the cultural standards established by socioeconomically advantaged system and have become the core values of education. Such perceptions benefit children who come with those expected cultural behaviors receiving preferential treatments from teachers and peers. Many quantitative studies have been done on the effect of cultural capital on educational success showing that it has a positive causal effect on academic achievement measured by the skills they demonstrate in reading, cultural communication and abilities in performing extracurricular activities. Here cultural capital is seen as a “multiplier” of resource possessed by children coming from privileged homes and communities.

Literature brings out inquiries that also noted children from low SES families have very little cultural capital that benefit their education because in their environment factors that help develop cultural capital are contrived by the limitations of their background that is economically and socially very limited. Therefore it can be said that there is a wide gap in the cultural capital of children coming from affluent and high caste homes and those who come from the low SES and caste communities. Children from poor communities come with very little cultural and social capital to assist in their learning. “According to Bourdieu and Passeron (1977), school success is strongly determined by the embodied cultural capital students bring from their families of origin.” Kraaykamp & Ejick, 2010, p. 210.

Hardgraves (2001) talks about a new theory of school effectiveness and improvement. According to him if students learn about knowledge economies, citizenship education and have teachers who will effectively teach them they can experience capital development. “A person’s excellences are not so much a matter of his or her capacities as how they have chosen to be and to act. The purpose of education is to initiate the young into these excellences, through which they acquire the disposition to make sound intellectual and moral judgments and choices.” (p. 488). In this teacher effectiveness is an important element. If teachers effectively
teach values and provide intellectual inputs to bring change in students’ thinking better capital development can take place. In other words, this theory supports the idea that if schools take special efforts to provide learning experiences that will develop students’ cultural and social capitals students will make good intellectual and moral judgments.

These two theoretical explanations provided the framework for this study. First, it looked at the cultural capital study and next it brought an instructional intervention to improve students’ cultural capital. Effective instruction took was applied to bring the expected cultural capital outputs. By looking at the demonstration of these constructs at the micro level of the selected individuals this became an inquiry with a subjective topic.

RESEARCH QUESTIONS

1. What were the levels of the selected cultural capital constructs that the target children brought to their schools?
2. How did the students express their perceptions about themselves and life in general?
3. What evidences did the students show for motivation lessons that influenced their cultural capital?
4. What kind of changes did the selected students demonstrate on self-esteem, sense of locus of control and feelings of hopefulness and hopelessness?

RESEARCH DESIGN

This was a qualitative study with a quantitative research model. First, a survey was given to 150 students to quantify their levels of self-esteem, internal locus of control and sense of hope. Then the inquiry followed Pre and Post interview data collection steps with an intervention applied in the middle that is similar to a typical quantitative study design but it used qualitative data collection methods. Four schools from marginalized communities found in three different states of India became the sample sites for this study. Students from 6th through 8th standards became the subjects of this probe.
DESCRIPTIONS OF THE SELECTED SCHOOLS

Four schools from marginalized communities from different parts of India were selected for this study. Asha Deep Vidhyashram was in Varanasi, in the Northern India while other three schools Krishnagiri English School, Arulneri Government High School were from Tamil Nadu and St. Peter’s English School was from Bangalore in Karnataka State. All these schools were similar in one thing, they all taught children from the lowest caste groups and children from the most underprivileged communities in their areas. None of the children came from homes where parents were educated holding high paying jobs. Most of the parents had not completed their high school education and were laborers working in the fields or doing menial jobs in the cities. The leadership in all the four schools followed the traditional system of education meeting the governmental requirements. There were some differences in the way they dealt with student issues related to their academic performance and meeting student needs.

ASHA DEEP VIDHYASHRAM

Fourteen years ago Cathy, an American started this school for the poorest of the poor children in Varanasi. She had a vision to start a school for them because she saw many young children wandering the streets in Varanasi without going to school. When they turned seven or eight, their parents sent them to do some type of manual labor to bring money to the family. With the help of another local woman, Cathy, started the school on the veranda of her home. She picked students from the streets and brought them into her school. From this humble beginning it grew to be a school with 250 students in a rental building on the shores of the river, Ganges. It was obvious that these students came with very little cultural capital that was needed for them to be successful in their school. Cathy tried her best to provide a quality education for these children making them feel valued. Their low caste designation was the signature of this school because parents from upper caste families refused to send their children to Asha Deep Vidhyashram. It was known as a low caste children’s school. In this school, Hindi was the main language of instruction, but English was taught as one of the subjects. Many of the students understood some spoken English. Cathy has earned the trust of the local community and makes sure that students who finish the final grade in her school get enrolled in a High School that provides support for them. None of the parents
in this school had completed their high school education and many of them were still illiterate. The students in this school are the informants for this study.

**ENGLISH SCHOOL IN KRISHNAGIRI**

This school is a private school run by a Christian organization and is situated in the middle of a rural district near Krishnagiri City. Students in this school come from homes where parents were mainly farm workers with very little education. At the time of school selection, there were about 600 students in this school. Around 8:00 a.m. every day, eight large buses loaded with students came rushing into the school compound. Those children were picked up from many nearby villages. The principal of this school was very much committed to providing these students an education that would lift them from the poverty and illiterate levels of their parents. There were about 14 teachers in this school. This school had the government recognition and ran a traditional school program approved by the State. Here the academic content was taught in English with very little instruction in second language learning. Despite this, most of the students were able to understand and speak some English.

There was some after school support for students to complete their schoolwork. An after school program was held twice a week to assist students in learning their weekly lessons. The instructional program of this school was mainly focused on teachers finish teaching their prescribed curriculum and making sure that students passed all their tests. There were no learning activities that supported the enormous social, emotional and psychological needs of students. Students came to school and learned what they were taught but meeting student needs was not built within the educational system that ran this school.

**ALAGIRI GOVERNMENT HIGH SCHOOL**

This school is situated amid many acres of rice paddy fields. The green Plantain farms and rice fields provided a rich natural setting for this school. The two-story building flanked with classrooms across its premise stood stately declaring its educational mission to all the villages. Even prior to our program study, it had achieved many high level acclamations from the government and had a great reputation for its good education. The student expectations in this school were
high and the teachers pushed the students constantly to reach their high standards. Although each classroom was loaded with over 60 students, there was order and well-established routines that students followed.

The teachers in this school spoke about how hard they worked for their students to achieve their expected academic standards. Although most of the students came from illiterate and low caste families, they held on to them reaching high academic levels. In the 10th and 12th grades students were taught to pass the government exam, which they had to write at the end of each school year. Their aim was to get all the students pass that exam, achieving 100% passing. For many years they were able to achieve that level of passing and were very proud of that accomplishment. In spite of the many positive things about this school, there were areas of great need that students faced within the social, economic and emotional parts of their lives. The school program did not address those needs. The school was mainly concerned about all students achieving their academic expectations. There was no concern for meeting the needs that students faced stemming from the emotional, social and economic challenges they faced in their homes, school and communities.

**ST. PETER’S ENGLISH ELEMENTARY SCHOOL**

This elementary school with K-6 grades is owned by a private management company and has existed over twenty years. It is situated amidst a booming industrial township in the suburbs of Bangalore, the Silicone Valley of India. This three-floor school building stands along a very busy road among many offices and industrial buildings. When we selected this school, because we noticed that the students for this school came from the shacks and huts that were scattered around this part of the city. There were about 250 students in this school at the time of data collection. The enrollment in this school had reached its peak to 700 a few years ago but due to much competition for students by privately run schools the enrollment in this school had dwindled recently. There were only 6 teachers running multi-grade classrooms.

The reputation of this school was not very good. There was a sense that the academic standard in this school was going down due to a lot internal problems
with the management. Since most of the students came from very poor homes and got assistance to pay for their monthly tuition they did not have much voice in expressing what they wanted from the school. Their parents were mostly illiterate or partially educated holding jobs that required manual labor. Most of them were from the Dalit communities in the city. This school setting provided intense data collection opportunities for this study.

DATA COLLECTION PROCESS

The data collection in these schools took place in five phases. In the First phase there was direct observation of the school sites. The researcher took Field notes as she became acquainted with the schools. In the second phase she administered the cultural capital survey to all the 6th through 8th grade students. This was mainly to establish their levels of cultural capital expressed in their self-esteem, locus of control and sense of hope. During the third phase, face-to-face in depth Pre-interviews were conducted to a total number of 45 students. Then an instructional intervention to influence students’ cultural capital was administered as the fourth phase. Specially designed lessons to coach students on high self-esteem, better locus of control and a positive sense of hope were taught. The instruction covered two class periods. This instruction took place for 5 days which was followed by an in depth post-interview. In the final phase post-interview data were taken to identify or recognize the impact of the special coaching instruction on the cultural capital of the selected students. Interview data was transcribed and the transcription texts were analyzed with the help of Nvivo10 software. The transcribed data was fed into the software and several queries were made to analyze the data.

THE DESCRIPTIVE DATA

The investigation began with accessing descriptive data on the levels of students on a scale that measured three cultural capital indicators, which were self-esteem, internal locus of control and sense of hope. This scale was specially designed by Dr. Chang Ho Ji, who is the lead researcher at our School for the purpose of initially determining the levels of students on the three social capital constructs of this study. This tool consisted of Rosenberg Self-esteem Scale, Cultural Locus of control Scale, Hope Scale by Snyder and Social Dominance Scale. There were in total 51 questions on this scale with an interval of 1-7. Then the study used
qualitative methods of inquiry following the phenomenological design. Interview on the life experience, attitudes and beliefs of the students became the major tool for qualitative data collection. Field observation notes also became another source of data.

A total of 150 students from the selected schools completed the Cultural Capital Survey. Then 45 students from grades 6th through 8th were selected for the Pre and Post interviews. After the first interview students from the same sample received special instruction for five days for two hours each day. They had the opportunity to experience 5 lessons designed to motivate their self-esteem and their internal locus of control and sense of hope. The teaching and learning activities incorporated in these lessons focused on increasing their ‘native’ cultural capital to the expected norm of school’s cultural capital. This intervention was built on the idea that effective experiential learning would impact students’ thinking. In other words this study basically was built on the hypothesis effective experiential learning would impact change in students’ thinking.

INSTRUCTIONAL INTERVENTION

The essential part of this research was the instructional intervention that was administered to boost the areas of deficiencies in students’ cultural capital that students demonstrated. Grades from 6th through 8th were selected to receive five days of special instruction that focused on improving their self-esteem, ability to overcome difficulties and to have a sense of hope. The theme of this special teaching was “Lessons from Our Heroes”. It covered four topics, which were building self-esteem, setting high goals, overcoming difficulties, persevering to reach the goal. The instruction integrated coaching techniques with the learning and was held for two hours each day. Each day an outstanding Indian who exemplified one of the selected topics was highlighted. On the last day activities to celebrate the life example of Abdul Kalam, the past President of India was planned. Students enjoyed writing about him, reading stories on him and making speeches about him.

For five days the instructional intervention carried on activity based instruction engaging the students in the total learning process. “…in activity based education the student becomes more actively involved in the learning process through acts of ‘doing’, ‘being’ and critically reflecting than in traditional didactic education that is more centered around passive act of knowing”(McGrath & MacEwan, 2011, p.
This specialized instruction concentrated on improving the deficient cultural capital of the target students. Students were brought together in one large group first then they were organized into teams. The content of the lessons consisted of materials that were exciting to students. Stories, videos, books on various heroes at the global, national and local levels provided the learning materials.

The researcher taught the intervention lessons and the teachers assisted her. Instruction began with an introduction of the topic followed by an activity to connect the topic with what students already knew. Activity based learning was delivered. The lessons focused on improving the self-esteem of students. The learning unit was on the topic of Heroes. Students read life stories of successful male and female role models from the international, national and local levels. They did several activities that helped them analyze the selected life stories and identify how those heroes worked against many difficulties to achieve their goals. Different learning activities were used to engage students in the learning process. They read stories, texts on concepts, engaged in discussion questions, learned to write different types of writing. They particularly liked writing simple stories and drawing pictures to illustrate them. They watched videos followed by question sessions. They learned to draw word maps that helped them to process ideas they were learning and also express what they learned. They enjoyed drawing activities that engaged them to think creatively. The inquiry sought to find out if the learning experiences used in the specialized instruction made any impact on students’ thinking from the post interviews.

The instruction was very rewarding to see the students fully engaged in all the learning activities and processing them well. It was difficult to end the learning sessions because students did not want to go to their regular classes. There were no discipline problems because they were excited about what they were learning and it was obvious that the lessons were making positive impact on them. The teachers in the schools were very supportive of the instruction and were observing the non-traditional teaching that was taking place. On the final day of instruction there was a celebration with games ending with sweets distribution. This special instruction transformed the learning environment of the school.
FINDINGS

In this study it was important to identify the levels of the three social capital constructs that were under observation. The following chart shows how each school fared on this scale on the three constructs that described the cultural capital of the students who became the subject of this study.

Average Scores on this Specially Designed Scale

<table>
<thead>
<tr>
<th>Schools</th>
<th>Self-esteem</th>
<th>Locus of Control</th>
<th>Sense of Hope</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td>5.4</td>
<td>5.4</td>
<td>5.1</td>
</tr>
<tr>
<td>School 2</td>
<td>5.6</td>
<td>5.9</td>
<td>5.9</td>
</tr>
<tr>
<td>School 3</td>
<td>5.1</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>School 4</td>
<td>4.9</td>
<td>5.1</td>
<td>5.3</td>
</tr>
<tr>
<td>Average Score</td>
<td>5.2</td>
<td>5.4</td>
<td>5.4</td>
</tr>
</tbody>
</table>

The information on this chart answered the first research question, “What were the levels of the selected cultural capital constructs that the target children brought to their schools?” Data showed what their initial levels of measure were on the three selected cultural capital constructs. By looking at the scores on this chart we can conclude that on a scale of 1-7 the average score in each category was above 50% of the scale. This was not a very negative picture. It showed that the questions on the survey elicited positive responses from the students.

Pre Interview data defined the nature of Students’ Cultural Capital

The interview in each of the school took place during the school hours. Students were called into the room where the researcher was and the interview provided an opportunity to engage in a conversation talking about them. The informants responded freely to the questions that asked them to speak about themselves and their family background. The following chart gives the summary of the pre-interview data. Then each theme is explained briefly establishing an understanding of how students felt about their life experiences.
### Investigation of the Selected Constructs

<table>
<thead>
<tr>
<th>Cultural Capital Constructs</th>
<th>Data Source</th>
<th>Data Description and samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem</td>
<td>Pre-Interview&lt;br&gt;(10 questions that touched the selected cultural capital constructs)&lt;br&gt;How do you feel about yourself?</td>
<td>Most of them expressed that they had high self esteem and talked about going to college. After more in depth questions it all seemed that they had very low self-esteem about themselves and their families&lt;br&gt;“I am a confident girl”&lt;br&gt;“I want to be a Doctor”&lt;br&gt;“I want to be a software engineer”&lt;br&gt;“I come from the Schedule Caste”&lt;br&gt;“My parents are not educated, they can only write their names. They don’t know how to read or write”&lt;br&gt;“Some students call me black because of my dark complexion, this has been a real challenge for me”</td>
</tr>
<tr>
<td>Internal Locus of Control</td>
<td>Pre-Interview&lt;br&gt;What would you do if your father refuses to send you to college?&lt;br&gt;What would you do if your friend fights with you?</td>
<td>The answers showed that the lives of the interviewees were very much controlled by their home situations, societal restrictions for the lowest caste, their economic depravity. They did not seem to have the emotional strength to even fight back when someone creates some conflict.&lt;br&gt;“I can’t do anything if my father doesn’t send me to college”&lt;br&gt;“I want to become a software engineer but if my father has no money to send me to college, I have to give up that and find some job for myself”&lt;br&gt;“I can’t do anything. I will just walk away”&lt;br&gt;“I will keep quiet”</td>
</tr>
</tbody>
</table>
Pre-interview data clearly answered the second research question, which was, “How did the students express their perceptions about themselves and their life?” First perception that came out was their low caste status. Almost every student said he or she came from the lowest caste, which was really a negative identity in his or her thinking. Although most of them rated themselves high on a scale of 1-7 about their self-esteem there were feelings of low moments that only they could recognize.

**FEELINGS OF LOW CASTE STATUS**

While talking about their family backgrounds, they talked about their caste category and economic levels. While describing their families they had to identify the caste they belonged to. 90% referred to belonging to the Scheduled Caste (SC), which is the lowest caste in the social ladder. While identifying themselves as SC they did not talk much about it but quietly agreed that they were from the lowest caste. One of the female interviewees said, “I belong to the scheduled caste but I don’t feel bad about it or worry about being a SC I because we get good treatment these days”. It was obvious that how they related to others depended on their caste identity.
The next factor they came out of the interview was the family status as it related to the economic factor. Most of the students interviewed said that their parents were Coolies working in construction work or in the food industries such as roadside restaurants, or in the rice or wheat fields. In many homes only fathers worked and some mothers and fathers worked as coolies bringing very meager income to take care of the family. Sanju, one of the female interviewee said, “My father and mother are coolies. They do coolie work for people who need some work done…we have a lot of financial problems in our family…” Other interviewees also expressed similar feelings. One student said, “We are not very happy family because of financial hardships our family is experiencing, although we have some property we are still hard up for money”. The theme of financial hardships that the family faced was very prominent in their interviews.

**FAMILY DYNAMICS**

In understanding the cultural capital that the students brought to the school it was also important to understand what type of family life the interviewees experienced. The informants were very free to express their feelings of joy and sadness related to their families. Several of them talked about coming from happy families although they were economically deprived. Priya, said, “My father and mother do Coolie work. My mother cooks the food and then goes to help my father in his work. My mother and father are happy but they have small fights once in a while but we are a happy family.” Another student said, “In our family we have been O.K but recently we are having some problems in the home. My Father doesn’t drink but they are fighting because there is no money in the home and that is becoming hard for them to handle”. Ganesh said, “My father brings fruits, food and chicken but my mother is sad a lot of times because my Father beats her up”. At the same time Sanjay said that his parents were very poor and they didn’t have much money but they were a happy family. It was obvious from the data that more than half of the informants came from families where there were serious economic and relationship problems between the parents. However, the children seemed to have developed resiliency to live through many difficult circumstances. Except one student everyone felt loved by their parents or grandparents. The family relationship was a very strong factor in their lives and it served as their cultural capital however meager and low their social status was.
SELF-ESTEEM BELIEFS

On the Self-esteem scale their average rating was 5.2 which was a positive level but while talking about their self-esteem their answers varied. Many of them expressed their desire to become a doctor or engineer which is very commonly aspired careers in India. One of the students said, “I want people to tell about me that although she comes from a poor low caste family she wants to become a doctor”. Several of them talked about becoming teachers or going to the military service. A few aspired to become dancers. Most of them had a career in mind so coming to school and studying hard was a very important thing for them to do. In this endeavor several of them talked about financial difficulties in their homes that interfered in their aspirations. Although they held on to becoming doctors and engineers they were not sure if they could even go to college after they completed their high school education. While many of them felt that if they studied hard they could achieve their goals some of the interviewees did not feel confident that they could achieve their desired goals. They felt they were not smart enough and the lack of parental support in their learning was a big factor that stood on their way. One student was not sure within her if she really had the intelligence to become a teacher because she was getting bad grades and she never get any help at home because her parents were not educated. The theme that came out while talking about their self-esteem was the topic of parents’ inability to financially support them in their education or help them in their schoolwork. In their mind they were trying hard to build a positive self-image from the experiences they were gaining in their schools but for that to grow in them they did not receive adequate emotional support from their home environment.

MANAGING CHALLENGES

The interview data also indicated that the students’ ability to manage challenges in their homes and schools varied greatly. One of the main concerns they had was that their parents did not have the financial capacity to educate them in the careers they had in mind. For example, One female student who wanted to become a doctor said, “I don’t think my parents have enough money to send me to college so, I don’t think I will go to college.” Some of them had a hard time learning the subjects taught at school, they got disappointed with poor grades but could not do much to improve their learning.
Another area of concern was the family problems they faced in their homes in their parents’ relationship with each other. They saw their fathers becoming alcoholics and beating their mothers, they saw their fathers not giving money to their mothers to buy food for the family. Some of them talked about problems their parents had with their grandparents or uncles families and so on. They felt helpless to deal with those problems. They had developed a mind set to accept things as they were and deal with it by bearing the negative effects of those experiences. They or their parents did not have the emotional or economic strength to deal with the problems that kept them in many kinds of captivities.

The interviewees also spoke about the difficulties they faced in their relationship with fellow students. They all seemed to enjoy having friends in their schools and neighborhoods; however, there were times when they had conflicts with them. A lot of times fight broke out between them. One student said, “If they talk nicely, I will talk to them but if they are mean to me, I will not talk to them.” Another said, “If my friends fight with me I will be very sad but I will ignore and wait for them to become nicer”. “I will fight if they really bother me”, said one interviewee when asked how he will deal with someone who started a fight with him.

One student was talking about a very difficult problem he and his parents faced in their neighborhood. Her father had a tea stall on the road and sold tea and other eatables. One day someone came and demolished and left. Her father was greatly distressed over this loss but as a family they could not do anything to recover what they lost and there was no one to bring justice in this matter. They did not have the financial means to do anything about this. Experience like this had its toll on this student and her family members because the lack of economic power in the society kept them powerless. The sense of powerlessness was the theme that emerged from this part of the interviews.

THE SENSE OF HOPE

The pre-interview interaction also focused on understanding how the selected students looked at life. It was important to find out what was their sense of hope like. The questions were directed to elicit how they hoped in the most desperate situations. One question was, “What would you do if your father tells you after you finish your high school that he did not want you to go to college because he did not have any money?” The student answered, “If my parents say that they did not have
money to send me to college, I have to follow whatever my parents do.” To the same question another student gave a similar answer. He said, “I can’t do anything about it. Then I will not go to college. What to do?” The answer from one more student to the same question was a little different. He said, “I have to find something else to do if I can’t go to college. I might start a business or something. I will listen to my father but I have to break the cycle in my family for going to college but I don’t know what to do”. One student who wanted to become a software engineer said, “If my father says he can’t support me for college, I can’t do anything. I will have to find a job and forget about becoming a software engineer”. Every one of them said that if their parents could not send them to college for them to achieve their career goals, they would have to stop their dreams. The interviews also brought forth many other family challenges students faced which were not contributing for them to live a life with much hope. Education was the main venue they believed in for raising from their low social and economic conditions but reaching their career goals was derailed by their family’s inability to financially support them. The theme from these responses was that students’ feeling of hopelessness about their future in terms of getting an education to choose the career they aspired to achieve.

POST INTERVIEW RESULTS

The interview after the instructional intervention mainly focused on finding out what changes students demonstrated in terms of their self-esteem, locus of control and living with a sense of hope. There were five questions that focused on receiving answers that talked about the impact they felt in their hearts and mind about themselves and their lives. In the post-interviews students showed a very different spirit in answering questions. They exhibited a happy attitude and enthusiasm while answering the interview questions. Following chart gives a summary of responses that indicated changes in their self-esteem, internal locus of control and sense of hope. The responses cited in this chart clearly answers the third research question, “What kind of changes did the selected students demonstrate on self-esteem, sense of locus of control and feelings of hopefulness vs. hopelessness?
# IMPACT OF SPECIALIZED INSTRUCTION

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Data Source</th>
<th>Data Description &amp; Samples</th>
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</thead>
</table>
| Self-esteem                 | Post Interview—How do you feel about yourself? | Most of the students had positive things to tell about how they felt about themselves after they had gone through special instruction. In many of the responses they implied that listening to their parents was part of feeling good about themselves.  
“I think I must become someone I live and help others free”.  
“I think that I am good”.  
“I am a good boy and don’t talk evil things about others. I listen to my parents”  
“I must get first mark and listen good in school and respect my parents” |
| Internal Locus of Control   | Post Interview—What did you learn about living a good life? | “I learned that we must think we are all equal and we must help others become equal. I must respect others and help others”.  
“I learned about heroes who did something good. I also learned many more ideas such as Gandhi saying that a man is as he thinks about himself.”  
“I also learned that I shouldn’t tease others because we are all equal and we must treat each other equally”  
“I also learned that I must be good and be kind to all”.  
“I must go to school on time and study better and improve my learning habits” |
### Sense of Hope
Post Interview—What type of future you expect for yourself?

Almost every one of them said that their future was going to be better because they were going to study better. In their thinking studying hard and passing exams was the only way to have a better future.

- “I must study hard and get a good job. Then only I will be valued in the society”.
- “If I study hard I will have a good future”.
- “That if my future should be good I must study well”
- “I must go to school on time and study better and improve my learning habits”
- “I must study hard and get a good job”.
- “My future is going to be good because I am going to study hard and come up in life”

Further six themes were identified from the post-interview transcripts. They were 1. Belief in self 2. Be good and kind 3. Set high goals 4. Live in harmony 5. Persevere 6. Study hard. Following section shows impressive responses from the interviewees that reflected the identified themes.

### BELIEF IN SELF

All the post-interview answers related to self-esteem were positive. There were answers such as the following: “I learned that I must believe in myself”, “I have a self within me that I must bring out”, “I learned that I must think good about myself”, “I learned about how to have good self-esteem”, “I learned to have more faith in myself”, “I learned to become a positive person because I have to think of good things”. These responses certainly indicated that students were thinking about them and even were able to express what thoughts were going on in their mind. It was remarkable to hear students saying after the lessons their thinking about them changed.
BE GOOD AND KIND

The interviewees’ responses to the question, “what did you learn about building positive relationships with friends and family members?” were also very positive. They all spoke very effectively about being kind and here are some of the examples of what students responded.

“I learnt that I must be good and kind to all”, “I have learnt that I must help others”

“I learnt that I must help others like Mother Theresa, help poor people”, “I learnt that we must help others and treat everyone equal” and “I should treat everyone kindly and help others”

These positive responses reflected that after experiencing the special instruction for 5 days they were thinking of becoming better toward others.

SETTING HIGH GOALS

The interviewees were asked what would take for them to become an everyday hero in their schools and neighborhoods. One student said, “I should not feel defeated but keep my spirits high”. Another said, “We learned that heroes we learned about faced many difficulties but they overcame them by working hard and setting high goals for themselves. They did not make their problem an excuse. They made their weakness their strength”. A response such as this required deep thoughts and reflection. It was obvious that the special instruction certainly made them think about how to manage their difficulties. Most of them had positive answers such as, “I want to be a hero that shows good character by helping others.” They expressed that after the special instruction they realized it was important to set high goals for their lives. “I also came to know that if I set high goals and work hard to reach them, I can become a hero …”

LIVE IN HARMONY

The idea of living in harmony was emphasized in the special instruction because during the pre-interview the students spoke much about conflicts in their homes and communities. The lessons brought several examples of living in harmony. The story of Dr. Seuss “Sneetches” was read to them to illustrate how to live in
harmony. The story was read aloud, and the video of the story was shown, there was discussion questions followed by worksheets that had activities that made them think deeply about themselves. “I learned that we should not fight with each other but live in harmony”, “I learned to live a proper life which means I must help others” and “We should not tease others and let them be who they are” were some of the answers students gave for questions related to this topic.

PERSEVERANCE

This theme from the students’ interviews also showed that there was a change in the students’ thinking about how they must live their lives. In the pre-interview when students talked about the difficulties they faced instead of feeling disturbed about them they accepted their challenges as inevitable. Now they were thinking of taking some steps to manage their hardships. One student said “I learned that if we decide to do something, we must stick with it till we complete it.” Another student while talking about him helping his father make slippers said, “I can have many issues and troubles but if we dream about doing something we must stick with it till we do it.” Keerthika said, “I learned that when I face problems and difficulties I must pray to God and then work hard to remove them” “I should not give up but be brave and face the problems and I learnt that if I set goals for my life I must work hard in achieving them” were the responses from two other students. Many of them talked about the heroes that they had learned about who worked under difficult circumstances to achieve their goals. They wanted to emulate them in their lives.

The responses that students gave certainly indicated that there were some changes in their thinking about how they should deal with challenges they faced. It was obvious that they had learned that they have to work hard on problems without giving up.

STUDY HARD

Students in this study were in no way different from others in India where studying hard is an expected norm of the society. However, studying hard was not the desire of many of the target students. Although they loved to come to school achieving their academic expectations was not easy. In the pre-interviews many students
expressed their difficulties in learning English, Science and math. After the special instructional sessions their responses about learning were very positive. They said, “I have been inspired to study hard and get good marks”, “Now I know I can study better”.

“I must work hard and not be lazy” and “I learned that I must study hard and not copy others”. The desire for students in this sample to study hard is certainly a positive result of this study.

**SPECIFIC RESULTS OF THE STUDY**

The fourth research question was, “What evidences did the students show for motivation lessons that influenced their cultural capital? The post-interview data showed many evidences of students showing improvement in their thinking about themselves and gaining some ideas for overcoming the challenges they faced at home and school. Their improved confidence in themselves also came out in their responses. Most of them expressed that their future was going to be better because they were inspired in the special learning sessions to take charge of problems and think hard to find solutions. One male student said, “I think my future is going to be great”, similarly a female student felt that she felt happy about her future because she planned to work hard and become good and she said, “I will face problems and solve them”. The above cited examples clearly indicate that there were certainly positive changes in the thinking of the students in terms of their self-esteem, locus of control over their conditions and sense of hope.

The dilemma for schools that teach poor children is to determine the levels of their cultural capital and then how to improve it for students to be successful in their education. This puts the children coming from poverty and deprived communities, at a great disadvantage. In order to decrease the educational disparities that exist in the country research must focus on recognizing the cultural capital that the target population bring to the school first and then design learning activities and programs that would build the esteemed cultural capital.

**CONCLUSION AND RECOMMENDATIONS**

This study used a unique research design that combined certain elements of
quantitative research techniques with the qualitative research tradition. That brought a good balance between subjective and objective elements of the research. The idea of finding how students felt about themselves and what type of internal locus of control they had over their circumstances and how they hoped about their lives were subjective elements of the study that support the qualitative component of this study. However, by using the survey instrument to measure the levels of self-esteem, internal locus of control and sense of hope the study brought some objectivity to this inquiry. The result on the survey showed that students had reasonable levels of self-esteem, internal locus of control and sense of hope.

The pre-interview data showed clearly that the students came with low level of cultural capital. They expressed how their low caste and economic status had contributed to them feeling hopeless a lot of times. It was obvious that they had accepted their limited family and community factors as part of their life. Coming to the school for their education was positive and their hope for better life was based how well they did in their school.

Next, this study would have no meaning if the instructional intervention were not applied to this investigation. Most of the time a typical phenomenological study mainly deals with the experiences the subjects face in a selected context. It tells stories of the informants about how they felt about a particular situation the inquiry focuses on. It describes and shows how and why they feel in a certain way. On the other hand this inquiry first focused on understanding how students felt about themselves, their abilities and their future. Then it took another step to see if applying an intervention as quantitative studies do in general could change how they felt. This qualitative research is unique in showing the quantitative element of showing improvement in its problem of investigation.

The findings from the post-interview data supports the general assumption or even a theoretical premise that instruction that engages students in the learning process through active learning brings many positive results. In this study, the specialized instructional intervention was very much focused on improving the three selected cultural capital constructs providing many student engaging activities in the learning process. That provided a clear teaching and learning track for the teachers and students. Five days of concentrated activity based instruction was another positive component of this study. This study demonstrates that if positive learning experiences are provided for students consistently they would respond with positive behaviors.
Another important point about this study is that unlike a quantitative study that always quantifies its results, this study results are not quantified but they are expressed in the stories and explanations of students. Therefore we see the results in this study as descriptions not quantifications, which is a very powerful testimony to this inquiry. This research study sets a good precedent for researchers who want to use qualitative research tradition as their forte. This investigation certainly demonstrates that integrating the quantitative procedures within a qualitative study can bring good results. In that it is different from doing a mixed methods study in which both quantitative and qualitative data collection processes are combined. Here a qualitative study uses a quantitative step to bring objectivity and some results that can be experienced by the informants and recognized by the researchers.

Although this study demonstrated that engaging instruction brought deep changes within the thinking of the students about themselves and their life there is a lot of room for more research along this line to substantiate the results of this study. Further inquiries should be done with more sets of data and different venues to expand the growth of the cultural capital among students coming from marginalized communities. Research with more quantitative elements with large sets of data to quantify the cultural capital improvement is very important. Such studies should be done in different contexts and settings at the national and international levels. The findings of this study should encourage more research work to improve the educational, social and economic conditions of children coming from poor marginalized communities.

REFERENCES


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THE PROJECT IRRESISTIBLE: INTRODUCING RESPONSIBLE RESEARCH AND INNOVATION INTO THE SECONDARY SCHOOL CLASSROOM

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ABSTRACT
The project Irresistible has worked between 2013 and 2016 at the development of learning materials that can introduce both new science and the concept of RRI in the secondary classroom. Teacher professionalization programs have been used to develop modules together with experts from science research as well as science centres. At the end of the project the development of the modules is reviewed, by looking at the development of the teachers. The modules have been evaluated on their effect on RRI-views of both students and teachers. In the modules the production of exhibits plays a major role in the educational process. In a study some of the challenges and achievements of both teachers and students has been identified.

Keywords: secondary education, RRI, modules, formal and informal learning, science education.

INTRODUCTION
This project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under...
grant agreement no 612367. It is a coordination and support action under FP7-SCIENCE-IN-SOCIETY-2013-1, ACTIVITY 5.2.2 Young people and science: Topic SiS.2013.2.2.1-1 Raising youth awareness to Responsible Research and Innovation through Inquiry Based Science Education.

In the project 12 universities and 2 science centers worked together to design activities that promote the involvement of schools, teachers, students and the public in the concept of Responsible Research and Innovation. In the project awareness about RRI was raised in two ways:

- Increasing content knowledge about research by bringing topics of cutting edge research into the program
- Fostering a discussion among the students about RRI issues about the topics that are introduced.

In the project, several activities were combined. We used teacher professionalization in the field of inquiry based science education to involve teachers in the process of designing educational materials. In the materials, we combined formal and informal learning, by using the production of exhibits by the students as a tool for outreach activities.

In total 17 modules were produced, that can be used in schools. Next to that a teacher guide, an Exhibition guide and an ICT-guide were developed.

**TEACHER TRAINING**

In the project, so called Community of Learners (CoL) were used. These have proven to be a powerful way of training teachers. (Loucks-Horsley, Stiles, Mundry, Love, & Hewson, 2010).

In the Communities, a group of three to nine teachers worked together with research scientists, experts from science centres, and people from industry when available. The groups were chaired and coordinated by the educational experts from the Universities involved.

In this first round the goal of the group was to design and produce a module, which can easily be introduced in science education by other teachers. The material that
was produced has been tried out in the schools and classrooms of the teachers involved.

The University of Helsinki worked together with the IPN in Kiel to monitor the development of the teachers in the CoL (deliverable 5.5). Questionnaires with closed and open questions were used, based on the Concerns Based Adoption Model, CBAM. This model has been used for at least 30 years and has established itself. (Hollingshead,) (Liu & Huang,) (Kreijns, Vermeulen, Kirschner, van Buuren, & Van Acker, 2013).

In the Concerns Based Adoption Model, the idea is that levels of concern about a number of factors indicate their attitude, and give some idea about the way they can implement changes in education. Levels of concern are defined by:

1. Awareness
2. Informational: Do I know enough about the teaching innovation?
3. Personal: Am I competent in using the teaching innovation?
4. Management: Do I have enough time and resources to use the teaching innovation?
5. Consequence: How will the teaching innovation affect my lessons and the working environment?
6. Collaboration: Can I find colleagues and experts to work with?
7. Refocusing: Can I improve the teaching innovation further?

Using the questionnaires, the level of concern about teaching RRI for example is determined. In figure 1. Results for 18 teachers are reproduced (Deliverable 5.5).

The overall concern profile coincides with the profile of a cooperator as identified by Hollingshead (Hollingshead,). Concerns and interests changed slightly in all stages, indicating that round 1 had a consistent effect on reducing all kinds of teachers concerns.
In the second round of the Community of Learners there was a bit more difference between groups of teachers. In the second round of the project, teachers worked with already developed modules. They were found through workshops given at the national level and volunteered to implement and use the material in their own classroom. This group was also larger than the first group of teachers. In table 1 the number of teachers and students in the two rounds is given.

<table>
<thead>
<tr>
<th>CoL</th>
<th>Total No. of teachers</th>
<th>Gender distribution among the teachers</th>
<th>Total No. of students</th>
<th>Gender distribution among the students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>79</td>
<td>21</td>
<td>58</td>
<td>1361</td>
</tr>
<tr>
<td>2</td>
<td>327</td>
<td>83</td>
<td>226</td>
<td>5064</td>
</tr>
</tbody>
</table>

Table 1. Number of teachers and students involved in the two rounds of the project.

In the second round the questionnaire was adapted so that not only positive but also negative concerns could be indicated. In table 2 the results of the pre and post

Figure 1. SoC profile teachers in first round CoL.
tests are given.

<table>
<thead>
<tr>
<th>Negative concerns</th>
<th>information</th>
<th>personal</th>
<th>management</th>
<th>consequence</th>
<th>collaboration</th>
<th>refocusing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>0.7</td>
<td>-2.3</td>
<td>0.2</td>
<td>-3.6</td>
<td>-3.3</td>
<td>-3.2</td>
</tr>
<tr>
<td>Post test</td>
<td>-0.8</td>
<td>-3.1</td>
<td>-0.7</td>
<td>-4.2</td>
<td>-4.6</td>
<td>-3.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive concerns</th>
<th>information</th>
<th>personal</th>
<th>management</th>
<th>consequence</th>
<th>collaboration</th>
<th>refocusing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>4.7</td>
<td>0.1</td>
<td>3.4</td>
<td>3.4</td>
<td>4.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Post test</td>
<td>4.6</td>
<td>0.6</td>
<td>3.5</td>
<td>3.3</td>
<td>3.8</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Table 2. Results of pre and post-test of the questionnaire (Likert scale 1-5)**

As in the first round positive concerns (enthusiasm and interests) only changed marginally. Negative concerns (worries about time and cooperation) however decreased.

In the first round almost all teachers were cooperators. In the second round four different groups were found.

![Negative concern clusters found in the analysis of the second CoL participants](image)

**Figure 2. Negative concern clusters found in the analysis of the second CoL participants**
The first group does not have any worries and is confident. The second group and third group have personal and management concerns perhaps indicating a lack of self-efficacy. The last group has major concerns but still goes on with the introduction of the new material.

In the first round of the CoL the experts from research, science centres and industry also filled in the questionnaire. There were some slight differences with the teachers.

<table>
<thead>
<tr>
<th>Limited knowledge</th>
<th>experts</th>
<th>teachers</th>
<th>difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerned about abilities</td>
<td>0,6</td>
<td>0,3</td>
<td>0,3</td>
</tr>
<tr>
<td>Concerned about practice</td>
<td>0,2</td>
<td>-0,3</td>
<td>0,5</td>
</tr>
<tr>
<td>Concerned about time</td>
<td>0,8</td>
<td>1,2</td>
<td>-0,4</td>
</tr>
<tr>
<td>Preoccupied with other things</td>
<td>0,4</td>
<td>-0,4</td>
<td>0,8</td>
</tr>
<tr>
<td>Need to revise work</td>
<td>-0,1</td>
<td>-0,6</td>
<td>0,4</td>
</tr>
<tr>
<td>Concerned about students</td>
<td>0,4</td>
<td>0,1</td>
<td>0,3</td>
</tr>
<tr>
<td>Revise the approach</td>
<td>0,6</td>
<td>0,4</td>
<td>0,3</td>
</tr>
</tbody>
</table>

Table 3. Experts and teachers’ average agreement related to items on RRI (1 slightly agree, 2 agree)

Teachers were more concerned in time management and their limited knowledge. This seems logical, in that teachers received most of the knowledge during the project. They were more concerned with time, since they had to carry out the work in the classroom.

Another item that was looked at was the change in attitude towards RRI. (This was discussed in detail in Deliverable 2.5 a, and b). In terms of RRI we looked at the items represented in table 4. These are based on a leaflet published by the EU (Leaflet RRI.)
RRI dimension | Sample item
--- | ---
(1) Engagement | To decide what topics to research, scientists should consult with community representatives, such as people who work for nature conservation, human rights, and consumer rights.
(2) Open access | Scientists should spend part of their research budget to present their research online, in a free and open way.
(3) Ethics | Having high ethical standards can help ensure high quality results in science and technology.
(4) Science education | The science curriculum in schools should include topics like how science solves society’s problems.
(5) Gender equality | Women and men should have equal rights and responsibilities in scientific research.
(6) Governance | The government needs to regulate scientific research institutions.

Table 4. RRI items used in questionnaires.

Attitudes towards RRI changed slightly according to the questionnaire used in round 2.

<table>
<thead>
<tr>
<th></th>
<th>Engagement</th>
<th>Science Education</th>
<th>Gender Equality</th>
<th>Open Access</th>
<th>Ethics</th>
<th>Governance</th>
<th>RRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre(SD) N=216</td>
<td>3.87 (0.9)</td>
<td>3.97 (0.80)</td>
<td>4.11 (0.80)</td>
<td>4.09 (0.81)</td>
<td>3.98 (0.89)</td>
<td>3.72 (0.98)</td>
<td>3.96 (0.58)</td>
</tr>
<tr>
<td>Post(SD) N=225</td>
<td>4.29 (0.77)</td>
<td>4.45 (0.59)</td>
<td>4.50 (0.67)</td>
<td>4.44 (0.60)</td>
<td>4.28 (0.79)</td>
<td>4.11 (0.89)</td>
<td>4.35 (0.46)</td>
</tr>
</tbody>
</table>

Table 5. Attitudes of teachers towards RRI (Likert scale 1-5).

<table>
<thead>
<tr>
<th></th>
<th>Engagement</th>
<th>Science Education</th>
<th>Gender Equality</th>
<th>Open Access</th>
<th>Ethics</th>
<th>Governance</th>
<th>General RRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre(SD) 3181</td>
<td>3.92 (0.83)</td>
<td>3.75 (0.90)</td>
<td>3.96 (0.92)</td>
<td>3.68 (0.94)</td>
<td>3.74 (0.92)</td>
<td>3.63 (0.93)</td>
<td>3.77 (0.58)</td>
</tr>
<tr>
<td>Post(SD) 2332</td>
<td>4.01 (0.80)</td>
<td>3.85 (0.87)</td>
<td>4.17 (0.92)</td>
<td>3.83 (0.92)</td>
<td>3.84 (0.89)</td>
<td>3.7 (0.93)</td>
<td>3.91 (0.66)</td>
</tr>
</tbody>
</table>

Table 6. Attitudes of students towards RRI (Likert scale 1-5)
In general, the attitudes of both teachers and students improved significantly after the modules. Indicating the modules are effective in stimulating the attitude towards RRI.

One other item that was important were the reasons for participating in the project. Again, here several themes can be identified.

<table>
<thead>
<tr>
<th>Development of teaching (n=24)</th>
<th>Interest in project themes (n=14)</th>
<th>Development of content knowledge (n=12)</th>
<th>Collaborative aspects (n=9)</th>
<th>Personal preferences (n=7)</th>
<th>Student engagement (n=4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous development</td>
<td>Science in Society, RRI</td>
<td>Content knowledge</td>
<td>Being part of a team</td>
<td>Interested in new things</td>
<td>Engement of talented students</td>
</tr>
<tr>
<td>Growing as a teacher</td>
<td>Increase awareness of RRI and Inquiry Based Science Education</td>
<td>Cutting edge science topics Everyday science</td>
<td>Being part of an international team</td>
<td>Personal and social aspects and interests</td>
<td>Engagements of students</td>
</tr>
<tr>
<td>Effective teaching</td>
<td>Interest in nano science</td>
<td></td>
<td>Contact with other teachers</td>
<td></td>
<td>Stimulating students' interest</td>
</tr>
<tr>
<td>New teaching methods</td>
<td>Interest in interdisciplinary approaches</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better practice in class</td>
<td>Engagement of research and education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development of teaching materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7. Reasons for participating in the project.

Finally, in the post questionnaire teachers were given the opportunity to react to their participation in the project. In table 8 some remarks have been gathered.

<table>
<thead>
<tr>
<th>meeting expectations</th>
<th>cooperation with...</th>
<th>cooperation with...</th>
<th>cooperation with...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>research scientists</td>
<td>museum experts</td>
<td>education researchers</td>
</tr>
<tr>
<td>Satisfied 15</td>
<td>Excellent cooperation 18</td>
<td>Excellent cooperation 14</td>
<td>Excellent cooperation 6</td>
</tr>
<tr>
<td>Not satisfied 3</td>
<td>Gave new teaching content 29</td>
<td>Close involvement 10</td>
<td>Supported and guided 18</td>
</tr>
</tbody>
</table>
In general, the conclusion has been that teachers have developed in a positive manner during the project and have been satisfied with the results of the use of the modules.

**The Modules.**

In the previous part the development of the teachers has been discussed. The products that have been developed by the teachers in close cooperation with the experts focused on scientific research carried out at the universities involved in the project. Nano Science was a topic in several universities. Energy transition was another that was chosen. In table 9 an overview is given together with the titles of the modules produced.

**Table 8. Remarks made by teachers in open questions.**

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better than expected</td>
<td>7</td>
</tr>
<tr>
<td>Close involvement with development</td>
<td>8</td>
</tr>
<tr>
<td>Guided exhibitions</td>
<td>9</td>
</tr>
<tr>
<td>Coordinate the project</td>
<td>8</td>
</tr>
<tr>
<td>Collaboration</td>
<td>7</td>
</tr>
<tr>
<td>Interesting lecture</td>
<td>3</td>
</tr>
<tr>
<td>Guided teachers</td>
<td>7</td>
</tr>
<tr>
<td>Motivated in CoL</td>
<td>6</td>
</tr>
<tr>
<td>Learning about RRI</td>
<td>4</td>
</tr>
<tr>
<td>Had small role</td>
<td>5</td>
</tr>
<tr>
<td>Guided students</td>
<td>7</td>
</tr>
<tr>
<td>Gave pedagogical knowledge</td>
<td>4</td>
</tr>
<tr>
<td>Professional development</td>
<td>4</td>
</tr>
<tr>
<td>Prepared for museum visit</td>
<td>4</td>
</tr>
<tr>
<td>Engagement of students</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 9. Overview of modules developed in the project**

<table>
<thead>
<tr>
<th>Short Name</th>
<th>Developed by</th>
<th>Module name</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Carbohydrates</td>
<td>The Netherlands</td>
<td>Carbohydrates in breast milk</td>
<td></td>
</tr>
</tbody>
</table>
The IBSE approach used in the modules addresses several of the challenges of contemporary science education, as discussed in ‘Science Education now’ (Rocard et al., 2007) and is in line with the literature on science education (Bennett & Holman, 2002) (Osborne & Dillon, 2008) (Nentwig, Demuth, Parchmann, Gräsel, & Ralle, 2007). The concrete format used in these modules has been described by Roger Bybee (Bybee, Powell, & Towbridge, 2007) and is called the 5 E method. It has been adapted to 6 or even 7 E’s by several people (Chessin & Moore, 2004) (Eisenkraft, 2003). In this project is has been expanded into 6 E’s. The different steps are indicated in table 10.

Each step or phase has its own characteristics. The extra step that was introduced in this project is called exchange. It involves the building of an exhibition by the students. Theme of the exhibit is the science that is discussed in the module, as well as the items of RRI that are involved in the module.

The steps in the model have not been followed explicitly in each module. In some modules steps have been combined. Specifically, the Explore step has not been used as such in each module.

The introduction of each module is normally a context in which a problem is discussed. In nano health for example this is the problem of hospital infections, with bacteria that are resistant to most antibiotics. In the second part in the module normally questions about studying the context are raised. Students need to learn certain things to understand the context and RRI issues about the context that are raised. This would be the explore step. Next, they learn about the science involved in the Explain step. This is where most of the science learning takes place.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>Techniques used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage</td>
<td>In the engage phase students are getting interested in the subject of the module. Both formal and informal learning activities will be planned</td>
<td>Applications, visit to science centre, video introduction, lecture by researcher. Students may gather information using smartphones to make videos, photos or other data that can be shared in a Facebook group for example.</td>
</tr>
<tr>
<td>Explore</td>
<td>In the explore phase students start formulating questions,</td>
<td>A Web platform is used for gathering data and comparing and sharing results</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Explain</td>
<td>In the explanation phase knowledge is gained, data collected and scaffolded</td>
<td>The teachers and the students will scaffold the content knowledge on the web platform.</td>
</tr>
<tr>
<td>Elaborate</td>
<td>In the elaboration phase the attention shifts to RRI-questions. Students will confront researchers with challenges to be answered by the scientists</td>
<td>Using the web platform students will match questions and answers by scientists.</td>
</tr>
<tr>
<td>Exchange</td>
<td>One of the assignments will be the design of an exhibit, which will be displayed in the science centre in the partners’ local group. Posters or other presentation modes may also be used</td>
<td>Contest for best exhibits, which will participate in an exhibit on a European scale, hosted by one of the partners.</td>
</tr>
<tr>
<td>Evaluate</td>
<td>In the evaluation phase the students are tested on their content knowledge. The students themselves determine by an interview/discussion with the researchers what they learned from the project</td>
<td>Online tests and surveys can be used for testing and for discussion with the researchers</td>
</tr>
</tbody>
</table>

**Table 10. The extended 5 E model.**

In the following steps of the module the concepts of RRI are introduced. RRI is linked to the science in the Elaborate step. In the Exchange step the knowledge gathered in the Elaborate and Explain phases is combined in the exhibits.

In figure 3 the covers of the modules and the teacher guides are represented.
Figure 3. covers of products from the project Irresistible.
All modules are available for download from the website of the project. http://www.irresistible-project.eu/index.php/en/.

In some of the modules role play is introduced as a teaching tool. In the Israeli module for example students are given the role of evaluator. They have to answer the question: ‘The school wants to replace the windows in the school by Perovskite bases solar panels. Please advise the school board whether this should be allowed.’

In Plastic bane of the oceans something similar is designed.

In several of the modules a visit to a science centre to introduce the topic is part of the experience.

The modules have undergone two revisions. First they were tried out in the first round and peer reviewed by the educational experts. In the second round the adapted modules were tried out in other countries as well as in the host country. The feedback from these experiences was used to make the final version of the module. At the University of Groningen, a common layout for the modules was developed.

The level of the modules varies from higher primary education to higher secondary education.

The exhibits

In all modules, the exhibits play a major role. In deliverables 3.1, 3.2 and 3.3, made by the University of Lisbon, some aspects of the making of the exhibits are discussed. Together with the partners a teacher guide was developed to help teachers guide and coach their students in making the exhibits.

The exhibits were gathered for a national exhibition linked to the science center partners that participated in the project. Often the school as also a setting for the first exhibition. This resulted in an outreach activity towards the rest of the school population and the parents.

The best exhibits were gathered in Kiel for the final event of the project. An exhibition that was part of the ‘researchers’ night’ in September 2016. This was a successful exhibition, that was visited by about 2500 people, and was opened by the mayor of
Kiel. In figure 4 some pictures of this exhibition are gathered together. On the next two pages, some photographs of the exhibition in Kiel are given.

Exhibits are different in character. Some were made as games, other were made as objects, some used the IKEA exponeer system as a base for the exhibit. Some were passive, others required interaction from the public.
59 case studies about the use of the exhibits were analyzed by the University of Lisbon. These involved 72 teachers, 1357 students and 51 experts. The case studies were performed based on a protocol developed by the University of Lisbon.

<table>
<thead>
<tr>
<th>Partner</th>
<th>CoL</th>
<th>Exhibition name</th>
<th>Number of teachers</th>
<th>Number of students</th>
<th>Number of classes</th>
<th>grade</th>
<th>Number of experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>1</td>
<td>Climate change</td>
<td>4(16)</td>
<td>86</td>
<td>4</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Climate change and geo-engineering</td>
<td>1(2)</td>
<td>30</td>
<td>4</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Germany IPN</td>
<td>1</td>
<td>Plastic-Bane of the ocean</td>
<td>1</td>
<td>27</td>
<td>1</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Human impact on oceans</td>
<td>4</td>
<td>27</td>
<td>2</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Germany DM</td>
<td>1</td>
<td>Future Ocean</td>
<td>4</td>
<td>60</td>
<td>2</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Greece</td>
<td>1</td>
<td>Nanoscience and its applications</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>8</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>The nanotechnology of self-cleaning materials</td>
<td>1</td>
<td>21</td>
<td>1</td>
<td>10</td>
<td>*</td>
</tr>
<tr>
<td>Israel</td>
<td>1</td>
<td>Perovskyte-Based Photovoltaic Cells</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>9</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>The Milk exhibit</td>
<td>1</td>
<td>32</td>
<td>1</td>
<td>11</td>
<td>*</td>
</tr>
<tr>
<td>Italy</td>
<td>1</td>
<td>Ecopoly</td>
<td>1</td>
<td>23</td>
<td>1</td>
<td>12</td>
<td>*</td>
</tr>
<tr>
<td>Unibo</td>
<td>2</td>
<td>Find the end, RRI &amp; Energy Sources</td>
<td>1</td>
<td>136</td>
<td>6</td>
<td>9,10&amp;11</td>
<td>6</td>
</tr>
<tr>
<td>Italy</td>
<td>1</td>
<td>RRI and solar energy</td>
<td>3</td>
<td>73</td>
<td>4</td>
<td>8&amp;11</td>
<td>*</td>
</tr>
<tr>
<td>Unipa</td>
<td>2</td>
<td>RRI in an inquiry based approach</td>
<td>4</td>
<td>61</td>
<td>4</td>
<td>10&amp;11</td>
<td>*</td>
</tr>
<tr>
<td>Poland</td>
<td>1</td>
<td>Nanoworld</td>
<td>1</td>
<td>35</td>
<td>1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Nanoworld</td>
<td>1</td>
<td>35</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Country</td>
<td>Case Study</td>
<td>Round 1</td>
<td>Round 2</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>RRI and polar science</td>
<td>1</td>
<td>46</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Irresistibles from class 8D</td>
<td>2</td>
<td>21</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RRI in the Portuguese Polar science</td>
<td>1</td>
<td>27</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geo-engineering of climate</td>
<td>1</td>
<td>27</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Healthy ageing starts with mama</td>
<td>2</td>
<td>81</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Healthy ageing starts with mama</td>
<td>2</td>
<td>55</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Healthy ageing starts with mama</td>
<td>2</td>
<td>18</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Healthy ageing starts with mama</td>
<td>2</td>
<td>154</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nanotechnology applications in Health Sciences</td>
<td>1</td>
<td>20</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RRI in the Context of Climate Change</td>
<td>2</td>
<td>59</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nanomaterials and Energy</td>
<td>1</td>
<td>210</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nanoscience - A Facilitator Background for a United Group</td>
<td>1</td>
<td>25</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>55(18)</td>
<td>1357</td>
<td>59</td>
<td>51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11. Case studies done both in round 1 as well as in round 2.

In table 12 the different types of objects in the exhibits are detailed.

In table 14 the locations in which the exhibits were held are identified.

Challenges for teachers and students were identified and are given in table 15.

In table 15 achievements for teachers and students are given.
<table>
<thead>
<tr>
<th>Type of object</th>
<th>Number of exhibitions with this type of object (total number of objects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game</td>
<td></td>
</tr>
<tr>
<td>Physical (e.g., cardboard, soccer table)</td>
<td>9 (70)</td>
</tr>
<tr>
<td>Digital (e.g., quizzes)</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Poster</td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>11 (29)</td>
</tr>
<tr>
<td>Multimedia presentations (e.g. videos, audio)</td>
<td>8 (11)</td>
</tr>
<tr>
<td>Cartoons (digital or printed)</td>
<td>2</td>
</tr>
<tr>
<td>Models</td>
<td>15 (54)</td>
</tr>
<tr>
<td>Experiments/demonstrations</td>
<td>12 (23)</td>
</tr>
<tr>
<td>Digital App</td>
<td>1 (1)</td>
</tr>
<tr>
<td>IKEA bookshelf (EXPOneer system)</td>
<td>7</td>
</tr>
</tbody>
</table>

**Table 12. Types of objects used in the exhibits**

<table>
<thead>
<tr>
<th>Place of display of the exhibitions</th>
<th>Number of exhibitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>21</td>
</tr>
<tr>
<td>Museum</td>
<td>6</td>
</tr>
<tr>
<td>University</td>
<td>2</td>
</tr>
<tr>
<td>Events</td>
<td></td>
</tr>
<tr>
<td>Science fair</td>
<td>1</td>
</tr>
<tr>
<td>Conference</td>
<td>1</td>
</tr>
<tr>
<td>Thematic day</td>
<td>1</td>
</tr>
<tr>
<td>Science Day</td>
<td>3</td>
</tr>
<tr>
<td>Web</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 13. Place of the exhibits

<table>
<thead>
<tr>
<th>Challenges for teachers</th>
<th>Challenges for students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time management</td>
<td>Organization and management of groupwork</td>
</tr>
<tr>
<td>Novelty of science topic</td>
<td>Novelty of science topic</td>
</tr>
<tr>
<td>RRI</td>
<td>RRI</td>
</tr>
<tr>
<td>Project and group management</td>
<td>Planning the exhibition</td>
</tr>
<tr>
<td>Exhibition planning and construction</td>
<td>Time management</td>
</tr>
<tr>
<td>Time management</td>
<td>Constructing the exhibition</td>
</tr>
</tbody>
</table>

Table 14. Challenges for students and teachers

<table>
<thead>
<tr>
<th>Achievements for teachers</th>
<th>Achievements for students</th>
</tr>
</thead>
<tbody>
<tr>
<td>This didactic strategy represents a great opportunity to involve (and educate) the community, allowing students to develop active citizenship skills;</td>
<td>Students did appreciate the new didactic strategy of IRRESISTIBLE Exhibitions development, felt more motivated to learn and engaged more in their learning process;</td>
</tr>
<tr>
<td>Teachers appreciated the experience and valued the new didactic strategy, identifying in it several potentialities in what concerns Science Education;</td>
<td>Students learned about new scientific topics and about Responsible Research and Innovation, and developed important skills;</td>
</tr>
<tr>
<td>Teachers faced difficulties, but in general were able to surpass them. Those Teachers developed as professionals.</td>
<td>Students overcome their initial low expectations and recognized that they were capable of developing such a big and new endeavour;</td>
</tr>
<tr>
<td>This didactic strategy represents a great opportunity to involve (and educate) the community, allowing students to develop active citizenship skills;</td>
<td>Students faced difficulties, especially in what concerns:</td>
</tr>
<tr>
<td>Teachers appreciated the experience and valued the new didactic strategy, identifying in it several potentialities in what concerns Science Education;</td>
<td>a) the management of the group work and project tasks</td>
</tr>
<tr>
<td></td>
<td>b) the integration of RRI in the exhibition;</td>
</tr>
</tbody>
</table>

Table 15. Achievements of teachers and students
Some conclusions from the use of the exhibits are:

- Opportunity for students and teachers to consider social and global problems not normally included in science classes
- Promotes students’ and teachers’ engagement and motivation for learning about RRI
- It allows for a better/deep understanding of RRI
- It represents an opportunity for students to develop an active role on exchanging information about RRI to visitors
- It represents an assessment strategy of the teaching and learning of RRI
- Opportunity to promote the public awareness on RRI
- It represents an opportunity for students to consider and use new methods and techniques to engage the public in their exhibition
- Helps students and teachers to change their attitudes towards RRI
- The attractiveness of themes can promote the involvement of parents in the exhibition development process

In general, it can be concluded that the exhibits are an important part of the modules, that are very effective introducing aspects of RRI to students.

**DISCUSSION**

The project Irresistible has been able to successfully introduce both new science topics as well as the concept of Responsible Research and Innovation into the classroom. The analysis of the response of both students and teachers to the questionnaires indicate an increase of affinity with the ideas of RRI.

The modules of the project are freely available in different languages on the website of the project.

The teachers the project has reached in the first round can be described as cooperators, the first group of teachers generally able to act upon an innovation (Hollingshead) For innovations to be implemented the other three character groups, that Hollinghead defined as resistors, ideal implementer and overachiever, need to be involved as well. As the project worked with volunteers that was not achievable.
In the second round of the CoL the project reached a more diverse type of teachers. Workshops explaining and presenting the modules played an important role in recruiting new teachers. Again here these are teachers that take the trouble to attend these workshops.

The exhibits played a major role in the success of the modules. As a learning tool they worked very well, because students had to integrate their scientific knowledge with their own creative ideas. That is also the reason they can easily be used in the assessment of the students. For teachers, it is sometimes difficult to help and organize the process of making the exhibits.

REFERENCES


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WEBSITE

RESPONSIBLE RESEARCH & TRANSFORMATION IN EDUCATION

PRINCIPALS’ PREPARATION & PERFORMANCE FOR EDUCATION & SOCIAL DEVELOPMENT

“ARE PRINCIPALS AUTHORIZED TO SHOW THEIR TALENTS OR SKILL?”

Mukherjee Tapati, Principal, S.K. Rai Degree College of Commerce, Mumbai, INDIA

ABSTRACT

Principals are the leaders of academic environment and play a crucial role in establishing a school’s climate, culture; in selecting and developing teachers, among other roles. Although it seems to be highly debatable or there may be little disagreement whether good Principals make a difference, but there aren’t very many techniques or methods to prepare good Principals in a systematic manner.

Researchers, policy makers and practitioners, however recognize the role of school leaders in developing a high-performing school. Then who are the people, aren’t in agreement? These are mainly the people who are partially involved in day-to-day running of the school and therefore need tangible proof to judge the efficiency of a Principal. These include the trustees, the parents of students and the non-teaching staff of the school. In addition to this, extraneous factors, such as the governing board who send Education Inspectors as ‘Marshalls’ to monitor the school affairs. This paper will address the importance of a good and efficient Principal, on the basis of a survey, to judge the inherent qualities of a Principal; the various factors that affect a Principal’s performance; explore training programs that would affect the overall grooming of a Principal.
INTRODUCTION

10 years ago, school/college leadership was noticeably absent from most major school reform agenda. Even the people who saw leadership as an important feat to turn around, failing schools expressed uncertainty about how to proceed. Today improving school leadership ranks high on the list of priorities of school reforms. Though teachers’ quality stood above everything else, but principals’ leadership on crucial matters like dropout rates, behaviour of students, taking tests, preparing for college and career are all connected to good leadership.

Besides that, new teachers working in the school feel comfortable having a competent principal around, to whom they turn to seek assistance, guidance and moral support with reference to various teaching related problems. Hence it’s important to evaluate a good Principal and take a look at their journey in running a good institution.

OBJECTIVE

To study the role of principal for the qualitative development in school 2) Principals’ role in Teachers’ performance 3) Principals’ influences on socio-economic development of the students.

APPROACH

According to researchers, shaping academic success for all the students is the responsibility of a good and efficient principal. BUT new comers don’t believe this. Historically public school principals were seen, as managers. They were required to think, that ‘success’ could be defined as entry level manufacturing work for students who were average and low skilled employment was considered for dropouts. Therefore an effective principal should make sure that the notion of academic success for all, gets picked up by the faculty, under the guidance of a principal. So developing a shared vision in setting standard and success for all the students is an essential approach of school leadership.

The purpose of this paper will be to aggressively present a perspective on a Principal’s journey (mainly hurdles) in running a school which will be inter-wined with the qualification, behavioural patterns and personality of the Principal.
This paper will be presented in 3 parts -:

**Part 1: Macro Scenario** – To understand the present state of Schools in India. A look at the split of schools by way of various curriculum and education boards across the country. Listing out possible factors that impact a Principal’s performance depending on the type of school?

**Part 2: Micro Scenario** – A peek at the day to day workings in schools is important to understand the impediments and challenges, a Principal faces while running a school. This section involves interviewing Principals across the city of Mumbai to understand their journey as administrators.

This section will also share a case study on live experience from a current Principal.

**Part 3: Findings/Conclusions and Recommendations**

**Part 1: Macro Situation**

India is a large country and hence its education system is far more complicated than one can imagine. Schools are spread out in the rural and Urban sector. As of the year 2008-2009 there were a total of 1.2 million schools in the country that imparted elementary education. Out of these 87.3 % is located in the rural sector.

The urban sector in India follows 2 types of schooling systems, One being the public schools that are government recognized and include a subsidized fee structure and the second one being Private schools. Private schools are not government recognized and hence free to follow their own fee structure thus making it a ‘pricey option’ for families.
To begin with, the role and function of a Principal is to define the school mission, ensuring the best grade and accreditation for its institution, managing the instructional programme & promoting a positive learning climate, which in course of time will be responsible for education and social development of the students. However the only way to get an understanding of how principals work, is to understand the different levels of the education system across India that cuts across the various socio-economic strata of the country.

Split of Government and Private schools in the country (Table A)

*Source – National Sample Survey Organization

The split of schools by States across the country will impact the quality of a Principal, since private and public have different roles and responsibilities for Principals.

CBSE boards curriculum is more focused on Medical and engineering professions while ICSE boards follow a holistic approach towards all subjects. State boards SSC follows a simple curriculum to make the foundation strong. IB follows a more all around education system. Depending on the above, a Principal needs to be qualified enough to lead.
The split of English and Vernacular schools also impact the quality of a Principal considering English schools have a varied mix of public and private funding while Vernacular schools are largely dependent on government sanctions. Lack of facilities in vernacular schools has been a concern for the longest time.

*Common Practices for Principal’s Training (Table C)*

<table>
<thead>
<tr>
<th>Category</th>
<th>Public School</th>
<th>Private School</th>
<th>International</th>
<th>Central Boards CBSC/ICSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes (international teaching experience)</td>
<td>Yes</td>
</tr>
<tr>
<td>Administration</td>
<td>No training given</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Inter-Personal Skills</td>
<td>No workshops conducted</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Discipline</td>
<td>'-'</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Selective Financial Exposure</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Part 2: Methodology

The interviews were conducted to evaluate various parameters that are required to be a Principal. Most specifically, the study suggests that principals play a major role in developing a “professional community” of teachers who guide one another in improving instructions.

A questionnaire was circulated to Principals of 15 schools across Mumbai. In addition, around 25 teachers were interviewed to understand their perspectives in the making of a good Principal. The purpose of the questions were to elicit responses that reflect the respondent’s judgement of themselves. For instance, Principals were asked as, what animal would best represent them?

A choice of 4 animals were given – Lion; Beaver; Hawk; Bear

These animals were selected by the author to best represent a cross-section of personalities.

Attributes of each animal was also shared with the respondent

Lion – Majestic; Strong; Courageous; Fierce

Bear – Attentive; Friendly; Blunt; Protective

Hawk – Alert; Observant; Shrewd; Opportunist

Beaver – Reliable; Ethical; Judgemental; Workaholic

The questions asked were mainly to invoke introspection as well as delve into their thinking, their perceptions and their role as a visionary. Responses were noted in the form of a scale of i) Strongly disagree ii) Disagree iii) Agree iv) Strongly agree

Keeping this in mind, interviews has been taken from different Education boards  
------- IB SCHOOL------ INTERNATIONAL, ICSE, CBSE, STATE GOVERNMENT  
AND LOCAL SCHOOLS

25  Research Methodology inspired by renowned research agencies such as ORG-MARG who conduct consumer surveys for fast moving consumer goods using various representations to draw comparisons.
A set of 20 schools meeting the above parameters was approached.

A 60:40 gender ratio will be maintained for the survey (40% Males and 60% for Females)

**Questionnaire** – the Questionnaire was divided into 4 sections for ease of response. Definitive questions for ease of tabulating results and avoid ambiguous responses.

Tabulation of results and observations will be listed out in this section.

**Section A – Welfare of Institution**
(This section aims to get an idea between demands v/s expections of a Principal. How much autonomy does a Principal enjoy?)

**What do you think are the basic things required to run a good Institution?**

- [ ] Funds
- [ ] Infrastructure
- [ ] Good Faculty
- [ ] Affordability
- [ ] Others

**How would you contribute to the welfare of the Institute?**

- [ ] Involvement
- [ ] Innovation
- [ ] Monitoring
- [ ] Others

**Are you the sole decision maker for all policies in the school?**

**Section B - Self Evaluation**
(This section aims at self-judgement and introspection)

- What animal will you choose from the list (Lion, bear, hawk, beaver) and Why?
- What was your experience in School? What led you to teaching?

**Section C – Student Welfare**
(This section aims at judging the behavioural patterns of a principal with students, their approach or demeanor towards students)
• How do you help a child who is facing problem in his/her progress?
• What do you think about the students of today

Section D – Teacher’s Welfare
• Do you motivate the teachers to improve their teaching learning process?, If they lack in anything what steps do you take to improve
• What guidance do you give to improve teacher’s classroom practices?

Sample Set

• A total of 20 schools
• 5 schools that follow the International school curriculum
• 3 schools that follow the vernacular medium and a State board.
• 5 schools belong to the State board English schools (public schools)
• 7 schools that belong to ICSE and CBSC board

Respondents

Principals – 20

Teachers – 25

*To maintain anonymity no names of schools or their respective Principals will be mentioned in this paper.

Responses

Section A – Institution welfare

Q1. What do you think are the basic things required to run a good Institution?

<table>
<thead>
<tr>
<th>Needs</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds</td>
<td>30</td>
</tr>
<tr>
<td>Good Faculty</td>
<td>30</td>
</tr>
<tr>
<td>Good Infrastructure</td>
<td>20</td>
</tr>
<tr>
<td>Students from Good Families who can afford the tuition (fees)</td>
<td>15</td>
</tr>
<tr>
<td>Others</td>
<td>10</td>
</tr>
</tbody>
</table>
* Funds and Good faculty ranked highest across all Principals, with infrastructure being second highest and third highest being 15%. Others included responses such as autonomy, good students etc.

Q2. How would you contribute to the welfare of the Institute?

![Graph showing % Response]

• Most Principals were of the opinion that giving Teachers a free hand was important for a better institution and hence they clubbed their responses with ‘Monitoring & Others’.

• Other responses were ‘Involvement’ where Principals were involved in the day-to-day activities of the school be it teaching, getting an update on the syllabus or progress of extra curricular activities. Some Principals had introduced innovative techniques in disciplining a student, monitoring their progress in studies, Time management for students who were good in both academics as well as sports etc.

QA. Are you the sole decision-maker in policies pertaining to the school?

100% responses was a ‘No’

Principals attributed their negative answer to direct reporting to the Management,

26  Others – meant supervising, new teaching methods, counseling teachers and at times students
Trustees, or Senior Supervisors who are all involved in the decision making processes. However, depending on the Board format the hierarchy changes.

International school Working

State Board/Public school

Private school – CBSC and ICSC

Section B – Self Evaluation

Q3. What animal will you choose from the list (Lion, bear, hawk, beaver) and Why?

Choice %

* Majority of Principals (in the above Pie chart) chose themselves as either Lion or Bear citing Courage and taking action (being attentive and Blunt) are umissable qualities of a Principal.
• Interview with 25 teachers, (4% of which were from S.K Rai Degree College of Commerce who are visiting faculty), stated what they want their Principal to be. PLEASE NOTE, all of 25 teachers had worked in close to 3-4 Institutions and have given their responses basis their experience and observations.

• A disparity observed in what Principals think themselves to be and what Teachers want them to be… Beaver is the most Popular amongst teachers (Reliable, ethical, workaholic)

• When asked a direct question to teachers of S.K. Rai Degree College of Commerce about their current Principal, majority rated the author (also a Principal) as a Lion – Reason given was that the author’s courage to confront Trustees on various issues related to the school was commendable.

Q4. What was your experience in School? What led you to teaching?

• 40% Principals admitted to join the profession since they were keen to impart knowledge

• 20% didn’t like school in their childhood days and wanted to use their experience to improve education in the country
• 20% Principals enjoy being administrators more than teaching and had therefore joined the profession

• 10% were forced to be in the profession due to life’s circumstances.

Section C – Student’s Welfare

Q.5 How do you help a child who is facing problem in his/her progress?

Varied Responses were noted…As presented in Quotes below -

• “I would ask the student’s counsellor to attend to the child first and submit a report on the child’s problems, post which I’ll take action. But if the student is taking time in coping then asking the student to try in another school becomes important since due to management pressure we can’t risk allowing a rotten egg to ruin the entire basket. All decisions to be made basis the school’s rules & regulations manual” – Principal of an International School

• “I would first ask the Teacher to give personalized attention to the student to understand the student’s problem and then monitor. We usually work as a team to help a student but if nothing works then the child’s parents is called in to consult” – Principal of a Private school (State board)

• “Considering most students are below average, it’s impossible to pay attention to a student’s problems or progress. Even Parents don’t want to pay heed to our warnings. In the end, the situation becomes a state mate.” – Principal of a public school

Q.6 What do you think about the students of today? Give your opinion basis the following parameters on Behaviour (disciplined), Academics, Extra-curricular activities and hygiene.
* Principals of Public Schools felt that students were more interested in ‘extra-curricular activities than in following moral science or academics. The remaining bars in the graph needs to be analyzed accordingly.

**Section D – Teacher’s Welfare**

**Q.7 - Do you motivate the teachers to improve their teaching learning process? If they lack in anything what steps do you take to improve**

Responses in the form of following quotes

“Our teachers are hired on the basis of a stringent training module where there are judged on their teaching skills and various other things. Any lack is outright rejected” – Principal of International School.

“Yes, motivation is given to teachers but most face their own personal issues, which is reflected in their teachings and hence students suffer. With a curriculum racing against time, there’s seldom any time to sit down teachers and discipline them” – Principal of Public School/Vernacular schools.

“Seminars and workshops are conducted to help teachers improve their style of teaching, spot flaws in any” – Principal of CBSC/ICSE Central boards.
Numerous lesson observations and a probationary period are set for new comer teachers. For senior teachers, it becomes difficult to confront them on certain teaching problems” – Principal of Private school.

Q.8 - What guidance do you give to improve teacher’s classroom practices?

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t interfere</td>
<td>20</td>
</tr>
<tr>
<td>Knowledge of Subject</td>
<td>30</td>
</tr>
<tr>
<td>Class control</td>
<td>35</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
</tr>
</tbody>
</table>

- 20% Principals don’t interfere since Teacher appraisals are done at the end of the annual exams (in case of International schools)
- 30% attributed that changes in curriculum/insufficient teaching aids sometimes affect teaching
- Discipline of the students played a bigger role in improving teaching.
- Other reasons included personal issues or prejudices, pressures of finishing the syllabus and so on.
- Most Principals followed a one to one chat to understand the Teacher’s problem but this also depended on the camaraderie shared between the Teacher and the Principal. Do they get along or not? Plays an important role.

Note - Out of the 15 schools, one school Principal refused to participate in the study since she needs to take permission from the School Management. This shows the policy paralysis in this school. It also reflected in the attitude of the Principal. If a Principal shows such negative attitude then imagine the impact of this attitude on the students.

Part 3 – Findings/Conclusions and Recommendations

Findings

India is a population of 1.25 billion which has a vast education system but the education system is still in its nascent stages. But within the urban sector the education system is not only complex but also liberal wherein all types of education
systems can set up shop in India. The job of a Principal becomes increasing challenging in this scenario since the cultures in government schools and private schools are different. And it is far more competitive in an International school. A water tight curriculum, limited infrastructure and constant need to follow the norms leave a Principal with little scope to contribute or improve. Nepotism rules in private schools while government schools are starved of funds. My observations from the above survey is as follows:

1. International Schools follow too many processes and systems thus restricting a Principal from taking any action. Case in point being, due to annual appraisals no Teacher or faculty can be appraised or interfered with until they are due.
   a. Also, lack of apathy shown for students who aren’t very good in studies.
   b. Extremely competitive.

2. Vernacular public schools are starved for funds and owing to quality of students (mainly from less fortunate economic backgrounds) the stress is more on completing the syllabus rather than giving them a good education.

3. English Public schools consider themselves competing with private schools wanting to give the best form of all around education to their students but fall short of funds.

4. Irrespective of Gender, Private or Public school Principal across institutions have shown an inclination to be a LION depicting their tendencies of protecting the jungle and guarding its area with a sense of Pride. Some other qualities being COURAGEOUS, AND TYRANNICAL.
   a. What’s interesting to note that the 2nd most popular choice has been that of a Bear depicting Friendly, Powerful, protective and Blunt qualities in the Principal.
   b. Teachers on the other hand want their Principal to be a Bear and a Hawk that’s mid-way between being protective, shrewd and hawk-eyed and friendly.

CONCLUSIONS

After interviewing Principals across 20 schools, I have come to understand that
each Principal wants to be something but due to pressures is forced to do something else. Very few are able to implement their original ideas despite the fact that they are such immensely qualified individuals. Pressures on funds, getting accreditation mire a Principal’s natural growth in making a school blossom according to his or her vision. This latent need is further reinforced in their choice of animals.

**RECOMMENDATIONS**

Like someone famous has said,

“If Harvard selects only the A grade students who will take the challenge in educating the B, C and D grade students”

Keeping the above in mind, I recommend the following:

1. Introduce Uniformity in the curriculum across schools be it Public schools or Private schools. Shed the boards such as CBSC/ICSE or IB. Select the best from each board to create a robust curriculum to be followed by all, including vernacular schools.

2. Let Infrastructural facilities be the differentiating factor between schools and not the syllabus. This way schools with less than better Infrastructure will strive to give best to their students by accumulating more funds.

3. Government should invest in conducting (separate) workshops in training Teachers and Principals once a year and update them changes in the education system across the world. Let these updates be allowed to be implemented in schools. These workshops should be made mandatory.

4. The Principal should participate in shaping a reward structure in the school to reflect the goals set for the teachers as well as the students.

5. Being a (The Principal) visible presence in the school, modelling the values that are being fostered in the school.

Education is every human’s right and equal grade of education should be available to all students to create a level playing field. This is the only way a Principal can implement or strive to maintain an effective leadership.
CHALLENGES FACED BY THE TELECOMMUNICATION SECTOR DURING INFORMATION TECHNOLOGY TRANSFORMATION

Marwaha, A. S., TPO, (UIAMS), Panjab University, Chandigarh, India.
Singh, R., Sr. Delivery Manager, OnMobile Global Limited (OMG), Bangalore, India

ABSTRACT
Information Technology (IT) Transformation is an ambitious program that has far reaching benefits for Operator’s business. IT Systems Transformation refers to the sub-process that involved in aligning the Operations Support System and Business Support System infrastructure with the transformed network. The typical sets of activities that characterize this sub-process involves streamlining processes, rationalizing existing applications to merge, consolidate or retire systems and designing and implementing end-to-end solutions. There are a lot of factors like Business engagement, Safeguarding business as usual operations, Stakeholder involvement and buy-in, Alignment with other programs and Managing Change and Driving User Adoption etc. A large program of this nature presents significant challenges and is dependent on certain critical success factors.

The IT Transformation program will have impact on the core processes, systems, operations and resources across Operators, resulting in unprecedented levels of change. As per the systems blueprint, this will potentially impact on a number of target audience groups within Operators and Customer Experience. An effective change management framework and approach is critical to the successful delivery of the program. This approach will under-pin and support many of the program programs within the scope of IT Transformation, with the aim of maximizing acceptance and user adoption of changed systems and processes. This paper identifies the key challenges faced by Telco’s during IT Transformation program and understands change management and Driving User adoption during IT Transformation.
Systematic Random Sampling method is used for data collection. A total 3452 FTE (Full Time Employees) work in the telecom companies selected for the study and 10% sample is drawn to get the data. Data was proposed to be collected from 345 employees. A questionnaire was prepared and data was collected from 323 FTE (Full Time Employees) of fixed line operators operating from National Headquarters, Network Operations Center and Circle Offices, all of whom were interviewed. The rest 22 employees were not able to complete the questionnaire despite repeated reminders. Secondary Data collected through Webinars, online reports and websites and Statistical Analysis will be carried out using SPSS.

Keywords: User Adoption, Stakeholder, Managing Change Customer Experience.

INTRODUCTION

Telecom Transformation is a term that describes the evolution of the telecommunications industry from a capital-intensive, technology-focused model to a user-centric service-delivery model. In order to maintain the market, the service providers are introducing new attractive services to the end-users, which require modifications to their current infrastructure (legacy infrastructure) into what is typically termed as a Next-Generation infrastructure. The process of converting or modifying the network elements, end-user services and business-processes of the service provider to achieve the competitive advantages offered by the newer technologies is known as Transformation.

Transformation Sub-processes: The telecom transformation process is a combination of the following three sub-processes.

- Telecom Network Transformation: The Network Transformation sub-process refers to the activities adding new elements in the Core Network, Backbone network and Access network.

- End-user Services Transformation: This sub-process is aimed at ensuring that the services offered in the legacy network and availed by the end-users continue to be available during the transition phase and up to a planned future. This sub-process is also concerned with introduction of new end-user services into the next-generation network.

IT Systems Transformation: refers to the sub-process that involved in aligning
the Operations Support System and Business Support System infrastructure with the transformed network. The typical sets of activities that characterize this sub-process like Streamlining processes, Rationalizing existing applications to merge, consolidate or retire systems and Designing and implementing end-to-end solution. The IT Transformation can be broadly divided into four phases i.e. Define, Benefits realization, Business transformation and System rationalization (as shown below).

**Transformation Activities**

<table>
<thead>
<tr>
<th>Define</th>
<th>Benefits Realization</th>
<th>Business Transformation</th>
<th>System Rationalization</th>
<th>Build &amp; Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy</td>
<td>Baseline</td>
<td>Capture As-Is</td>
<td>Build CRP</td>
<td></td>
</tr>
<tr>
<td>Architecture</td>
<td>CE Improvement Drive</td>
<td>Define Blue print process</td>
<td>Solution Architecture</td>
<td></td>
</tr>
<tr>
<td>Roadmap</td>
<td>Monitor &amp; Track</td>
<td>Define To-Be process</td>
<td>Test Strategy</td>
<td></td>
</tr>
<tr>
<td>CE Targets</td>
<td>User Adoption</td>
<td>Change Management</td>
<td>Build &amp; Test</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1**

**Define:** This phase forms the foundation for entire transformation; it would define the transformation strategy, Architecture design, Transformation Roadmap and set the Customer Experience targets.

**Benefits Realization:** This phase would ensure the desired benefits are accomplished as a result of transformation. Monitoring and tracking mechanism will be defined so that these parameters can be measured and compared against baseline. There will be process to set up monitor user adoption. Operator will continue to monitor reduction in Total Cost of Ownership (TCO) and other business benefits.

**Business transformation:** The IT Transformation is a business process led...
transformation, most of design activities carried out in this phase would be around designing high level process, defining change management strategy, roll out strategy etc.

**System rationalization:** This phase would further be divided into design and “Build & Test”.

The design phase would cover e2e design, solution architecture, system level design, Proof of Concepts (POC), design to cover in-life service management during transformation. The Build & Test phase would build conference room pilots based on generic process, build functionality on target stack proposed by solution architecture and address deployment, rollout and migration. The activities in various phases (horizontal layers) are logically segregated into vertical logical groups namely blueprinting, To-Be, Migration and change.

**Blueprinting:** This vertical would deal with generic requirements by defining blueprint processes that are based on ITIL, PMF and out of the box functionality offered by COTs. These generic processes will form the basis for building Conference room Pilot which is scaled down version of the functionality implemented for a product using COTs features.

**To-Be:** The activities in this vertical would cover activities like defining to be processes, e2e design, system design, implementation and testing.

**Migration:** This vertical deals with the migration activities like defining change management strategy, migration & rollout strategy, data quality analysis, designing migration solution and its implementation.

**Change:** Change management activities broadly cover defining change management strategy, data cleansing activities, in-life service management during actual transformation, deployment trials & migrate.

**OBJECTIVES OF THE STUDY**

- To identify the key challenges faced by Telco’s during IT Transformation program.
- To propose the Program Management and Governance framework for IT
Transformation

• To understand change management and Driving User adoption during IT Transformation

METHODOLOGY

1. Systematic Random Sampling method is used for data collection. A questionnaire was prepared and data was collected from Full Time Employees (FTE’s) working on Service Fulfillment, Assurance & Billing and Product Management processes across below mentioned 5 Organizations.
   a. Reliance Communication Limited
   b. Bharti Airtel Limited
   c. Bharat Sanchar Nigam Limited
   d. Mahanagar Telephone Nigam Limited
   e. Tata Teleservices (Maharashtra) Limited

2. These operators are being chosen based of customer base, operating circles and Business growth with the Enterprise Product range.

323 FTE (Full Time Employees) of fixed line operators operating from National Headquarters, Network Operations Center and Circle Offices have been interviewed; these respondents covered the complete Operational Support processes and Business Support processes including Customer relationship management, billing systems etc.

3. Primary Data collected via :
   a. Face-2-Face discussions
   b. Email communication
   c. Online Surveys and response
   d. Audio Conferencing with the different level groups.

4. Secondary Data collected through Webinars, online reports and websites.

5. Statistical Analysis using Chi square and ANOVA are being used.
Analysis and Findings

After analyzing the respondent’s feedback and review comments below mentioned excerpts have been defined.

Inter-relation between business transformation and human resource management

Hypothesis: There is no relationship between Success of business transformation and human resource management

Chi square test is applied to find the relationship between two attributes.

Summary

<table>
<thead>
<tr>
<th>Operator</th>
<th>Bharti Airtel</th>
<th>BSNL</th>
<th>MTNL</th>
<th>Reliance</th>
<th>TTML</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Independent</td>
<td>18</td>
<td>26%</td>
<td>22</td>
<td>24%</td>
<td>13</td>
</tr>
<tr>
<td>Dependent</td>
<td>52</td>
<td>74%</td>
<td>68</td>
<td>76%</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 1

Pearson Chi-Square Tests

<table>
<thead>
<tr>
<th>Relationship between business transformation and HRM</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>12.036</td>
</tr>
<tr>
<td>df</td>
<td>4</td>
</tr>
<tr>
<td>Sig.</td>
<td>.017*</td>
</tr>
</tbody>
</table>

Table 2

As p value is less than 0.05, the null hypothesis is rejected. This concludes that there is a significant relationship between business transformation and human resources management. IT Transformation in Bharti, BSNL, TTML and MTNL is highly depended on Human Resource Management. However Reliance relies only 50%. It means there are challenges pertaining to Human resource management.
in case any operator working towards IT Transformation in their Business or Operational areas. Capabilities like skill enhancement of existing employees, Internal or External Hiring’s, resource transition, Staff Training & Skill Transfer, competence training for staff to acquire necessary knowledge and Operations administration and maintenance skills. Basic skills evaluation for individual, On-site training for each individual under the guidance of deployment staff and report to the training progress and result periodically.

**Data Integrity**

Average level of integrity with respect to customer data, commercial data and inventory data have been captured across all operators in scope and the reliability test was applied to check the reliability of the question of integrity of various data before analyzing the same.

**Hypothesis:** There is no significant difference in average level of integrity with respect to customer data, commercial data and inventory data.

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th>Count</th>
<th>Sum</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>level of integrity of Customer data</td>
<td>323</td>
<td>846</td>
<td>2.619195046</td>
<td>0.8327981</td>
</tr>
<tr>
<td>level of integrity of commercial data</td>
<td>323</td>
<td>875</td>
<td>2.708978328</td>
<td>0.5175278</td>
</tr>
<tr>
<td>level of integrity of inventory data</td>
<td>323</td>
<td>815</td>
<td>2.523219814</td>
<td>0.7719747</td>
</tr>
</tbody>
</table>

*Table 3*

**ANOVA**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5.5748</td>
<td>2</td>
<td>2.787409701</td>
<td>3.9401718</td>
<td>0.0197582</td>
<td>3.005041792</td>
</tr>
<tr>
<td>Within Groups</td>
<td>683.38</td>
<td>966</td>
<td>0.707433546</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>688.96</td>
<td>968</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 4*

According to ANOVA table hypothesis is not accepted at 5% significance level. This indicates that average level of integrity is different for customer, commercial
and inventory data. As per the feedback received from most of the respondents, Commercial Data is scattered across the Operation Support Systems and Business Support Systems. Mean is 2.70 reflecting that Commercial Data usually rekeying during E-2-E Business processes. Customer Data is also following the same trend with a Mean Value is 2.61 followed by Inventory data having a Mean value is 2.52. Therefore it has been inferred that Integrity level of Commercial Data is a little more as compared to Customer data and Inventory data.

**Company wise comparison with respect to integrity of Customer data**

**Hypothesis:** There is no difference in opinion of operators regarding Integrity to Customer data

<table>
<thead>
<tr>
<th>Level of integrity of Customer data</th>
<th>Operator</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bharti Airtel</td>
<td></td>
<td>3</td>
<td>4%</td>
<td>20</td>
<td>22%</td>
<td>11</td>
<td>21%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>BSNL</td>
<td></td>
<td>13</td>
<td>19%</td>
<td>42</td>
<td>47%</td>
<td>26</td>
<td>49%</td>
<td>22</td>
<td>32%</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>MTNL</td>
<td></td>
<td>26</td>
<td>37%</td>
<td>27</td>
<td>30%</td>
<td>15</td>
<td>28%</td>
<td>43</td>
<td>63%</td>
<td>26</td>
<td>62%</td>
</tr>
<tr>
<td>Reliance</td>
<td></td>
<td>25</td>
<td>36%</td>
<td>1</td>
<td>1%</td>
<td>1</td>
<td>2%</td>
<td>3</td>
<td>4%</td>
<td>7</td>
<td>17%</td>
</tr>
<tr>
<td>TTML</td>
<td></td>
<td>3</td>
<td>4%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>5</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Table 5**

**Pearson Chi-Square Tests**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>141.479</td>
<td>16</td>
<td>.000*</td>
</tr>
</tbody>
</table>

**Table 6**

The result indicates that there is difference in opinion of operators regarding
integrity of customer data as p value of the Chi square test is less than 0.05 and therefore the hypothesis is rejected concluding that some factor is operating for the difference. It is observed that in Bharti and TTML, this level of integration is from moderate to high level. However in BSNL and MTNL, it is from lowest to moderate. The Reliance integration is from low to moderate.

Company wise comparison with respect to integrity of Commercial data.

Hypothesis: There is no difference in opinion of operators regarding Integrity to Commercial data.

<table>
<thead>
<tr>
<th>Level of integrity of commercial data</th>
<th>Operator</th>
<th>Bharti Airtel</th>
<th>BSNL</th>
<th>MTNL</th>
<th>Reliance</th>
<th>TTML</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>Lowest Level</td>
<td>1</td>
<td>1%</td>
<td>10</td>
<td>11%</td>
<td>5</td>
<td>9%</td>
</tr>
<tr>
<td>Low Level</td>
<td>19</td>
<td>27%</td>
<td>22</td>
<td>24%</td>
<td>15</td>
<td>28%</td>
</tr>
<tr>
<td>Moderate Level</td>
<td>35</td>
<td>50%</td>
<td>56</td>
<td>62%</td>
<td>32</td>
<td>60%</td>
</tr>
<tr>
<td>High Level</td>
<td>15</td>
<td>21%</td>
<td>2</td>
<td>2%</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Highest Level</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 7

<table>
<thead>
<tr>
<th>Pearson Chi-Square Tests</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>48.827</td>
</tr>
<tr>
<td>df</td>
<td>12</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000*,b</td>
</tr>
</tbody>
</table>

Table 8

The result indicates that there is a significant difference in opinion of operators regarding integrity of commercial data as p value of the Chi square test is less than 0.05 and therefore the hypothesis is rejected concluding that some factor is operating for the difference. It is observed that in Bharti and TTML, this level of integration is from low to high level. However in rest of operators, it is from low to moderate.
Company wise comparison with respect to integrity of inventory data

**Hypothesis:** There is no difference in the opinion of operators regarding Integrity to Inventory data

<table>
<thead>
<tr>
<th>level of integrity of inventory data</th>
<th>Operator</th>
<th>Bharti</th>
<th>Airtel</th>
<th>Count</th>
<th>%</th>
<th>BSNL</th>
<th>Count</th>
<th>%</th>
<th>MTNL</th>
<th>Count</th>
<th>%</th>
<th>Reliance</th>
<th>Count</th>
<th>%</th>
<th>TTML</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Level</td>
<td></td>
<td>0</td>
<td>0%</td>
<td>29</td>
<td>32%</td>
<td>17</td>
<td>32%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Level</td>
<td></td>
<td>12</td>
<td>17%</td>
<td>30</td>
<td>33%</td>
<td>18</td>
<td>34%</td>
<td>33</td>
<td>49%</td>
<td>7</td>
<td>17%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate Level</td>
<td></td>
<td>40</td>
<td>57%</td>
<td>29</td>
<td>32%</td>
<td>17</td>
<td>32%</td>
<td>34</td>
<td>50%</td>
<td>19</td>
<td>45%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Level</td>
<td></td>
<td>18</td>
<td>26%</td>
<td>2</td>
<td>2%</td>
<td>1</td>
<td>2%</td>
<td>1</td>
<td>1%</td>
<td>16</td>
<td>38%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Level</td>
<td></td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
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<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 9*

**Pearson Chi-Square Tests**

<table>
<thead>
<tr>
<th>Operator</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>133.88</td>
</tr>
<tr>
<td>df</td>
<td>12</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000*,b</td>
</tr>
</tbody>
</table>

*Table 10*

The result indicates that there is a significant difference in opinion of operators regarding integrity of inventory data as p value of the Chi square test is less than 0.05 and therefore the hypothesis is rejected concluding that some factor is operating for the difference. It is observed that in Bharti and TTML, this level of integration is from low to high level. In BSNL and MTNL, it is from lowest to moderate level. In Reliance, it is low to moderate level.

**MIGRATION SOLUTION**

Migration solution design activity will be carried out by migration designers to define migration solution. The migration solution will primarily provide solution
for data migration, user profile migration, user training and closure. The regular communication will be sent to all stakeholders who will be impacted and are supposed to be move to new ecosystem. Migration designers would identify any development impact over e2e solution that may be required temporarily to support actual migration. Migration Methodology for Rationalisation under IT Transformation will consider following dimensions to ensure there is no impact on Operator’s business continuity and customer experience.

<table>
<thead>
<tr>
<th>Business Impact</th>
<th>Functionality</th>
<th>Systems</th>
<th>Data</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>L2C</td>
<td>Performance Requirements</td>
<td>Data Complexity</td>
<td>User Migration</td>
</tr>
<tr>
<td>Business Rules</td>
<td>T2R</td>
<td>Solution Architecture</td>
<td>Data Quality</td>
<td>User Engagement</td>
</tr>
<tr>
<td>Product Portfolio</td>
<td>C2M</td>
<td>Target Systems</td>
<td>Data Security</td>
<td>Training</td>
</tr>
<tr>
<td>Business Risks</td>
<td>Non Functional</td>
<td>Operational Readyness</td>
<td>ETL and Data Transformation</td>
<td>Communication</td>
</tr>
<tr>
<td>Regional Regulations</td>
<td>Business Continuity</td>
<td>Deployment</td>
<td>Data Cleansing</td>
<td>Exception Handling and Handholding</td>
</tr>
</tbody>
</table>

*Figure 2*

**GOVERNANCE**

Strong governance is crucial Challenge to the success of IT Transformation. The Governance function will be all inclusive and integrated across the program so that appropriate information is made available to the management team for executive decision making. It needs to be designed around the transformation methodology and aligned to the overall Milestone Governance structure.

The below diagram shows how Transformation Governance should be aligned to the Milestone Governance structure:
A key function of the Transformation Governance will be to operate across various work streams and in parallel with other programs in Operator. Governance Boards operate across these work streams and programs we have split the above model up in to 2 levels and provided a breakdown of each of the Boards below:

**GOVERNANCE FRAMEWORK**

IT Transformation Governance should be established using a federated and lean governance model where people from all key stakeholder groups are involved and empowered to make the key decisions. It has also been designed to ensure governance covers program, technical and demand aspects. The framework has been presented below:
Figure 4

The Transformation Governance model ensures the right set of information is available to enable and facilitate strategic decision making. The Governance framework is designed to ensure:

- Strong involvement of stakeholders at all levels - The Governance framework for IT Transformation will ensure that the governance bodies involve the right people, have clear terms of reference and are supplied with succinct and accurate information on the status of the program to facilitate informed decision making. The Governance framework will ensure that stakeholders involved in the process are empowered to make and implement decisions.

- Alignment with other critical programs - The Governance framework has been designed to ensure that IT Transformation is aligned with other critical programs within Operator. This can be seen by the alignment to the Milestone Governance framework. Such alignment has ensured cross-program dependencies are resolved and decision making is objective.

- Close co-ordination within the various IT Transformation programs – The Co-ordination Group will ensure alignment across IT Transformation programs. All cross program issues will be discussed and resolved with input from the appropriate program representatives.
• Establish benefit measurement and reporting regime - The Governance framework will ensure that the benefits model is used to track IT Transformation operational impacts and this information is used to make prioritization decisions. All the benefits will be measured and reported at the appropriate levels.

MANAGING THE TRANSFORMATION PROGRAM

The scope and complexity of the IT Transformation program means that it requires very close coordination and management. A central Transformation Program Management Office will thus be established to facilitate various functions, track progress and ensure regular reporting. Transformation Program Management Office will work in conjunction with The IT Transformation PMO that has already been established and is currently operational. The Transformation PMO will re-use all the frameworks and processes established by the IT Transformation PMO, as applicable.

Transformation Program Management office will enable the Governance of the transformation Program. This has been described in the Governance section. Additionally, the Transformation PMO will address the following key functions –

• Transformation planning and reporting: Management and alignment of various work streams and platform plans and reporting on progress
• Delivery lifecycle Management: Management of delivery of work-packages through application build lifecycle
• Benefits Management: Management of short term and long term financial and operational targets
• Risks, Issues, Assumptions and Dependency Management: Management of various risks, issues, assumptions and dependencies pertaining to the transformation

BENEFITS MANAGEMENT

The purpose of Benefits Management function is to ensure that IT Transformation meets its short term and long term operational improvement (reduced numbers of systems, reduced TCO, improved CE and SDK compliance) targets. The
function will be an integral part of overall Program Management will ensure that IT Transformation delivers tangible operational and business benefits to OPERATOR. This will include both financial benefits, such as reduced TCO, and operational benefits such as improved CE measures and process documentation compliance.

The responsibilities include:

- Define the benefits management process
- Propose prioritization criteria
- Build the work stream schedule model
- Confirm CE measures
- Design benefits dashboard (including all the agreed benefits measure).

The Benefits Management function will use a work stream model to agree the delivery sequence. It will measure and report the benefits achieved through IT Transformation and suggest corrective actions, where required. The benefit measurement and reporting regime will align with the overall IT Transformation Benefit realization plan. Elements such as Process Documentation Compliance Score will be identified, measured and reported through Benefits Management regime.

**RISKS AND ISSUES MANAGEMENT**

The complexity and scale of IT Transformation means that it will be faced with various risks, issues, assumptions and dependencies. We understand that Assumptions and Dependencies are not captured or managed in the Milestone process so, to ensure alignment; we capture them on separate tabs and re-word them as Risks and Issues as appropriate. As a result the primary focus is the management of Transformation risks and issues, these are categorized as follows:

- Those that might happen in the future, i.e. “risks”
- Those that have already happened, i.e. “issues”.

Effective management of these risks and issues within IT Transformation will be essential to remove or reduce the impact of the threats so improving the chances of overall program success. This will necessitate early identification, accurate impact evaluation, and proactive follow through of the remedial actions for all identified
risks and issues. As such, the Transformation Program Management Office will need to follow a best practice methodology for managing risks and issues. It is understood that some risk and issues management methods are already in place within the OPERATORGS PMO and hence the Transformation Program Management Office is working within the existing framework, processes and tools.

**Risks and Issues Register**

At the heart of Risks and Issues methodology is the set up and maintenance of the risks and issues registers. The register is set up as a joint IT Transformation program register. The joint register includes the following type of Risks, Issues, Assumptions and Dependencies:

- Issues that cannot be resolved internally within Operator
- Risks that cannot be mitigated without consulting other parties
- Dependencies of the IT Transformation program on other Milestone programs

Further, the above mentioned internal registers will be configured to support the necessary reporting requirements, for instance program reporting. It is envisaged that the Transformation Program Management Office will gather all the necessary information on risks and issues. All risks and issues will be entered into the register, together with associated information such as impact, owners and mitigating actions.

**Prioritization Criteria**

The Red, Amber, Green priority system will be applied to all risks and issues, with Red having the highest impact/priority, Amber the next level down, and Green having the lowest impact/priority level. As a general rule Green or Low impact issues and risks will be resolved at program level and will only be raised at the joint Risks and Issues meeting as an update. High and medium impact issues in Red and Amber will be discussed and updated at the joint meetings.

**Escalation of Risks and Issues**

The proactive management of risks and issues is a key part of the Transformation Program Methodology. The escalation process, while established, is based on the severity, probability (for risks) and subjectivity of each escalation review for
individual risks and issues.

Managing Change

The IT Transformation program will impact on the core processes (C2M, L2C and T2R), systems, operations and resources across Operators, resulting in unprecedented levels of change. As per the systems blueprint, this will potentially impact on a number of target audience groups within Operators and Customer Experience. An effective change management framework and approach is critical to the successful delivery of the program. This approach will under-pin and support many of the program programs within the scope of IT Transformation, with the aim of maximizing acceptance and user adoption of changed systems and processes.

Objectives of the change management approach

The change management approach will support the objectives of the overall program, but will be specifically measured on following:

- Ensure the program has a structured engagement and communications approach to develop active senior and cascading sponsorship, to drive the transformation change program.
- Maximize user adoption of the systems and processes transformed by the program, ensuring the benefits of the new systems and processes put in place are fully realized.
- Ensure the ‘compelling case for change’ for each stakeholder group impacted by the program is clear, increasing buy-in to the programs approach and minimizing the impact of potential resistance to change.
- Put in place the business capability to effectively use the systems and processes put in place, through the successful delivery of the ‘train the trainer’ program.

Driving User Adoption

One of the most important measures in evaluating the IT Transformation program success is the end-user adoption of the new systems and processes introduced by the program. Operators will only realise the intended benefit of the program, if its end-users have adopted the new ways of working.
The approach to increasing user-adoption

- The user-adoption target for the program requires a clear strategy to ensure end-users are motivated and confident to use the new systems and processes put in place. The IT Transformation program therefore needs to achieve its core objective of process and systems rationalization in a manner that allows users to endorse the changes being made in the IT landscape. The user adoption approach will have critical interdependencies with the training and communications strategy, which are captured within this section of the transformation plan. User adoption will be led through a framework that will address both hard (technical issues such as data and user migration) and soft issues around user adoption, change management and training. Specific measures to accurately measure user adoption will have to be defined, which reflects the use of processes and system changes put in place by the program.

Key responsibilities in the delivery of user-adoption activities

The key responsibilities and deliverables to deliver the appropriate levels of user adoption include:

- The approach, measurements and metrics used to assess user adoption
- Ensure a structured change management strategy is put in place to deliver end-user adoption
- Ensure the programs are actively involving the business in the design and development of solutions being put in place
- Engage senior and local management will actively sponsors the program, ensuring adherence to the process and systems change
- Measuring the implementation of CE stories

CONCLUSION

Impact on Human resource function

IT Transformation impacting the Human resource function w.r.t the Capabilities like skill enhancement of existing employees, Internal or External Hiring’s, resource
transition and Optimization, Staff Training & Skill Transfer, competence training for staff to acquire necessary knowledge and Operations administration and maintenance skills.

**Data integrity**

Average level of integrity is different for customer, commercial and inventory data and lowers than the moderate level. Commercial Data is scattered across the Operation Support Systems and Business Support Systems with Mean value of integrity is 2.70, Customer Data is also following the same trend with a Mean Value is 2.61 and Inventory data having a Mean value is 2.52.

It is inferred that in Bharti and TTML, the level of Customer data integration is from moderate to high level. However in BSNL and MTNL, it is from lowest to moderate. The Reliance integration is from low to moderate.

It is observed that in Bharti and TTML, the level of Commercial Data integration is from low to high level. However in rest of operators, it is from low to moderate.

It is concluded that in Bharti and TTML, the level of Inventory Data integration is from low to high level. In BSNL and MTNL, it is from lowest to moderate level. In Reliance, it is low to moderate level.

**Data Migration**

Data migration across OSS and BSS functions also a concern as the data flows from one system to another based upon the attributes which further creates a challenge of Data migration with full of risks and issues.

**Governance**

The Governance function needs to be inclusive and integrated across the program so that appropriate information is made available to the management team for executive decision making. The scope and complexity of the IT Transformation program means that it requires very close coordination and management.

**Managing Change and User Adoption**

The complexity and scale of IT Transformation means that it will be faced with
various risks, issues, assumptions and dependencies. The IT Transformation program will impact on the core processes (C2M, L2C and T2R), systems, operations and resources across Operators, resulting in unprecedented levels of change.

As per the systems blueprint, this will potentially impact on a number of target audience groups within Operators and Customer Experience.

**RECOMMENDATIONS**

Operators should focus on FTE’s skill development so that the performance in core functions can be improved in correlation with Operator and Employee satisfaction.

Operators should carry on Continual monitoring and controlling of Benefits management which are in scope of IT Transformation.

Transition and Transformation programs needs to be aligned to ensure that there is minimal impact on Business As usual due to Data integrity and migration issues.

A central Transformation Program Management Office will be established to facilitate various functions, track progress and ensure regular reporting. Identification and abatement of Risk analysis should be a mandate within the IT Transformation Program.

Benefits Management function required to ensure that IT Transformation meets its short term and long term operational improvement (reduced numbers of systems, reduced TCO, improved CE and SDK compliance) targets.

One of the most important measures in evaluating the IT Transformation program success is the end-user adoption of the new systems and processes introduced by the program.

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HEALTH EDUCATION: A COST EFFECTIVE TOOL FOR PREVENTING CARDIOVASCULAR DISEASE

Dr. Manjushri Sharma, Assistant Professor, UIAMS, Panjab University, Chandigarh

ABSTRACT

Cardiovascular disease (CVD), as the foremost cause of hospital admissions and associated mortality, has thrust a huge economic burden on the health care systems. A century of intensive research has revealed that the occurrence of CVD in a population relates to interlocking genetic, social, physiological, and environmental factors. These risk factors, alone or in combination, play a role in causation of CVD. Recent studies have also indicated that the type of risk factors, and their relative or absolute contribution to the causation of cardiac disease, tends to differ amongst populations with different socio-economic profiles.

As regards the literature available on the risk profiling for CVD and its relationship with the socio-economic attributes, most of the studies have concentrated on the so called ‘hard’ risk factors, including hypertension, diabetes, obesity, and hypercholesterolemia. The softer life style risk factors have gained importance only recently, with growing concerns on relationship between stress, physical activity, tobacco consumption and alcohol consumption with heart disease. These risk factors are amenable to change, provided health education is imparted effectively and efficiently at the right stage.

This paper intends to study the impact of life style factors as a risk component in patients who are diagnosed cases of Myocardial Infarction, reporting to public and private hospitals in the tri-city of Chandigarh, Mohali, and Panchkula. These patients were divided into cases and controls on the basis of selected criteria.

Keywords: Cardiovascular Disease, Risk factors, stress.
INTRODUCTION

Cardiovascular diseases, primarily coronary artery disease and stroke, are the leading causes of death and disability in both developed and developing countries. Ironically, most, if not all, of the risk factors are amenable to being reversed or modified. Important among these are elevated blood pressure, diabetes, cigarette smoking, sleep deprivation, stress and sedentary life-style. It is also being increasingly recognized that apart from individual characteristics, community and other socio-economic factors also have a bearing on both, prevalence, and distribution, of the modifiable risk factors in a particular geographical region.

Amongst the developing nations, it is the people of Indian Asian descent that account for one fifth of the world population. And it is this “Asian Indian Phenotype” which is predisposed to developing diabetes and premature cardiovascular disease (CVD). This is because of prevalence of a combination of clinical, biochemical and metabolic abnormalities that include: larger waist-to-hip and waist-to-height ratios signalling excess visceral adiposity, insulin resistance, lower adiponectin, higher C-reactive protein levels, raised triglycerides, low high-density lipoprotein (HDL) cholesterol. Thus, south Asian population exhibits a greater prevalence of risk factors for Coronary Artery Disease when compared with the rest of the world, and more importantly, coronary artery disease manifests itself at an earlier age. (Joshi P, Islam S, et al. Risk factors for early myocardial infarction in South Asians compared with individuals in other countries. (JAMA 2007; 297:286-94)

This particular predisposition in Indian Asian population, combined with the socioeconomic milieu specific to the developing world, thus imposes a dual cardiovascular disease burden, and the only cost effective way to combat this is through health promotion activities. Also, the population needs to be stratified on the basis of presence or absence of risk factors, so that the strategies can be modified according to the class of relative risk that the individual faces.

It is being increasingly recognised that developing countries, with a different socio-economic milieu than the developed world, tend to have their disease burden vaguely predicted because of over-reliance on the risk scoring methodologies that are developed for and from developed world. The best way to increase the operational efficiency of this resource crunched health care system is to decrease the percentage of patients who reach the institutions at the secondary or tertiary prevention stage. This would require developing a score that comprehensively
screens and stratifies the population, and not just the patients, on the basis of presence of locally prevalent and validated risk factors. This score would include the unattributed risk from social deprivation, stress, and social inequality.

The great strength of the risk scoring approach is that it provides a rational means of making decisions about intervening in a targeted way, thereby making best use of resources available to reduce cardiovascular risk. Otherwise, there is a risk that pharmaceuticals will be implemented as the only solution to CVD and other chronic diseases.

As far as predicting the risk of developing cardiovascular disease is concerned, a number of risk prediction equations have been developed that measure an individual’s absolute risk of a cardiovascular event over a specified time period. These equations have, more or less, been derived from highly selected developed world populations. The Framingham coronary heart disease risk function is the most widely used method for assessment of cardiovascular risk. The Framingham cohort is almost entirely white and recalibration may be needed in more ethnically diverse populations. The equations may also underestimate risk in some high risk subgroups, such as patients from deprived areas, potentially exacerbating health inequalities. The other scores used are QRISK, SCORE, and 2013 ACC/AHA guidelines on the assessment of cardiovascular risk. These scores also suffer from the same disadvantage, of that being assessed for developed nations. For developing countries, WHO has developed a score that has been calibrated especially for developing nations. In addition, IHMRS (Interheart modified risk score) obtained from INTERHEART data has been validated in South Asians.

While infectious and malnutrition-related illnesses continue to be a major problem, in many parts of India the additional burden of CVD will severely strain an overstretched, ill-prepared and resource constrained health infrastructure. In this scenario, control of CVD will require a comprehensive prevention program comprising policies and measures for promoting awareness and healthy lifestyles in the general population as well as strategies for cost-effective identification and treatment of high-risk individuals. It is to this end that the proposed study is being undertaken, so as to suggest locally compliant health promoting policy measures aimed to increase the operational efficiency of health care interventions.
METHODS

Study participants

The study was a standardized case control study of acute Myocardial Infarction in which 86 consecutive cases and 124 controls were enrolled between November 2014 and April 2015. Informed consent was obtained from all participants in the vernacular language that the patient was comfortable with. Respondents for the study were patients who reported to public and private hospitals in the tri-city of Chandigarh, Mohali, and Panchkula. These hospitals cater to the population of Punjab, Haryana, Himachal Pradesh, and Chandigarh which is anticipated to be an appropriate representation of the demographic profile of North India, thus providing a healthy mix of all socio-economic classes.

The design of study

The proposed study analyses the presence of modifiable and non-modifiable risk factors for CVD and the impact of socio-economic indicators on the CVD risk profile of a sample of patients reporting to public and private hospitals in the tri-city of Chandigarh, Mohali, and Panchkula between November 2014 and April 2015. The patients who fulfilled the criteria were interviewed for the four classes of data that has been collected for each patient, namely demographic data (for socio-economic indicators) and medical history, lifestyle factors history, and biochemical findings (for risk factors). Prior to interview, informed consent from all respondents has been taken on a form. The information about the risk factors and socio-economic status has been collected in a questionnaire cum schedule which has been adapted from the research tool used in INTERHEART study, with due permission.

These patients have been divided into cases and controls on the basis of following criteria:

CASES- Patients who have clinical symptoms of Acute Myocardial Infarction and significant ECG changes such as new Q waves or more than 1mm ST elevation in any two or more contiguous leads or a new left bundle branch block or new persistent ST-T wave changes diagnostic of a non-Q wave myocardial infarction, or raised concentration of troponin or tread mill test moderately to strongly positive. Criteria for subsequent confirmation include angiographically proven CAD.
CONTROLS - Patients (hospital based controls) who have suggestive symptoms of cardiac disease and reporting to cardiac OPD but who have no chest pain on exertion and are Tread Mill Test (TMT) negative, or patients who are TMT positive but do not have angiographically proven disease.

The inclusion criteria are all the patients, above the age of 20 years, reporting to the cardiology OPD of the hospital and/or who are being admitted for diagnostic angiography. The exclusion criteria is respondents who have already been diagnosed as patients of CVDs and have come after first follow up (because they might have received risk factor modification information which can result in recall bias), and patients who are in cardiogenic shock or have significant co-morbidity (because of interaction of risk factors with other disease states).

**Definition of Risk Factors**

Current smokers were defined as individuals who reported smoking cigarettes or other forms of tobacco in the previous years. Former smokers were the ones who had quit more than a year earlier. Hypertension and diabetes were defined by self report. Participants were defined as physically active if they were involved in moderate (walking, cycling) or strenuous exercise (jogging, swimming) for four hours or more per week. Regular alcohol use was defined as consumption of alcohol at least three times a week. Psycho social stress factors, that is, depression, locus of control, financial stress were systematically recorded.

**Statistical Analysis**

From the demographic profile of cases highlighted in Table 1, it is evident that majority of patients hospitalised for treatment of MI are males [96 (77.4 percent)]; belonging to ‘college and university level education’ category [54(43.5 per cent)].

*Table 1: Demographic profile of respondents*

<table>
<thead>
<tr>
<th>Group</th>
<th>Cases</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>96</td>
<td>77.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>28</td>
<td>22.6</td>
</tr>
</tbody>
</table>
Distribution of risk factors also varied significantly between cases and controls. It is evident from analysis of data in Table 2 that a significant proportion of cases [104 cases, 83.87 per cent] have SBP and DBP above the normal range of 120/80.

**Table 2: Comparison of Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Cases Number</th>
<th>Cases Percent</th>
<th>Control Number</th>
<th>Control Percent</th>
<th>Total Number</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBP 90-120</td>
<td>20</td>
<td>16.1</td>
<td>29</td>
<td>33.7</td>
<td>69</td>
<td>32.9</td>
</tr>
<tr>
<td>120-140</td>
<td>80</td>
<td>64.5</td>
<td>53</td>
<td>61.6</td>
<td>113</td>
<td>53.8</td>
</tr>
<tr>
<td>More than 140</td>
<td>24</td>
<td>19.4</td>
<td>4</td>
<td>4.7</td>
<td>28</td>
<td>13.3</td>
</tr>
<tr>
<td>DBP 60-80</td>
<td>36</td>
<td>29.0</td>
<td>82</td>
<td>95.3</td>
<td>118</td>
<td>56.2</td>
</tr>
<tr>
<td>80-90</td>
<td>53</td>
<td>42.7</td>
<td>4</td>
<td>4.7</td>
<td>57</td>
<td>27.1</td>
</tr>
<tr>
<td>More than 90</td>
<td>35</td>
<td>28.2</td>
<td>0</td>
<td>0.0</td>
<td>35</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>100.0</td>
<td>86</td>
<td>100.0</td>
<td>210</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Source: Primary Survey**

**Pearson Chi-Square Tests**

<table>
<thead>
<tr>
<th>Group</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBP</td>
<td>9.922</td>
<td>2</td>
<td>.007*</td>
</tr>
</tbody>
</table>

*Source: Primary Survey*
It has been observed through data analysis of Risk factors related to life style that a significant proportion of respondents among cases experienced stress [59 cases (68.6 per cent)] which includes financial stress, stress at home and stress at work place. The level of autonomy at work place shows similar distribution, being lower for higher percentage of cases as compared to controls.

Table 3: Comparison of Risk Factors Related to Life Style

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Risk Factors</th>
<th>Categories</th>
<th>Group</th>
<th>Control Number</th>
<th>Control Percent</th>
<th>Cases Number</th>
<th>Cases Percent</th>
<th>Total Number</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stress</td>
<td>Little/None</td>
<td></td>
<td>58</td>
<td>46.8</td>
<td>27</td>
<td>31.4</td>
<td>85</td>
<td>40.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td>45</td>
<td>36.3</td>
<td>50</td>
<td>58.1</td>
<td>95</td>
<td>45.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High/Severe</td>
<td></td>
<td>21</td>
<td>16.9</td>
<td>9</td>
<td>10.5</td>
<td>30</td>
<td>14.3</td>
</tr>
<tr>
<td>2</td>
<td>Level of Autonomy at Work</td>
<td>None</td>
<td></td>
<td>21</td>
<td>16.9</td>
<td>0</td>
<td>0.0</td>
<td>21</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Little</td>
<td></td>
<td>14</td>
<td>11.3</td>
<td>8</td>
<td>9.3</td>
<td>22</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td>28</td>
<td>22.6</td>
<td>15</td>
<td>17.4</td>
<td>43</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Substantial</td>
<td></td>
<td>16</td>
<td>12.9</td>
<td>7</td>
<td>8.1</td>
<td>23</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complete</td>
<td></td>
<td>25</td>
<td>20.2</td>
<td>14</td>
<td>16.3</td>
<td>39</td>
<td>18.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not Working</td>
<td></td>
<td>20</td>
<td>16.1</td>
<td>42</td>
<td>48.8</td>
<td>62</td>
<td>29.5</td>
</tr>
<tr>
<td>3</td>
<td>History of Tobacco Consumption</td>
<td>Former Tobacco user</td>
<td></td>
<td>42</td>
<td>33.9</td>
<td>15</td>
<td>17.04</td>
<td>57</td>
<td>27.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Current Tobacco user</td>
<td></td>
<td>2</td>
<td>1.6</td>
<td>62</td>
<td>70.5</td>
<td>64</td>
<td>30.47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Never Used Tobacco</td>
<td></td>
<td>80</td>
<td>64.5</td>
<td>9</td>
<td>12.5</td>
<td>89</td>
<td>42.38</td>
</tr>
<tr>
<td>4</td>
<td>Physical activity at work</td>
<td>Mainly Sedentary</td>
<td></td>
<td>39</td>
<td>31.5</td>
<td>11</td>
<td>12.8</td>
<td>50</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Walking</td>
<td></td>
<td>36</td>
<td>29.0</td>
<td>42</td>
<td>48.8</td>
<td>78</td>
<td>37.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mainly Walking including Climbing</td>
<td></td>
<td>24</td>
<td>19.4</td>
<td>11</td>
<td>12.8</td>
<td>35</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heavy Labour</td>
<td></td>
<td>6</td>
<td>4.8</td>
<td>1</td>
<td>1.2</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not working</td>
<td></td>
<td>19</td>
<td>15.3</td>
<td>21</td>
<td>24.4</td>
<td>40</td>
<td>19.0</td>
</tr>
<tr>
<td>5</td>
<td>Physical activity at home</td>
<td>Mainly Sedentary</td>
<td></td>
<td>73</td>
<td>58.9</td>
<td>28</td>
<td>32.6</td>
<td>101</td>
<td>48.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mild Exercise</td>
<td></td>
<td>41</td>
<td>33.1</td>
<td>27</td>
<td>31.4</td>
<td>68</td>
<td>32.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
<td>6</td>
<td>4.8</td>
<td>11</td>
<td>12.8</td>
<td>17</td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heavy</td>
<td></td>
<td>3</td>
<td>2.4</td>
<td>11</td>
<td>12.8</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strenuous</td>
<td></td>
<td>1</td>
<td>.8</td>
<td>9</td>
<td>10.5</td>
<td>10</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Source: Primary Survey
So far as tobacco smoking as a risk factor is concerned, a higher percentage of cases have been either former smokers or are current smokers in comparison to controls. Physical activity at work as well as at home clearly indicate that a higher percentage of controls remain active as compared to cases. Alcohol consumption as a risk factor has not been found to be as significantly associated with MI as the remaining risk factors.
DISCUSSION

This case control study has identified Stress, Level of Autonomy at Work, History of Tobacco Consumption, Physical activity at Work and home as significant risk factors associated with Myocardial Infarction in North Indian population based on the sample drawn by the researcher. Stress, Tobacco Consumption and Level of Physical Activity are important modifiable factors and public health programmes aimed at controlling these two can have an important public health impact. In addition to this the study reveals that a significantly higher percentage of cases have education of college level or above. This implies that health promotion activities specifically through health education can bring down the proportion of population in the high risk category to a considerably low level. Strategies to reduce hypertension and CVD should be population based, incorporate multilevel, multi-component, and socio-environmental approaches, and integrate community resources with public health and clinical care. There is an urgent need to improve monitoring and management of risk factors through community-wide, primary care-linked initiatives, increase the evidence base for community-based prevention strategies, further develop and evaluate promising program components, and develop new approaches to support healthy lifestyle behaviors in diverse socioeconomic and ethno-cultural groups. Policy and system changes are critical to reduce risk in populations, including legislation and public education to reduce dietary sodium and trans-fatty acids, food pricing policies, and changes to health care delivery systems to explicitly support prevention and management of CVD.

Key recommendations include the following: a stronger focus on primary prevention through interventions to help support healthy eating (decrease sodium intake and increase potassium intake) and increase physical activity; increased monitoring and reduction of sodium intake to meet current dietary guidelines; providing community-based support for individuals with hypertension through community health workers trained in dietary and physical activity counselling; and improved surveillance and reporting of hypertension to measure progress over time.

REFERENCES


EFFECT OF WORD RECOGNITION AND READING COMPREHENSION MODULES IN ENGLISH ON METACOGNITIVE READING AWARENESS OF HIGH SCHOOL STUDENTS

Dr. Anjali Puri, Senior Assistant. Professor, Govt. College of Education, Chandigarh

Language learning proceeds from the most basic blocks of language such as words, and then proceeding to more complex structures like phrases and sentences and finally to meaning. Metacognitive strategies require readers to monitor their comprehension and manage the reading task. The purpose of the present investigation is to study the effect of word recognition and reading comprehension modules in English on Metacognitive Reading Awareness of high school students. Experimental design consisting of controlled and experimental group has been used in this study. A representative sample of 100 students is drawn at the initial stage from class IX of government schools in Chandigarh, India based on random sampling technique. Pre-test is given to the class IX students consisting of Metacognitive Awareness of Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard developed in 2002. A sample of 80 students nearly equating on the scores of Pre-test are selected for future study. These chosen 80 students are divided into two groups of 40 each forming control and experimental groups. Modules foreword recognition and reading comprehension designed by the researcher are taught to the experimental group for twenty days and ordinary teaching capsule is given to the control group during these twenty days. At the end of the experiment, post-test comprising of Metacognitive Awareness of Reading Strategies Inventory (Marsi) by KouiderMokhtari and Carla Reichard (2002) is given to verify the learning outcomes among the students of both the groups. The study demonstrates the positive effects of word recognition and reading comprehension modules on the awareness of Metacognitive reading strategies and the ability of students to regulate their own reading processes, thereby rejecting the null hypothesis that there exists no significance effect of word recognition and reading comprehension modules on Metacognitive reading awareness of high school students. The results highlight the importance of word recognition and reading comprehension modules
for inculcating the metacognitive reading awareness among students which in turn paves the way for effective language learning. The more learners regulate their own vocabulary and reading comprehension, the more met cognitively cognizant they are of their learning process, which helps them recognize their strengths and weaknesses. In other words the students’ more enhanced knowledge allows them to be more self-regulated readers.

**Keywords:** Word recognition, Reading Comprehension, Metacognitive Reading Awareness.

**INTRODUCTION**

Today main method associated with the reading is phonics. Language learning that proceeds from the most basic blocks of language, such as words, and then proceeding to more complex structure, and finally to meaning. Reading comprehension refers to constructing the meaning of the oral or written message. Reading is a process focussed on letters, sounds, syllables, words, phrases, sentences, and paragraphs. The process of constructing the meaning begins with written words.

Metacognition refers to one’s knowledge concerning one’s own cognitive process or anything related to them. Kuhn (2000), Veenman (1993) and Abedi (1996) opined that Metacognition refers to two aspects, namely the student’s self-awareness of a knowledge base in which information is stored about how, when and where to use various cognitive strategies and their self-awareness and access to strategies that direct learning (e.g. monitoring difficulty level, a feeling of knowing).

Metacognition is essential to successful learning because it enables individuals to better managing their cognitive skills and to determine weakness that can be corrected by constructing new cognitive skills. Promoting Metacognition begins with building an awareness among learners that metacognition exists, differs from cognition, and increase academic success.

Metacognitive strategies require readers to monitor their comprehension and manage the reading task. Anderson (2002) and Cohen (2003) have shown that the strategies that mark the true difference between effective and ineffective learners are the Metacognitive strategies. That is, the more a student knows about how s/
he learns, the better learner s/he will be.

One’s ability to apply reading strategies effectively suggests heightened Metacognitive awareness and self-monitoring knowledge base. Metacognition helps learners focus and engage, allowing them to activate their prior knowledge to process text more interactively by employing appropriate strategies indicating they understand the “when, how, what and why” of strategic reading.

Pressley (2000), Pressley, Brown, El-Dinary & Afflerbach (1995)cited the importance of Metacognitive reading strategies and are of the opinion that the reader must purposefully or intentionally or willfully invoke strategies and does so to regulate and enhance learning from text. Through Metacognitive strategies, a reader allocates significant attention to controlling, monitoring and evaluating the reading process. Takallou (2011) stated that the Metacognitive strategy instruction seems to have contributed to the improvement of student's reading comprehension performance. In other words, the explicit instruction and practice the experimental groups received about how to plan and how to monitor their reading, contributed to this improvement. Zhang (2001) in his study concludes that having Metacognitive strategies knowledge will not guarantee that expected achievement goals are met, but it will help learners think about their learning processes. As reader’s reading ability and proficiency levels seem to interact in their Metacognitive awareness of strategy use for meaning construction, the vital thing which is of practical concern is that how teacher’s balance their teaching of both proficiency and strategies.

For much of the past two decades, the proper method for teaching children to read and write was under the divergent influences of direct method and communicative language teaching method. But there are children who learn more with visual than with their oral- aural senses like ears and tongue. With these methods, there is a danger of focusing too much on oral skills at the expense of reading and writing skills. The need of enhancing their vocabulary and pronunciation skills is often ignored when students are taught with fixes and stringent grammatical rules. There also has been lack of motivation provided to the students in order to move beyond certain fixed rules to learn the second language. Children, if taught through intensive reading they are better able to decode words on their own only after learning how to decode letters, sounds and letter groupings. Meanwhile, the learners also need to understand how a text works and what they do while reading. They must be able to monitor their own comprehension. The students who use Metacognitive
strategies, such as those who monitor their reading comprehension, adjust their reading rates, consider the objectives and tend to be better readers. The learners can overcome their difficulties when they receive the appropriate training.

So when the students are taught using intensive reading they are able to recognize, identify, speak and draw the meaning quickly and they will make more improvement in reading comprehension. More extensive use of vocabulary and improvement in pronunciation can also be seen in the students. As they will be able move beyond a limited framework of seeing and learning this second language. A negligible research has been done on the topic of the effect of intensive classroom reading on Metacognitive reading awareness. Thus, the purpose of the present study is to determine the effect of Word Recognition and Reading Comprehension Modules in English on Metacognitive reading awareness of high school students.

OBJECTIVE OF STUDY

To study the effect of Word Recognition and Reading Comprehension Modules in English on Metacognitive reading awareness of high school students.

HYPOTHESIS

There exists no significant effect of Word Recognition and Reading Comprehension Modules in English on Metacognitive reading awareness of high school students.

RESEARCH DESIGN

Experimental design consisting of controlled and experimental group was used in this study. The purpose of the present investigation was to study the effect of Word Recognition and Reading Comprehension Modules in English language teaching on Metacognitive reading awareness. For this purpose pre-test was given to the IX class students regarding Metacognitive Awareness of Reading Strategies Inventory (MARS1) by Kouider Mokhtari and Carla Reichard developed in 2002. They were further divided into two groups’ Experimental group and Control group. Self-made Word Recognition and Reading Comprehension Modules were taught to the experimental group for twenty days and ordinary teaching capsule was given to the control group during these twenty days.

At the end of the experiment post-test was given of Metacognitive Awareness of
Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard (2002) to verify the learning outcomes among the students of both the groups.

SAMPLE
A representative sample of 100 students was drawn at the initial stage from IX class of any government school in Chandigarh based on stratified randomized sampling techniques. The students constituting sample were nearly equated on the basis of their Metacognitive reading awareness score in the subject of English. A sample of 80 students nearly equating on these score were selected for future study. These chosen 80 students were divided into two groups of 40 each forming control and experimental group.

The purpose of the present investigation was to study the effect of Word Recognition and Reading Comprehension Modules in English language teaching on Metacognitive reading awareness. For this purpose pre-test was given to the IX class students regarding Metacognitive Awareness of Reading strategies inventory (MARSI) by Kouider Mokhtari and Carla Reichard (2002). Scores were equated. Students were further divided into two groups – Experimental Group and Control Group. Self-made Word Recognition and Reading Comprehension Modules were taught to the experimental group for twenty days and ordinary teaching capsule was given to the control group during these days.

At the end of the experiment post-test was given of Metacognitive Awareness of Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard (2002) to verify the learning outcomes among the students of both the groups.

TOOLS
To conduct the study, following tools were used-


2. Word Recognition and Reading Comprehension Modules made by the Researcher
DATA COLLECTION

The data from the selected sample was collected personally by the investigator after taking due permission from the principal of the school. Pre-test was given to the sample of 100 students. The data was collected in three stages.

PRE-TEST- At this stage, pre-test was administered to 100 students in Metacognitive Awareness of Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard (2002). A sample of 80 students was selected out of this sample. The students constituting sample nearly equated on the basis of their Metacognitive reading awareness scores.

TEACHING SESSIONS- At this stage, ordinary teaching was resorted to the control group for 20 days in English prose lessons as prescribed in the CBSE syllabus for class IX. During those twenty days, self made Word Recognition and Reading Comprehension modules were followed for teaching the same content to the students of Experimental group.

POST-TEST– The same test of Metacognitive Awareness of Reading Strategies Inventory (MARSI) by Kouider Mokhtari and Carla Reichard (2002) was administered to the students of both the groups as was done at pre-test stage.

The testing conditions for all the students were kept as constant and uniform as possible before the teaching session. It was ensured that the subject was seated comfortably and there was no disturbance.

STATISTICAL TECHNIQUES

The data collected was analyzed by employing elementary statistical computations namely mean, standard deviation, standard error and t-test.

ANALYSIS AND INTERPRETATION OF RESULTS

Significance of Difference between Mean Scores of Metacognitive Reading Awareness (Pre-Test).

The difference between pre-test mean scores on Metacognitive reading awareness between control and experimental group was found to be 0.29 in favor of experimental group.
The t-value for the pre-test was found to be 0.176 which was not significant at any level of confidence. Thus the two groups shared equal Metacognitive reading awareness level thus creating a perfect condition for the study to take off.

**Significance of Difference between Mean Scores of Metacognitive Reading Awareness (Post-Test)**

The difference between post-test mean scores on Metacognitive reading awareness between control and experimental group to be 17.12 in favor of the experimental group.

On the post-test, the Control Group depicted of the Mean Score of 74.88 whereas
the experimental group had the mean score of 92.01 having the advantage of 17.12 points in the favors of the experimental group at 0.01 level of significance the value is 2.58.

The t-value for the post-test was 14.20 which was significant at 0.01 level of confidence thus exhibiting a pronounced improvement in the Metacognitive awareness scores of the experimental group therefore, rejecting the null hypothesis that there exists no significant effect of word recognition and reading comprehension modules in English language teaching on Metacognitive reading awareness.

**Significance of Difference between Mean Scores of Pre-Post Test (Control Group) On Metacognitive Reading Awareness**

The difference between per-post test mean scores on Metacognitive reading awareness between control and control group was found to be 0.23.

On the pre-post test, the control group (pre) depicted of the mean scores of 74.65 whereas control group (post) had the mean scores of 74.88. Difference between per-post test mean scores on Metacognitive reading awareness between control and control group was found to be 0.23.

![](image)

The t- ratio for the pre- post test (control) was found to be 0.75 which was not significant at any level of confidence.
Significance of difference between mean scores of pre-post test (experimental group) on metacognitive reading awareness.

The difference between pre-post test mean scores on Metacognitive reading awareness between experimental (pre) and experimental (post) was found to be 17.06 in favour of the experimental group.

On the pre-post test, the experimental group (pre) depicted of the mean scores of 74.94 whereas experimental group (post) had the mean scores of 92.01. Having the advantage of 17.06 points in the favour of the experimental group.

The t-value for the pre-post test was 12.12 which was significant at 0.01 level of confidence thus exhibiting a pronounced improvement in the Metacognitive awareness scores of the experimental group therefore, rejecting the null hypothesis that there exists no significant effect of Word Recognition and Reading Comprehension Modules on Metacognitive reading awareness.

**FINDINGS AND CONCLUSIONS**

The purpose of the present investigation was to study the effect of Word Recognition and Reading Comprehension Modules in English language teaching on Metacognitive reading awareness. The study demonstrates the positive effect of Word Recognition and Reading Comprehension Modules in English on the awareness of Metacognitive reading strategies and the ability of students to regulate their own reading processes, thereby rejecting the null hypothesis that there exits
no significance effect of Word Recognition and Reading Comprehension Modules in English on Metacognitive reading awareness of high school students.

The results highlight the importance of Word Recognition and Reading Comprehension Modules in English language teaching, as it is proved to have significant effect on Metacognitive awareness, which is, in turn, in need of more research to gain better pedagogical insights. The more learners regulate their own learning, the more metcognitively cognizant they are of their learning process, which helps them recognize their strengths and weaknesses. In other words the students more enhanced knowledge allowed them to be more self-regulated readers.

However, this study used only a questionnaire to measure student’s Metacognitive awareness of reading strategies. Therefore, future research need to include data triangulation using different methods such as use of interview, students journals, think aloud protocols in order to have more broader outlook of this study.

If readers possess higher language knowledge, his/her comprehension monitoring operates at a higher level text comprehension. Therefore, sufficient knowledge of vocabulary and grammar is a pre-condition for any reader to monitor their comprehension and enhance their text comprehension. They could be encouraged to keep a journal of the Metacognitive strategies they use when they engage in extensive reading outside the classroom and use the strategies taught in the class and to keep a record of what they do when the failure of comprehension or word recognition occur or how they resolve the problems. They could seek help from their instructors in the classroom when a difficulty in comprehension occurs so that they will also improve their confidence in themselves in requesting clarifications for their problems encountered.

The results also imply that Metacognition helps learners focus and engage, allowing them to activate their prior knowledge to process text more interactively by employing appropriate strategies indicating they understand the “when, how, what and why” of strategic reading. Learners increase their potential and they can independently manage learning outcomes by developing their Metacognitive awareness across learning contexts.
REFERENCES


MINING THE WEB TO DETERMINE RESPONSIVENESS OF THE MANAGEMENT EDUCATION: SEMANTIC ANALYSIS OF THE FACEBOOK POSTS AND COMMENTS

Dr. Rachita Sambyal

The Web is a huge virtual space to express and share individual opinions, influencing various aspect of life, with implications for marketing and communication alike. Social Media are influencing consumers’ preferences by shaping their attitudes and behaviours. Keeping up with the trend, all the management education institutions have also entered on social media platform and are using their web presence to disseminate the information regarding their institutions, courses, activities and interact with their current & future students thereby using this virtual platform as an impetus to their branding activities in real world . Hence to understand how customers are responding to the various content posted by them, monitoring the Social Media activities is important to measure customers loyalty, their interests , their queries, their expectations and problem zones. This paper intends to analyse face book posts and comments of selected management institutes to understand how they are responsibly responding to the dynamically changing education sector and needs of the millennium generation. This paper, used the opinion mining technique (trend based, aspect based, and sentence based ) and builds a semantic score for the data so gathered. Data would be captured with the help of netvizz software and the same would be analysed on Khcoder software. The main aim is understand and contrast the various themes used by the management institutes to market their intuitions and identify the areas where each one of them needs to put in effort to create education responsible organisation. The paper will perform the cross sectional analysis of the various educational institutions and compare the contrast between them.

Keywords: Opinion mining, management education institute, sentiment analysis, data analytics.
INTRODUCTION

In linguistics, semantic analysis is the process of relating syntactic structures, from the levels of phrases, clauses, sentences and paragraphs to the level of the writing as a whole, to their language-independent meanings. It also involves removing features specific to particular linguistic and cultural contexts, to the extent that such a project is possible. The elements of idiom and figurative speech, being cultural, are often also converted into relatively invariant meanings in semantic analysis. With the growth of social network, most of the organisations are using the internet platform to listen to what people are saying about their brand, interact with them, view their interests, articulate a list of other users with whom they share a connection and capture upon needs & desires of the customers. This is only possible with the help of techniques of semantic analysis.

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Education industry days is facing multiple challenges, and one of the most important hurdle is meeting the demand the Millennium generation who is better than its previous counterparts in information, awareness, networking , enhanced analytical skills to process the data. To understand the change in behaviour among the students, management institutions must make a strong social presence and monitor the activities of the users and learn about their demands and needs.

REVIEW OF LITERATURE

(Liu, Bi, & Fan, 2017) in his paper ranked the online customer reviews for the .The paper proposed a method based on the semantic analysis techniques to rank the opinion of the customers into three categories as positive, negative and neutral using fuzzy logic. This paper also proposed a ranking method based on the weights which were derives based on the customer review.

(Zhang, Downey, Chen, Xie, & Cheng, 2013) in their paper collected data from Facebook and proposed a probabilistic graphical model to collectively measure reputations of entities in social networks. Their model can be used for ranking entities like presidential candidates, professional sport teams, musician bands, and companies, based on their social reputation.
(Geurin & Burch, 2016) in their paper identified the relationship between the user generated content (UGC) and goals of branding. They also posited that UGB might be effective in developing stronger relationships between brands and consumers and eliciting greater engagement with consumers on social media. This study sought to fill the gap on UGB research within the sport management field. Data was collected from the six the Instagram accounts and relationship between the audience engagement and the type of content posted was determined. A quantitative content analysis method was employed, and results indicated that those brands utilising a differentiation strategy and posts with an overt focus on the product or brand were most successful in eliciting engagement from followers.

(Hsu, Chang, Lee, & Hsu, 2015) collected the data of the 1000 public opinions about Apple iPhones and Samsung mobile brand for 15 days and classified them according to positive or negative statement syntax features. They then gave weights to different quantify substances scores and use the tree line graph provides a comparative analysis of the condition of two or more products analyzed and compared to the value per unit weight.

(Teekaraman & Selvaraju, 2013) in their paper proposes framework for identifying the trustworthy user or groups in social network using the provenance data. This paper uses semantic web environment. The framework evaluates with confidence score, trust score and adaptively metrics.

(Wu & Trappey, 2014) in their study proposed an analytical process to interpret the dialogue between young entrepreneurs and their audience of Facebook Pages. Data so collected was first cleaned to make meaningful information from it, followed by clustering using text analysis techniques and methodology. Their study provides a more direct and open-minded way for accessing customers feedbacks, so start-up vendors can know who is the existing competitors on the market and also their succeed factors and features during decision making process.

(Zhang et al., 2011) in their paper developed a sentiment identification system called SES which implements three different sentiment identification algorithms. They used three algorithms for data analysis which extracted the data, classified it to calculate a semantic score and third algorithm took into consideration the emoticons, negation word position, and domain-specific words into account. The
experiment was conducted on user comments from Facebook and tweets from twitter. The results show that utilizing Random Forest will acquire a better accuracy than decision tree, neural network, and logistic regression.

**RESEARCH METHODOLOGY**

Data would be collected from the official Facebook pages of the top three ranked management institutes (FT, 2017) namely INSEAD, Stanford and Wharton. Various posts, comments, and user related data have been extracted from these pages for the last one year starting from 1st January 2016 to 31 Dec, with help of an netvizz v1.41 which is a tool that extracts data from different sections of the Facebook platform.

![Figure 1: DESCRIPTIVE STATISTICS OF THE PAGES](chart.png)

The data so collected then separated in the form of Facebook posts by the business schools and comments by the users. The data so collected by cleaned by deleting all the irrelevant, stop words, non-English and spam comments. The trend analysis was conducted in two steps. First trend extraction was done and then classification. In trend extraction, verbs and adjectives words from POS Tagger data using trends extraction algorithm was done. In classification, trends classification of these words into strongly positive trends, positive trends and neutral trend was done using lexicon based dictionary approach using KHcoder software. It was seen that INSEAD(71.83%) had maximum positive comments followed by
Wharton (38.30) AND Standford (11.93%). The Facebook page of Stanford had maximum neutral comments (86.49%) followed by Wharton (49.52%) and INSEAD (23.63%). These comments were usually discussions done by the Facebook users. Stanford had many posts that helped in initiating open discussions by the users leading to more commenting and interaction among the users. Wharton also has maximum strongly positive comments, most of it owing its publicity to the recently selected U.S president, Donald Trump who is also Wharton alumnus. The figure also depicts that none of the user posts negative or bad comments on the Facebook pages. This shows that no critical appraisal as a result of which there was no constructive feedback for the business schools to work upon.

![Chart](chart.png)

**Figure 2: TREND ANALYSIS**

The Facebook status posts of the management schools were categorised into seven different categories namely (Oliveira & Figueira, 2015).

a. Education: Post consisting of promotion of education courses (educational offer), promotion of complementary training (internal or external)

b. Research: It consisted of posts related to information on and / or calls for participation in: congresses, seminars and other scientific Meetings, information on internal and external research results / awards; information on internal and external publications (papers, articles, books, and proceedings)
c. Society: It consists of information, promotes/informs on organizational partnerships and contracts and patents, knowledge/technology transfer, promotes employability, streaming placement offers and career opportunities, promotes other organizations’ initiatives/performance; promotes demonstrations, exhibitions and showcases, conducted by students or faculty.

d. Identity: It consists of posts relating to Institutional events (celebrations, awards and tributes, graduation ceremonies, etc.); Students, faculty and staff honorable mentions; Institutional promotion, advertising (identity, image, reputation); CSR initiatives; Institutional clipping; Participation/representation in fairs and exhibitions.

e. Administration: It consists of posts relating to informing on deadlines and administrative processes; informs on procedures and admissions; promotes and informs on support services (goals, contacts, working hours, etc.).

f. Relationships: It includes posts which foster conversation; requires opinions; introduces current internal, external, societal or academic issues propelling audience involvement; boosts emotional connection between organization and publics (greetings, humor, sympathy, motivation, etc.).

g. Information: It includes posts streams external relevant information, news and regulations related to academic areas, political and societal issues (economic and social impact); informs on recreational and cultural initiatives with no particular connection to schools’ scientific areas (concerts, sports events, etc.).
Fig: 3 shows that INSEAD leads both the other schools in consideration on every aspects. INSEAD has more posts (9.77%) related to education and 36.8% posts pertaining to relationships. This signifies that business schools these days must focus on relationship building amongst all the stake holders to engage them on the social media. Stanford, world rank 2, works aggressively on research, identity building and catering to information related to the external relevant information, news and regulations related to academic areas. Wharton business school works on research areas and identity building. This shows that in the current scenario, the management education schools have to synergise their available resources and work towards relationship building, establishment of the identity, conducting good research and keeping the users informed about the academic related information. This can only be done if one has specially dedicated team to look after the social media presence of the school.

Co-occurrence network diagram: These are network diagram that depict the association of words with similar appearance patterns, i.e., with high degrees of co-occurrence, connected by lines (edges). These charts shows the association between words and variables/heads, in addition to the associations between words. To determine word locations, this analysis uses the method developed by T. M. J. Fruchterman & E. M. Reingold (1991) for drawing a [words {words}] network. The density is derived as the number of co-occurrences that are actually drawn divided by the number of co-occurrences (edges) that could exist. A graph with higher density is more strongly connected, and in general can better resist link failures. The respective nodes, edges and density of the network diagrams of INSEAD, Stanford and Wharton are 32,60,.121; 47,60,.056 and 37,60,.09 respectively.
INSEAD: N=37, E=60, D=.09

Figure 4: CO-OCCURANCE DIAGRAM OF INSEAD

On the INSEAD page, the discussions usually revolved around compliments & positive comments about the school, discussions about the various speeches held at INSEAD and sharing of opinion among the users.

Stanford: N=47, E=60, D=.056

Figure 5: CO-OCCURANCE DIAGRAM OF STANFORD
Discussions on the Stanford page had a discussions varying from school branding, people opinion, role of genders, work and job (placements) etc. Most of the discussions at Wharton talked about Donald Trump, queries about the application procedures, campus, students life, GRE scores and school branding.

![WHARTON: N=32, E=60, D=0.121](image)

**Figure 6: CO-OCCURRENCE DIAGRAM OF WHARTON**

Semantic score: The score indicates how negative or positive the overall text analyzed is. In this process, the key words of the text are separated and individual scores to each words are given. Any word with a score of -0.05 we tag as negative, word with score above 0.05 is tagged as positive and rest are neutral. The ratio is the combined total score of negative words compared to the combined total score of positive words, ranging from -1 to 1. The table shows that all the business schools have a positive semantic scores with INSEAD, Stanford and Wharton having a ratios of 0.71, 0.37 and 0.24 respectively.
TABLE 1: SEMANTIC SCORE RESULTS OF THE BUSINESS SCHOOLS

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>TYPE OF SEMANTIC SCORE</th>
<th>SCORE VALUE</th>
<th>RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSEAD</td>
<td>positive</td>
<td>0.35</td>
<td>0.71</td>
</tr>
<tr>
<td>STANFORD</td>
<td>positive</td>
<td>0.16</td>
<td>0.37</td>
</tr>
<tr>
<td>WHARTON</td>
<td>positive</td>
<td>0.07</td>
<td>0.24</td>
</tr>
</tbody>
</table>

RESULTS AND RECOMMENDATION

Considering the results of trend analysis, co-occurrence network diagrams and semantic score, following are the recommendations made for the study:

1. Information about the admission processes must be made available on the Facebook pages.

2. Interactions amongst the current and aspiring students must be allowed so that basic queries about the atmosphere of the school, placements, academics etc. are handled effectively.

3. Schools must create post content around their alumnus who have achieved some remarkable accomplishments. This ensures effective branding and more user engagement on the social media.

4. Schools must focus upon relationship building where there is effective interaction between all the stakeholders like organization, faculty members, students, alumnus, aspiring students, guest speakers, industry interphases, etc.

5. Specialised content developers must be hired who keep on updating, monitoring, controlling and planning the interactions on the social media pages of business schools.

6. Business schools must focus upon posting content that allows unbiased and neutral discussions by the users on their page. This will increase the interest and user engagement, thereby increasing the rank of the page.

7. The business schools must encourage critical appraisals from the users to identify their weak points and improve upon them.
LIMITATIONS AND FUTURE SCOPE

Since the data collected is only from one social media i.e. Facebook and of the people who are members of the page of the various schools thus study is limited to online opinions of the customers. The data collected for the study is for one year only which may limit its generalisability.

REFERENCES


FOUND IN TRANSLATION: EMPOWERING CHINESE STUDENTS IN ANGLO-CENTRIC PEDAGOGICAL CONTEXTS

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ABSTRACT

This research explored the impact of the implementation of translanguaging pedagogy through a fragmented approach for Chinese students in a business school in the North West of England as a pilot study. It examined the influence of bilingual academic support via social media on their performance, motivation, and engagement. Chinese international students in the UK face many challenges when they study in UK universities for the first time. Moreover, many factors could affect Chinese students' expectation due to differences in cultural background and education system between China and UK. These factors include adjustment problems, perceived isolation, limited understanding of academic requirements, language barrier, etc. Nevertheless, communication difficulty was perceived as the main barrier by the Chinese students to study abroad. This research postulated that communication issues can be alleviated through adopting a translanguaging pedagogy by having different type of lecturers who know various languages and provide support through social media. Instead of having timetabled classes to give support, an education support worker (in this case an Associate Lecturer) who speaks both Chinese and English, provided support to students through social media. So students can make better use of their out of class hours (fragmented time) ask for help.

Findings showed that the bilingual academic support via fragmented approach has positive impact on students’ performance, motivation, and engagement to empower students to achieve better results in higher education. There are total 21 Chinese students in business school in 2015-16 and 31 in 2016-2017. Two focus
group (n=10*2) were conducted to explore and evaluate students’ expectation and perception before and after the bilingual academic support. These focus group lasted around 2 hours per session. Moreover, students’ assessments and exam results were compared between 2015-16 and 2016-17 to evaluate the before-after effect of this kind of support on their performance. Furthermore, questionnaires’ results were collected and analysed to assess the impact of this support on their engagement and motivation. This provides insights on university strategies to improve Chinese students’ satisfaction due to the effect of implanting bilingual academic support and fragmented approach.

INTRODUCTION

Following the manifestation of internationalisation and globalisation of universities in the UK in the last decade, the number of international students has increased rapidly, especially the number of Chinese students in comparison to other countries (Maringe and Foskett, 2012) with recent statistics showing 91,215 Chinese students in 2015-16 (HESA, 2017). However, the academic performance of Chinese students is substantially lower than their UK peers (Grawford and Wang, 2015; Grawford et al., 2016; Iannelli and Huang, 2014). Transition issues of Chinese students has been identified as a possible mitigating factor. For example, Lillyman and Bennet (2014) found that most Chinese students felt they required extra support to understand the expectations from the lecturer and the university, with Bailey (2005) finding that some questioned the quality of teaching within the UK.

A solution to these and similar issues could be the potential impact of utilising a translanguaging teaching pedagogy to help students to communicate more effectively. This pedagogy can maximise students’ understanding and allow them to use multiple languages pragmatically (Baker, 2010; Lewis et al., 2012) through the planned and systematic use of multiple languages (Williams, 1996). English proficiency and cultural differences appear to be the main reasons aggravating students’ misunderstandings and performance (Liu, 2012; Smith and Zhou, 2009; Mathias et al., 2013; Wu, 2016; Zhou et al., 2005). The majority of criticisms about the use of translanguaging within the classroom are based upon research within language classes, where the ideology that when studying in one language, students should try to communicate in that language fluently (Garcia, 2009; Grosjean, 2010). Nevertheless, these criticism may do not apply when this
pedagogy is to be adopted to studies where language is not the main focus, such as Business, Management and Accounting. As such, the potential for the use of a translanguaging academic support pedagogy needs to be explored further within the context of Higher Education in the UK.

This paper outlines research conducted at a University in the North West of England where Chinese students were provided with Multilanguage support through extracurricular activities via social media (WeChat), virtual learning environment (Moodle) and face-to-face interactions with an education support worker (in this case an Associate Lecturer) who speaks both English and Chinese (Mandarin). The purpose of this support was to help Chinese undergraduate and postgraduate students better understand the academic expectation levels of formative and summative assessments as well as helping them to contextualise business terminology and language from a bilingual perspective. By providing this support out with the timetabled classes, it is hoped that students can make better use of their out of class hours (fragmented time) to ask for help.

Therefore this paper provides insights into a pilot study assessing the impact of implementing this support for 21 students in 2015-16 and 2016-17 academic years by comparing their attainment record before and after this support was implemented. Initial insights on the challenges faced by Chinese students during the transition process are provided through a critically review of the literature as well as highlighting features related to the use of translanguaging pedagogy. The research methodology and design, which utilise focus groups and questionnaires, are then outlined along with results and discussion. Finally, conclusions are provided with implication on the implementation strategy of translanguaging academic support for Chinese students within Higher Education in the UK.

**LITERATURE REVIEW**

Chinese students appear to have different expectations from the other students due to the differences in cultural, teaching pedagogy, and education system between China and the UK (Gu, 2016). Many universities have adopted innovative strategies to accommodate international students to reduce the communication barriers, such as: (i) placing international students in small groups with local students to help them to build student-student rapport (Campbell et al., 2016; Chen et al., 2016); (ii) providing training for international students to cope with stress and
anxiety (Szabo et al., 2016); (iii) encouraging international students to use social media to communicate with their friends and family (Saha and Karpinski, 2016); (iv) create new transnational and multinational groups of networks (Li and Zhu, 2014); (v) offering financial assistance with scholarships (Sherry and Chui, 2010); and (vi) helping Chinese students to join the local Chinese community (Wu, 2014). Although all of these strategies have been used to enhance students’ learning experience, Su and Harrison (2016) found that a high proportion of Chinese students cause their own isolation, with Quan (et al., 2016) postulating that isolation can have significant negative impact on their engagement, motivation, satisfaction and performance in the university.

However, one potential strategy which may help to alleviate these issues, and has not been fully explored in a business school context, is that of translanguaging academic support to improve Chinese students’ performance and enhance their learning experience. According to García et al. (2017), translanguaging can give support to international students through a hybrid, multi-dimensional communication strategy to help encourage deeper understanding. This interaction may in turn strengthen emotional stability. Zheng (2016) postulates the necessity to provide emotion support for international students due to psychological well-being requirements and intercultural adjustment students have to make. Moreover, Morilla-Barcia (2017) acknowledge that emotion support can help students to improve their performance. For example, Cao et al. (2016) conducted a survey of 463 Chinese students in UK, Germany France Netherlands, Spain and Belgium and found that cultural differences can be considered as the main stressor which accounted for the majority of academic integration difficulties (62%) and social integration difficulties (56%). Chinese students may seek co-national friendships from a minority national group to relieve themselves from homesickness and receive emotional support. Consequently, translanguaging may be beneficial for Chinese students due to its possible impact on their emotion management.

Therefore, translanguaging as a tool, to use different languages together to help Chinese students understand complex information, can be very useful (Creese and Blackledge, 2010; Velasco and Garcia, 2014; Garcia and Wei, 2014; Gu, 2011). Most research on the translanguaging teaching pedagogy is from the perspective of language study due to its advantage of promoting “…a deeper understanding than just translating as it moves from finding parallel words to processing and replay meanings and understanding” (Williams, 1996, p.644). However, very
little evidence can be found on the implementation of translanguaging teaching pedagogy within Higher Education in the UK outside of the language study context (Li and Zhu, 2013; Wei, 2011) and when this has happened, it is not from a UK perspective. For example, translanguaging practices have been found to be useful within science courses at a bilingual university in Puerto Rico (Mazak and Herbas-Donoso, 2014; 2015).

METHODOLOGY

For this paper, an exploratory sequential research design was adopted with a mixed-methods approach. The first focus group (n = 10*2) was conducted to explore the impact of the translanguaging academic support students received on their motivation, engagement, performance, and retention according to their perceptions. Then questionnaires (n = 13) were collected via Survey Monkey anonymously to identify the extent of the influencing factors of translanguaging academic support according to their perception. Following these results from the questionnaires, a second round focus group (n = 10*2) was conducted to explore more in-depth information regarding students’ responses in the questionnaires. Thematic analysis were used for the analysis of focus group results, and t-test and Principle Component Analysis were used for the analysis of questionnaire results.

RESULTS AND DISCUSSION

Before and After Effect

According to students’ attainments results, no significant difference (t = 0.685, ρ = 0.509) can be found in the average marks from all modules in 2015-16 (before the support) and 2016-17 (after the support). This might be due to (i) not all the Chinese students approached the Chinese lecturer to ask for support, as only 13 out of 21 students utilised the translanguaging support system to ask for help; (ii) students did not ask for support for all the module, but only when they found difficulties in understanding within certain modules. Consequently, students’ performance improvement can be only found within the specific modules the student required support with.

*Figure 1. Comparison between 2015-16 and 2016-17*
From the box plot of their average marks in Figure 1, students who have the lowest marks amongst their peers appear to have improved, although students who had the highest level of performance were reduced. As previously mentioned, students performance significantly improved in certain modules when they had approached the Chinese lecturer for support. For example, in Research Methods module, all the Chinese students who studied this module in 2016-17 semester 1 asked questions from the Chinese lecturer on weekly basis via WeChat. The lowest mark, highest mark, and average mark of these students was much higher than the Chinese students who did not have the support system in 2015-16 (see Figure 1).

Student Engagement, Motivation, Retention and Performance

Although the statistic tests did not show an overall improvement in student performance across all modules, translanguaging academic support had positive impacts on students’ engagement (84.6%), motivation (76.1%), retention (84.6%), and performance (84.6%) according to students’ perceptions. In the focus group, students suggested that the translanguaging academic support helped them to reduce the communication barrier, which is the main issue that they found difficult to overcome. These relationships are illustrated in Figure 2 to outline the impact of translanguaging academic support on the Chinese students according to their perceptions. Firstly, students found communication to be the main barrier due to their perceived English language proficiency level. Student 9 indicated that “I cannot understand anything in the class. I really want to take notes, but I do not know what I should write down in my notes…”, Student 10 added that:
“All the Chinese students are good at exams. All the lecturers assume that we will be able to understand everything in the class, but we do not. We passed the English exams, but this does not mean that we have the capability to be able to understand everything”.

Instead of using English as a communication tool, Chinese students usually focus on acquiring high scores in the exams. So these students become the long-tested learners who cannot use the language (Liu et al., 2014).

Moreover, students felt they needed a transition programme to help them to transfer from the English-language study foundation programme into their degree programmes. Student 5 indicated that:

“I feel the English foundation programme focus on the English study, and did not provide me sufficient academic skills and knowledge to cope with my study at year 2 level. The staff from the English foundation programme probably will be enough for the year 1 level, but I need more advanced knowledge and skills to compete with the other students in the class”.

Student 3 suggested that:

“…we cannot remember everything from the English foundation programme even though they may have already taught us everything. So I feel some kind of transition is needed here. We need more support from the academic staff who are not English lecturers”.

As postulated by Rienties and Jindal-Snape (2016), transition within Higher Education is an on-going process, and there are multiple and multi-dimensional transitions required. As such, not just transition from country to country, but also transition from programme to programme, and year to year, etc.
Furthermore, Student 1 added that:

“…each lecturer has his or hers own accent, and it takes time to get used to each of them. After we get used to this one in the last semester, we will have another one who has completely different accent in this semester. We did not know there could be so many different accents for the people who are from the UK when we were in China. I hope there could be something in the training programme to help us to cope with accents”.

These unfamiliar accents can be a negative factor for students learning experiences within the classroom, although multiple accents can be a results of internationalisation in the university (McAllum, 2016).

Secondly, with the exception of English proficiency which is considered as one of the factors causing communication obstacles, students have found many other factors exacerbated this. Such as differences in cultural, teaching pedagogy,
and personal issues of anxiety. “I cannot follow anything in the class, and it is worse when the local students speak. I have no idea what they are talking about, because I do not know the local culture.” These cultural differences appear to also have caused students anxiety according to Chai et al. (2012). Moreover, the difference in teaching pedagogies between China and the UK also caused students’ confusion. For example, student 2 illustrated that “I do not know that I have to make appointments if I need to ask my lecturer a question, and I do not like to use emails” (Student 2). Student 7 said:

“I do not know when I should take notes because the teaching style of lecturers here is different from China. Here, it seems that classes are just conversations. However, in China, the lecturers usually provide the key information which I should put into the notes, and give me time to write everything down and then move on for the next. In China, I copy down lots of information into my notebook, and it helps me to memorise. However, here, especially in the tutorial, students say a lot of things, but I do not know whether I should write down anything they have said.”

Student 8 mentioned that:

“I prefer to ask the lecturer who is Chinese, because it will be much easier for me. When I need to speak to my other lecturers, I always feel so nervous that my tone is twisted and I cannot say a word.”

Thirdly, although students’ satisfaction has improved after translanguaging academic support service provided by a Chinese associate lecturer according to the results from focus groups and questionnaires, these students justified that the main factor for their retentions has to be the ranking of the university. Student 9 maintained that:

“The teaching quality, staff support, employability service, all the ratios which are used for ranking might will have impact on if I wish to stay here, but any Chinese students will go to the university with the highest ranking as possible”

This was agreed by all the students in the focus group.

Therefore, as highlighted in Figure 2, translanguaging academic support was identified as most effective and crucial support for Chinese students’ engagement, performance, and motivation, which resulted better satisfaction results in their
learning experiences. The kind of support appears to be highly demanded by the Chinese students, with student 7 commented that “We do not know what to ask and how to ask, we do not even know how to ask in Chinese sometimes.” However, the Chinese associate lecturer can be more helpful due to her own learning experiences and teaching experiences. Student 6 added that “if our own lecturers can solve the problem, we will ask them, however, when they cannot solve the problem. We need someone who can understand us, understand the problem, has the knowledge…”

According to the second focus group, students insisted that the current translanguaging support with the use of social media and Moodle is best for them (an example of which is shown in Figure 3).

**Figure 3. The use of Translanguaging in Practice**

<table>
<thead>
<tr>
<th>On Moodle Page</th>
<th>On WeChat</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Moodle Page" /></td>
<td><img src="image2" alt="WeChat" /></td>
</tr>
</tbody>
</table>

**Influencing Factors and Honeycomb**

From the first focus group, seven main factors concerning the effectiveness of translanguaging support system was identified, and these are (1) communication style, (2) communication platform, (3) communication frequency, (4) peer engagement, (5) university learning environment (facilities and internet connection); (6) personal learning style; (7) prior learning experience. According to these seven criteria, 22 variables were identified and examined through the questionnaire on students’ evaluation of the effectiveness of the support and their evaluation of these variables (in Figure 4). However, five components appears to be more
effective than the rest regarding the principle component analysis, and these five components are (1) communication style; (2) communication frequency; (3) the convenience of the communication platform; (4) personal learning style; (5) prior learning experience.

*Figure 4 Principle Component Analysis results*

**Rotated Component Matrix**

<table>
<thead>
<tr>
<th>Component</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
<th>Component 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer’s daily interaction with students on WeChat (Moments)</td>
<td>0.932</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of shared information</td>
<td>0.922</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information update frequency</td>
<td>0.818</td>
<td>0.422</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion support</td>
<td>0.817</td>
<td>0.532</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal communication</td>
<td>0.796</td>
<td>0.519</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The content of information</td>
<td>0.787</td>
<td>0.575</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer engagement</td>
<td>0.777</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wifi on campus</td>
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<td>Convenience of communication platform (wherever)</td>
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<td>0.836</td>
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<td>Using one social media platform</td>
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<td>Prefer to use fragmented time to study</td>
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<tr>
<td>Prior learning experience</td>
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<td></td>
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<td>0.829</td>
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</tbody>
</table>
Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

According to student discussion of their questionnaire responses within the second focus group, students provided more in-depth information on how they would like this support to be structured and implemented in the future. Students agreed that they prefer to approach the support worker individually without timetabled classes, if they have questions at any time. Moreover, they identified the most crucial six elements according to their beliefs, and these elements are be considered as principles for the best practice of translanguaging academic support. This problem-centred approach with six principles are illustrated in Figure 5 as the honeycomb of this kind support service. However, similar to Cheng et al. (2016), all students appear to believe that the lecturer-student relationship plays a very important role in their motivation, engagement, and performance. Moreover, they need someone who has background knowledge of differences existing in cultural, teaching pedagogies, and languages between the UK and China.

Figure 5. The honeycomb of translanguaging academic support
CONCLUSION

This research explored the impact of the translanguaging academic support for Chinese students within Higher Education in the UK from an exploratory study in a British university in the North West England. The findings suggest that this form of support can positively influence student performance but only within specific modules where students have actively sought out this support and fully engaged with the process. In addition, anecdotal evidence from students’ perceptions highlighted that this kind of support significantly impacted students’ motivation, engagement, and performance from a positive perspective. This appears to due to students’ assertion that they found the adaption of translanguaging teaching pedagogy into a business concept through informal communication channels with a lecturer who had cultural similarities to be the most effective method to help them to alleviate the communication issues and allow them to understand the expectations from the university and lecturers.

Moreover, this research identified a honeycomb framework for the implementation of translanguaging academic support. Amongst the six principles of (1) quick response, (2) accurate information, (3) information communication style, (4) convenient communication platform, (5) varieties of communication choices, and (6) collaborative learning environment, students believe that this support should be delivered via problem-centred approach only when students requires. Additionally, personality characteristics of the lecturer and lecturer’s understanding of possible questions or problems which Chinese may encounter are the two conditions that students will use to decide if they wish to use this support.

REFERENCES


DRIVERS OF EMPLOYEE ENGAGEMENT IN INDIAN BANKING INDUSTRY: MODEL DEVELOPMENT AND TEST

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ABSTRACT

The present study attempts to identify the factors that drive employee engagement in the Indian banking industry. The empirical setting of the study was fourteen Indian banks. A survey with the help of a questionnaire was conducted to collect data (n=700). Data were analyzed using multivariate data analysis techniques. A model identifying the variables that drive employee engagement was developed and tested. Results of exploratory factor analysis revealed six factors that drive employee engagement: emotional satisfaction, perceived fairness, personal development, culture, clear communication, and compensation. Results of regression analysis showed that two of these factors, i.e. emotional satisfaction and compensation were significant in the overall model. The results of the study have been integrated with the reinforcement theory. The value of this research lies in its ability to help bank practitioners design and deploy effective strategies to engage employees. The results are also likely to help improve professional standards related to employee engagement in the banking industry.

Keywords: Employee Engagement, Bank, Banking Industry, Reinforcement Theory, Behavior.

INTRODUCTION

Products and services are increasingly becoming commoditized due to globalization (Salanova et al., 2005). Consequently, more and more firms are finding it difficult to develop a distinctive edge in the market based on their products and services (Boswell, 2008). Business leaders recognize this challenge and understand that
developing a unique workforce is the answer to this problem (Endres and Mancheno-Smoak, 2008). A unique workforce is the one thing that cannot be duplicated by the competitors (Fischer et al., 2006). This realization has led many corporate houses to make strategic changes in their human resource policies (Sandhu and Prabhakar, 2012). Businesses are increasing their investments in employees with a view to effectively engage them for organizational success (Zacharatos et al., 2007). Mills (2007, p. 11) elaborates:

Businesses must adapt and change to survive in the modern, competitive landscape. This means those that will dominate and thrive will be excellent in managing the process of adoption and strategic change. To achieve this without an engaged workforce is unthinkable.

Investment in employee engagement can help create a workforce that outperforms the workforce of the competitors (Fernandez, 2007; Walton, 2009). It can also motivate employees to align their efforts with the operational and strategic objectives of the organization (Walton, 2009). Therefore, academic literature is replete with call for further research on ways to engage employees (Berwald, 1998; Medlin and Green, 2008). Berwald (1998, p. 158) states that industrial psychologists “should start addressing issues of team performance, managing change, employee engagement and the effectiveness of HR strategies in producing organizational results”. The present study addresses this call for further research and empirically examines the drivers of employee engagement in the banking industry. The study categorically attempts to: (1) identify the factors that drive employee engagement in the banking industry, and (2) assess the impact of these factors on employee engagement.

Results of the study have been integrated with the reinforcement theory. It is the belief of the authors that the results of the study are likely to help improve professional standards related to employee engagement in the banking industry. The results shall also add to the extant literature in the spheres of human resources, organizational development and organizational psychology.

In the next section of this article a critical review of existing relevant literature is undertaken. Subsequent sections focus on methodology and data analysis. The article ends with a discussion on the theoretical and practical implications of the study.
LITERATURE REVIEW

A review of the relevant literature is presented in this section. This section aims to exhibit the various definitions, benefits and drivers/influencers of employee engagement. This section serves two purposes. First, it attempts to explain and orient the dependent variable, that is, employee engagement. Second, it helps identity variables that form the basis of the questionnaire.

EMPLOYEE ENGAGEMENT

Academic and practitioner literature is replete with definitions of employee engagement. A number of definitions of employee engagement focus on the characteristics/feelings of engaged employees. Coffman and Gonzales-Molina (2002) defined employee engagement as the positive feeling of the employees towards their work and organization. Schaufeli et al. (2002, p. 74) defined employee engagement as the exact opposite of burn out. The authors described employee engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption”. Tritch (2003) offered a popular definition of employee engagement. According to Tritch (2003), employee engagement is an employee’s enthusiasm and high level of work involvement. Bates (2004) described employee engagement as an employee’s deep-seated desire to make a valuable contribution to the organization. Gubman (2004) defined employee engagement as the employee’s intense affection for the organization. Robinson et al. (2004) defined employee engagement as an employee’s connect with the strategy and customers of the organization. Wellins and Concelman (2005) proposed a definition of employee engagement that focused on the positive feelings of employees regarding five issues: job involvement, job value, job ownership, job satisfaction and enthusiasm at the work place. Their definition has been widely accepted in research literature (DDI, 2005; Konrad, 2006). Seijts and Crim (2006) offered a definition similar to the one proposed by Tritch (2003). Seijts and Crim (2006) described engagement as an employee’s heightened involvement with the job. The researchers pointed out enthusiasm as the most prominent characteristic of an engaged employee. Fernandez (2007) defined an engaged individual as someone interested in delivering beyond expectations. Fernandez (2007) described high levels of energy and purposeful actions aimed at meaningful results as key identifiers of engaged employees. A study conducted by Catteeuw et al. (2007) highlighted the employee engagement efforts of Johnson and Johnson.
As pointed out by Catteeuw et al. (2007, p. 151), Johnson and Johnson describe engagement as the extent “to which employees are satisfied with their jobs, feel valued, and experience collaboration and trust”. Mishra and Mohanty (2016) developed an employee engagement scale that focused on six characteristics of engaged employees: don’t leave the company easily, don’t think about leaving the company, recommend company to others, feel inspired to do their best, speak positively about the company, and feel motivated to go beyond the call of duty.

Some definitions of employee engagement describe it in terms of its attributes. Kahn (1990) theorized employee engagement to be a mix of emotional, cognitive and behavioral attributes. Konrad (2006) validated Kahn’s opinions. Based on the work of Kahn (1990) and Konrad (2006), Walton (2009, p. 31) defined “employee engagement as the cognitive, emotional and behavioral components that influence an employee’s attitude, beliefs, and behaviors aligned with the desire to facilitate business-unit financial and nonfinancial success”. Wash (1999) proposed that the employee engagement index constituted of three constructs: employee commitment, organizational citizenship behavior and employee motivation. Saks (2006) partly agreed with Wash (1999) and suggested that employee engagement included four constructs: job involvement, employee satisfaction, organizational citizenship behavior and organizational commitment. Wefald and Downey (2009) proposed a conceptual model that described employee engagement as a multifactor construct. A scrutiny of these factors revealed all the factors to be motivational factors. The scholars pointed out that it was difficult to demotivate or reduce the optimism of engaged employees.

Review of literature also revealed two related terms used by academic researchers: self-engagement (Britt, 1999) and full engagement (Robertson and Cooper, 2010). Self-engagement is defined as the intrinsic desire of employees to remain committed to the organization (Britt, 1999). Self-engaged employees are typically self-motivated and self-driven. They perform better than other employees (Britt, 1999). Robertson and Cooper (2010) proposed the phraseology of full engagement. The researchers believed that previous definitions of employee engagement were too narrow and focused only on employee attachment, commitment and citizenship. The researchers integrated the concept of employee engagement with psychological well being to enhance extant understanding of employee engagement.

As evident, there exists little consistency in the definitions of employee engagement.
Previous researchers have also made the same observation (Organ and Ryan, 1995; Little and Little, 2006; Walton, 2009; Sandhu et al., 2017). It has been pointed out that the number of definitions of employee engagement is as vast as the number of publications on the subject (Witemeyer, 2013). Past researchers attribute this lack of consistency to the tendency to confuse and overlap employee engagement with other similar constructs, such as organizational commitment, role performance, job involvement, organizational citizenship behavior, employee satisfaction etc. (Saks, 2006; Walton, 2009). However, most evolving theories of employee engagement concede that it is a new distinct concept (Witemeyer, 2013), which is an antecedent to most other popular constructs with which it is frequently confused (Konrad, 2006; Walton, 2009).

**BENEFITS OF EMPLOYEE ENGAGEMENT**

Many researchers have emphasized the link between employee engagement and employee performance. Scholars believe that the two are positively linked (Osman and Mehmet, 2016) and employee engagement is an antecedent to employee performance (Crawford, 2006). A study conducted by Medlin and Green (2008) established a strong positive correlation between employee engagement and workplace optimism. Based on empirical evidence, the study further found a positive correlation between workplace optimism and individual performance.

Though the significant positive relationship between employee engagement and employee performance holds good in almost all industries, scholars believe that it is specifically relevant in financial services industries that involve direct interaction between employees and customers (Susi and Jawaharrani, 2010; Gruman and Saks, 2011). In this context, a recent study contends that outstanding individual performance in the banking industry can be achieved if levels of employee engagement are high (Mozammel and Haan, 2016).

Significant literature is available that indicates the positive impact of employee engagement on the financial performance of a firm (Harter et al., 2002; Towers Perrin, 2007; Walton, 2009). Empirical evidence exists that establishes a strong positive correlation between employee engagement and operating income, employee engagement and earnings per share, and employee engagement and shareholder value (Towers Perrin, 2007; Walton, 2009). Konrad (2006) believes that apart from the shareholders, employees also stand to gain when the profits
of a firm increase due to employee engagement. The increased profits result in increased pay packages, resources, perks and promotions for the employees (Heger, 2007).

Engaged employees display many behaviors aligned with organizational success. In the words of Witemeyer (2013, p. 29):

Engaged employees are likely to exhibit a number of behaviors of potential benefit to their firms. These include: going the extra mile, speaking highly of the company, collaboration, proactive problem-solving, staying late, putting in extra hours, assisting colleagues, sharing knowledge, offering creativity, participating in organizational dialogue, and more.

Employee engagement is also known to enhance commitment and loyalty towards the organization/employer (Harter et al., 2002). It reduces employee turnover and helps in talent retention (Harter et al., 2002). It leads to the creation of a unique workforce that cannot be replicated by the competitors. Therefore above all, in this competitive era, an engaged workforce acts as a market differentiator (Fischer et al., 2006).

Previous researchers have also examined the impact of employee engagement on customer satisfaction and customer loyalty (Harter et al., 2002). They found that employee engagement is positively correlated with both customer satisfaction and customer loyalty (Harter et al., 2002). In the long run, this positive association has a positive generalizable impact on the revenues of the firm (Harter et al., 2002).

As can be seen, employee engagement has multiple benefits. It drives excellence in an organization (Ojha et al., 2014). This understanding has led many companies across the world to develop and deploy employee engagement policies. The current century has seen a steep increase in corporate employee engagement budgets (Sandhu et al., 2017).

**DRIVERS OF EMPLOYEE ENGAGEMENT**

The many benefits of employee engagement have led to a focus on its drivers and influencers in extant literature. This sub-section reviews the relevant studies that examine the drivers of employee engagement. Table 1 summarizes the work that
has been undertaken in this sub-section.

An early study by Eisenberger et al. (1986) contends that employees will be engaged when they perceive a culture of justice and support. The authors also believe that employee-job fit and active management of employee expectations regarding the job augment employee engagement. Kahn (1990) points out three aspects of workplace culture that promote employee engagement. These aspects are meaningfulness, supervisor and co-worker support, and availability of resources. Kahn (1990) further elaborates that meaningfulness at the workplace can be achieved through job enrichment and work-role congruence. Maslach et al. (2001) state that employee engagement is positively linked to perceived control, choice, fairness, justice, organizational support and sustainability of workload.

Many researchers believe that role clarity is a significant driver of employee engagement (Harter et al., 2002; Medlin and Greene, 2008). They opine that role clarity and employees’ understanding of their contribution in the total organizational plan encourages engagement and bolsters employee performance (Harter et al., 2002). Another frequently cited antecedent of employee engagement is psychological empowerment at the workplace (Schaufeli et al., 2002; Jose and Mampilly, 2014). The Towers Perrin Employee Engagement report (2003) established ten drivers of employee engagement. In order of decreasing importance these drivers are “senior management’s interest in employees’ well-being, challenging work, decision-making authority, evidence that the company is focused on customers, career advancement opportunities, the company’s reputation as a good employer, a collaborative work environment where people work in teams, resources to get the job done, input on decision-making, a clear vision from senior management about future success” (Towers Perrin, 2003, p. 9). Vance (2006) identified vision and mission of organization, work-life balance policies, reward system, learning and development, and employee treatment as influencers of employee engagement. A study conducted in the same year by Saks (2006) established nature of work, supervisor and organizational support, reward, justice and recognition as influencers of employee engagement. Seijts and Crim (2006) proposed the 10Cs framework of employee engagement. These ten Cs are career, connect, clarity, congratulate, control, confidence, contribute, collaborate, convey and contribute. The authors believe that these ten Cs are crucial drivers of employee engagement.
Heger (2007) contends that a compelling and personal employee value proposition drives employee engagement. The author elaborates that recognition for good performance, skill and knowledge enhancement opportunities, career growth, fair system of performance appraisal, and reduced barriers to performance/performance enablers constitute a forceful employee value proposition. According to Heger (2007), leadership ethics, cogent job expectations, teamwork, and leadership and management support are other influencers of employee engagement. Though not providing conclusive evidence, Walton (2009) hypothesized that pay, rewards, and communication motivate employees and enhance their job engagement. Gary (2010) found employee development, internal communications and leadership as the key drivers of employee engagement in the automotive industry. A study conducted by Bakker et al. (2012) established two types of drivers of employee engagement. Pay, perks and promotions constitute the rational drivers of employee engagement and personal influence constitutes the emotional driver of employee engagement. Ruck and Trainer (2012) believe that cogent, open and honest communication enhances employee engagement. A qualitative study on employee engagement conducted by Witemeyer (2013) cited reciprocal trust between employees and employers, quality of supervision, transparent communication, employee recognition, job security, job satisfaction, access to training, and development opportunities as antecedents/precursors of employee engagement. Mishra and Mohanty (2016) established senior leadership, manager, colleagues, work environment, process and company reputation as drivers of employee engagement in a manufacturing firm. Sandhu et al. (2017) examined the drivers of employee engagement in the education industry. The authors found that work environment, compensation system, emotional satiety, and career progression opportunities significantly and positively impact employee engagement.

If we categorically review the studies that examine the drivers of employee engagement in the financial services/banking industry, we come across a number of relevant studies. Rasheed et al. (2013) examined the correlation between employee engagement and its antecedents in the banking industry, and established a significant and positive impact of supervisor support, organizational support and justice on employee engagement. A recent study contended that compensation and resources can help moderate the relationship between leadership and employee engagement, and enhance the level of employee engagement in the banking sector (Mozammel and Haan, 2016). Based on a cross-sectional sample of employees of insurance companies and retail banks, Jaewon (2016) established
that perceived customer participation positively influences employee engagement. Ghosh et al. (2016) provide evidence that suggests that rewards and recognition drive employee engagement in private banks. Osman and Mehmet (2016) suggest that perceived organizational support and organization mission fulfillment foster work engagement among bank employees.

Table 1. Drivers of employee engagement: A summary of literature review (1986 -2016)

|-----------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
Skill and knowledge enhancement opportunities (Vance, 2006; Heger, 2007; Gary, 2010; Witemeyer, 2013)
Pay and rewards (Saks, 2006; Vance, 2006; Walton, 2009; Bakker et al., 2012)
Work-life balance policies (Vance, 2006; Susi and Jawaharrani, 2010)
Transparent system of performance appraisal (Heger, 2007)
Reduced barriers to performance (Heger, 2007)

Leadership ethics (Heger, 2007)
Recognition for good performance (Heger, 2007; Witemeyer, 2013; Ghosh et al., 2016)
Open communication (Walton, 2009; Gary, 2010; Ruck and Trainer, 2012; Witemeyer, 2013)
Personal influence (Bakker et al., 2012)
Reciprocal trust (Witemeyer, 2013)

Job security (Witemeyer, 2013)
Job satisfaction (Witemeyer, 2013)
Work environment (Mishra and Mohanty, 2016)
Work process (Mishra and Mohanty, 2016)
Perceived customer participation (Ghosh et al., 2016)

Source: Authors’ compilation

EMPLOYEE ENGAGEMENT AND REINFORCEMENT THEORY

Reinforcement theory is frequently used to make sense of employee engagement (Walter, 2009). This section discusses the link between employee engagement and reinforcement theory.

Reinforcement theory is based on the operant conditioning theory proposed by Skinner in 1969 (Myers, 1992). Reinforcement theory is centered on the premise that rewards for past behavior impact decisions regarding present and future behavior (Steers et al., 2004). Therefore, learning is an outcome of consistent consequences of particular behaviors (Steers et al., 2004).
Behavior modification through reinforcement of specific behaviors aligned with performance expectations is the essence of reinforcement theory (Walton, 2009). The theory postulates that both antecedents and consequences play an important role in behavior modification (Jaworksi and Kohli, 1993). The theory emphasizes the role of specific triggers (antecedents) in encouraging desired employee behaviors. However, the theory categorically states that antecedents alone play a limited role in behavior modification (Steers et al., 1996). Ensuring adherence to desired performance standards is better addressed through consequences. Positive consequences, such as praise, promotion, good feedback, pay raise etc. help reinforce desired behaviors and vice-versa (Steers et al., 1996).

Reinforcement theorists believe that employee motivation and engagement is dependent on differential consequences for good and bad performance (Jaworksi and Kohli, 1993). The framework of the theory suggests that employee behaviors consistent with high levels of engagement can be sought by instituting a system that rewards good performance and punishes underperformance. Walton (2009, p. 37) explains:

Based on reinforcement theory, both positive and negative consequences are effective at modifying and sustaining the type of behavior necessary for high levels of engagement and productivity.

Care must be taken to ensure that the consequences of both desired and undesired behaviors are befitting of the behavior (Rynes et al., 2005). Operant conditioning will take place when high performance is consistently rewarded and negative performance is consistently punished (Myers, 1992).

Organizations attempting to achieve high levels of employee engagement must make use of behavioral anchors. These anchors may be in the form of incentives or punishments, and must be formally incorporated into the practices and policies of the organization (Rynes et al., 2005).

**METHODOLOGY**

This section covers details of the study methodology. Figure 1 captures these details.
Figure 1. Study methodology

Theoretical grounding
- Draft attributes identified based on extant academic and practitioner literature

Questionnaire design
- Qualitative approach: List of attributes augmented based on findings of convergent interviews
- Questionnaire development, pilot testing and data collection

Data analysis
- Exploratory factor analysis to identify independent variables for model development
- Model and hypotheses development

Hypothesis testing
- Test of proposed model and hypotheses with regression analysis

Source: Authors’ study

INSTRUMENT DESIGN

A questionnaire aimed at examining the drivers of employee engagement was designed based on the extant academic and practitioner literature. An extensive review of literature was done to ensure content and face validity of the questionnaire. Few attributes used in the questionnaire were identified on the basis of convergent interviews conducted with senior HR executives employed with different Indian banks. In all, six interviews were conducted. Use of convergent interviews is recommended in research to address and recognize concerns in under-researched areas (Rao and Perry, 2003), such as the present emerging phenomenon of employee engagement in the banking industry. Also, Gerst (2013) recommends the use of qualitative approach to explore determinants of employee engagement. It is believed that involvement of industry experts in questionnaire development made the instrument context specific. The final questionnaire sought to examine
the drivers of employee engagement based on 29 unduplicated attributes. For details of the attributes refer to annexure 1.

All the attributes of the employee engagement construct were measured with the help of a five-point scale. Responses to negatively worded attributes were reverse coded. Negatively worded attributes were used in the questionnaire to reduce bias on account of the tendency of the respondents to respond in the affirmative (Streiner and Norman, 1995).

In December 2015, a pilot study was conducted on 81 bank employees (100 questionnaires were distributed, however only 81 usable questionnaires were obtained). These initial respondents were employed with either State Bank of India, ICICI Bank or Citibank. Based on the pilot study, wording of few attributes was changed to enhance the general understandability of the questionnaire. In general, the questionnaire was found to be error free.

**Data collection and sample**

For the purpose of data collection, a survey was conducted. In all, 1000 questionnaires were distributed from February 2016 to July 2016. At the end of the survey, only 738 questionnaires were obtained. Therefore, the survey had a response rate of 73.8 percent. Missing value analysis was conducted to determine the number of usable questionnaires (Little and Rubin, 1987). Expectation maximization treatment was used to conduct this analysis (Graham et al., 1996). This treatment recommends exclusion of data records with over 25 percent missing entries (Graham et al., 1996). Based on this treatment, 700 questionnaires were found usable. For the rest 38 questionnaires, more than 25 percent data entries were found missing. Hence, the final analysis was conducted based on 700 responses.

The study universe comprised of employees of different Indian banks. Care was taken to ensure representation of all the three categories of banks, i.e. public, private and foreign, in the sample. Table 2 captures the bank-wise details of the data collected. Out of the total 700 responses obtained, 329 (47 percent) responses were obtained from employees of public sector banks, 249 (35.57 percent) from employees of private sector banks, and 122 (17.43 percent) from employees of foreign banks respectively.
Table 2. Bank-wise breakup of sample

<table>
<thead>
<tr>
<th>Bank name</th>
<th>Bank type</th>
<th>Number of questionnaires administered</th>
<th>Number of usable questionnaires obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of Baroda</td>
<td>Public</td>
<td>50</td>
<td>27</td>
</tr>
<tr>
<td>IDBI Bank</td>
<td>Public</td>
<td>50</td>
<td>39</td>
</tr>
<tr>
<td>Oriental Bank of Commerce</td>
<td>Public</td>
<td>50</td>
<td>48</td>
</tr>
<tr>
<td>Punjab National Bank</td>
<td>Public</td>
<td>100</td>
<td>71</td>
</tr>
<tr>
<td>State Bank of India</td>
<td>Public</td>
<td>100</td>
<td>82</td>
</tr>
<tr>
<td>Syndicate Bank</td>
<td>Public</td>
<td>50</td>
<td>41</td>
</tr>
<tr>
<td>UCO Bank</td>
<td>Public</td>
<td>50</td>
<td>21</td>
</tr>
<tr>
<td>Axis Bank</td>
<td>Private</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>HDFC Bank</td>
<td>Private</td>
<td>100</td>
<td>64</td>
</tr>
<tr>
<td>ICICI Bank</td>
<td>Private</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>Kotak Mahindra Bank</td>
<td>Private</td>
<td>50</td>
<td>38</td>
</tr>
<tr>
<td>Yes Bank</td>
<td>Private</td>
<td>50</td>
<td>27</td>
</tr>
<tr>
<td>Citibank</td>
<td>Foreign</td>
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<tr>
<td>HSBC Bank</td>
<td>Foreign</td>
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<tr>
<td>Standard Chartered Bank</td>
<td>Foreign</td>
<td>50</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: Authors’ study

Non-response bias

The difference between the responses of respondents and non-respondents is referred to non-response bias (Lambert and Harrington, 1990). The final sample of 700 questionnaires was divided into two categories. 502 of these questionnaires were returned without sending a reminder to the respondents, and 198 questionnaires were obtained after a reminder was sent to the respondents. 20 variables used in the questionnaire were randomly selected for analysis. Results of t-test indicated no significant difference across the groups (at 5 percent significance level). Hence, non-response bias as not an issue in the present study.

Respondent profile

Table 3 exhibits the demographic profile of the 700 respondents. This profile was examined with the help of descriptive statistics. As evident, 59.43 percent of the
respondents were male and the rest 40.57 percent were female. 15.57 percent of the respondents were under 25 years in age, 58.00 percent were in the age category of 25 to 40 years, 18.29 percent respondents were between 40 and 55 years in age, and 08.14 percent respondents were over 55 years in age. Further, 16.57 percent of the respondents were graduates, 70.00 percent were postgraduates, and the remaining 13.43 percent had other qualifications. 14.00 percent of the respondents earned less than INR 25 000 a month, 18.86 percent earned between INR 25 000 and INR 50 000 a month, 58.14 percent earned between INR 50 000 and INR 100 000 a month, and 09.00 percent respondents earned over INR 100 000 a month. As far as the work experience of the respondents was concerned, 09.43 percent of the respondents had work experience of less than 5 years, 43.14 percent respondents had work experience between 5 and 10 years, 31.14 percent respondents had work experience between 10 and 20 years, and 16.29 percent respondents had work experience of over 20 years (it may be noted that in the present study work experience only refers to work experience with a bank). Lastly, 17.43 percent of the respondents had worked with their present bank for less than 5 years, 60.29 percent respondents had worked with their present bank for a period between 5 and 10 years, 14.57 percent had worked with their present bank for a period between 10 and 20 years, and only 07.71 percent of the respondents had worked with their current bank for over 20 years.

Table 3. Respondent profile

<table>
<thead>
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<th>Frequency</th>
<th>Percentage</th>
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<tr>
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<td>25 – 40</td>
<td>406</td>
<td>58.00</td>
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<tr>
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<td>40 – 55</td>
<td>128</td>
<td>18.29</td>
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<td>&gt; 55</td>
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<td>Postgraduate</td>
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</tr>
<tr>
<td></td>
<td>Any other (e.g. professional diploma)</td>
<td>94</td>
<td>13.43</td>
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<tr>
<td>Monthly income (in INR)</td>
<td>&lt; 25 000</td>
<td>98</td>
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<td>25 000 – 50 000</td>
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<td>50 000 – 100 000</td>
<td>407</td>
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<td>&gt; 100 000</td>
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ANALYSIS

This section presents the details of data analysis.

Factor analysis

The first step in data analysis was to reduce the number of variables used in the questionnaire to a smaller number. This was undertaken with a view to subject the fewer extracted variables to further analysis. For this purpose, factor analysis was used.

Examining the suitability of factor analysis

Before reducing the data with factor analysis, the suitability of the use of factor analysis in the present case was examined. The KMO (Kaiser Meyer Oklin) and Bartlett’s test was used. This test is recommended to assess if the data is suitable for structure detection. Table 4 exhibits the results of KMO and Bartlett’s test.

KMO measures the sampling adequacy for each individual variable, as well as the overall data (Dziuban and Shirkey, 1974). It is a measure of the common variance between variables. A KMO value of over 0.5 is considered desirable (Malhotra, 2008). As exhibited in table 4, the KMO value in the present case is 0.914. This indicates that use of factor analysis is suitable in the present case.

The Bartlett’s test of sphericity is a measure that ascertains whether the variables used in the study are sufficiently correlated (Malhotra, 2008). It tests the null hypothesis that assumes that the variables used in the study are not significantly
correlated. The results of this test are significant ($c^2 = 11819.446$, $df = 406$, $p = 0.000$). This further establishes that the use of factor analysis is appropriate in the present case.

**Table 4. KMO and Bartlett’s test**

<table>
<thead>
<tr>
<th>Kaiser Meyer Oklin measure of sampling adequacy</th>
<th>0.914</th>
</tr>
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<tr>
<td>Bartlett's test of sphericity</td>
<td></td>
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<tr>
<td>Approx. $c^2$</td>
<td>11819.446</td>
</tr>
<tr>
<td>$df$</td>
<td>406</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Source: Authors’ study*

**Correlation matrix**

A correlation matrix shows the correlation ($r$) between all the pairs of variables. It is a lower triangle matrix (Malhotra, 2008). Table 5 shows the correlation matrix. As can be seen, the matrix reveals substantial correlations between the pairs of variables.

**Table 5. Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V7</th>
<th>V8</th>
<th>V9</th>
<th>V10</th>
<th>V11</th>
<th>V12</th>
<th>V13</th>
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</tr>
<tr>
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<td>V3</td>
<td>0.176**</td>
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<tr>
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<td>V5</td>
<td>0.093(*)</td>
<td>0.120(*)</td>
<td>0.305(*)</td>
<td>0.322(**)</td>
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<td>0.352(**)</td>
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<td>0.075(*)</td>
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<td>0.202(**)</td>
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</table>
**Significant at 5 per cent level of significance**

*Significant at 1 per cent level of significance*

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<td>0.568(**)</td>
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<tr>
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<td>-0.038</td>
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<td>0.310(*)</td>
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</tr>
</tbody>
</table>

**Significant at 5 per cent level of significance**

*Significant at 1 per cent level of significance*
Extraction of factors

The item scale constituting the 29 attributes (for attributes refer to annexure 1) was subjected to factor analysis. Principal component method with Varimax rotation was used. Varimax orthogonal rotation was employed for the factors with eigen values exceeding 1.0. Only those variables, which clearly loaded on a specific factor with loadings of over 0.5 (27 out of the initial 29 variables), were retained in the analysis (Malhotra, 2008). In all, six factors were extracted. These six factors account for 64.79 percent of the total variance. Based on the variables loaded on particular factors, names have been given to the factors. For details of factors and the variables loaded on them, refer to table 6.

The reliability of the factors was established with the help of Cronbach’s coefficienta. Its value was found to be 0.892. A value of over 0.7 is recommended (Nunnally and Bernstein, 1967). The value of Cronbach’s coefficienta in the present case is clearly greater than 0.7. This establishes the reliability of the constructs.

Table 6. Results of factor analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigen value</th>
<th>Cumulative variance (%)</th>
<th>Variables</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
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<td>Factor 1 – Emotional satisfaction</td>
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<td>35.93</td>
<td>Reciprocal trust</td>
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<td></td>
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<td></td>
<td>Job security</td>
<td>0.792</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Personal control and empowerment</td>
<td>0.785</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Autonomy</td>
<td>0.714</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Job satisfaction</td>
<td>0.605</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Work-life balance policies</td>
<td>0.542</td>
</tr>
<tr>
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<td></td>
<td>Personal influence</td>
<td>0.515</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Sense of belonging</td>
<td>0.503</td>
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<tr>
<td>Factor 2 – Perceived fairness</td>
<td>2.301</td>
<td>43.87</td>
<td>Organizational justice</td>
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<td>Transparent system of performance appraisal</td>
<td>0.760</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leadership ethics</td>
<td>0.633</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Respect for employees</td>
<td>0.605</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Company reputation</td>
<td>0.570</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sustainability of workload</td>
<td>0.555</td>
</tr>
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</table>
Factor 3 – Personal development

<p>| | | | |</p>
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<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>2.118</td>
<td>51.17</td>
<td></td>
</tr>
<tr>
<td>Resource inadequacy*</td>
<td>0.750</td>
<td>Skill and knowledge enhancement opportunities</td>
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</tr>
<tr>
<td>Career growth</td>
<td>0.676</td>
<td>Barriers to performance*</td>
<td>0.617</td>
</tr>
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</table>

Factor 4 – Culture

<p>| | | | |</p>
<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1.484</td>
<td>56.29</td>
<td></td>
</tr>
<tr>
<td>Customer orientation</td>
<td>0.797</td>
<td>Quality of teamwork</td>
<td>0.728</td>
</tr>
<tr>
<td>Leadership support</td>
<td>0.659</td>
<td>Quality of supervision</td>
<td>0.577</td>
</tr>
</tbody>
</table>

Factor 5 – Clear communication

<p>| | | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>1.411</td>
<td>61.16</td>
<td></td>
</tr>
<tr>
<td>Lack of role clarity*</td>
<td>0.733</td>
<td>Clarity of vision/mission</td>
<td>0.629</td>
</tr>
<tr>
<td>Open communication</td>
<td>0.565</td>
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<td></td>
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</tbody>
</table>

Factor 6 – Compensation

<p>| | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.053</td>
<td>64.79</td>
<td></td>
</tr>
<tr>
<td>Pay and rewards</td>
<td>0.770</td>
<td>Recognition for good performance</td>
<td>0.547</td>
</tr>
</tbody>
</table>

*Items negatively worded to reduce bias on account of the tendency of the respondents to respond in the affirmative. Responses to these items were reverse coded.

Source: Authors’ study

**Factor 1 – Emotional satisfaction**

This is the most important factor that has emerged out of the analysis. This factor has an eigen value of 10.421, has eight variables loaded on it, and accounts for 35.93 percent of the total variance. The variables loaded on this factor are reciprocal trust (0.816), job security (0.792), personal control and empowerment (0.785), autonomy (0.714), job satisfaction (0.605), work-life balance policies (0.542), personal influence (0.515), and sense of belonging (0.503).

Available literature on employee engagement underscores the relation between employee emotions and employee engagement (Kahn, 1990; Coffman and Gonzales-Molina, 2002; Konrad, 2006). Engagement tends to be the highest in an environment that satisfies the emotional needs of the employees (Sandhu et al., 2017). Therefore, satisfaction of the emotional needs of the employees by fostering trust between the leadership and employees, providing job security and autonomy to the employees, creating opportunities that allow employees to develop personal
influence at the workplace, employee empowerment, and designing policies that permit employees to maintain a balance between work and personal life can help augment employee engagement. Nurturing an environment that focuses on cultivating a sense of belonging among the employees and improving employee job satisfaction can also advance the engagement levels of employees.

It may be pertinent to mention here that job satisfaction is often erroneously confused with employee engagement (Saks, 2006). However, available academic literature clarifies that job satisfaction is distinct from employee engagement, and is just one of the variables that influence employee engagement (Harter et al., 2002). The current study too indicates the same.

**Factor 2 – Perceived fairness**

Perceived fairness is the second factor extracted from the data. This factor has six variables loaded on it: organizational justice (0.807), transparent system of performance appraisal (0.760), leadership ethics (0.633), respect for employees (0.605), company reputation (0.570), and sustainability of workload (0.555). Most of the variables loaded on this factor are documented drivers of employee engagement.

Fairness and a sense of organizational justice are antecedents to employee engagement in organizations (Eisenberger et al., 1986; Maslach et al., 2001; Rasheed et al., 2013). Employees tend to be engaged in an environment of perceived fairness and justice. One of the dimensions of justice that personally relates to the employees is fairness of the performance appraisal mechanism (Heger, 2007). Engaged employees seek objectivity and fairness in performance appraisal (Heger, 2007). They seek higher salaries for the more engaged employees and vice-versa (Heger, 2007). This kind of a differential system of performance appraisal encourages the engaged employees and further advances their job engagement (Heger, 2007; Walton, 2009). It also motivates the less engaged employees to achieve higher levels of engagement (Heger, 2007). Consequently, the overall level of employee engagement at the workplace improves.

**Factor 3 – Personal development**

The third factor has been named personal development. This factor has an eigen value of 2.118 and has four variables loaded on it. These variables are resource
inadequacy (0.750), skill and knowledge enhancement opportunities (0.690), career growth (0.676), and barriers to performance (0.617). (As already mentioned, two variables loaded on this factor, i.e. resource inadequacy and barriers to performance were negatively worded to reduce bias on account of the tendency of the respondents to reply in the affirmative. Responses to these two variables were reverse coded at the time of data entry).

Studies on employee engagement establish that a compelling personal value proposition for employees positively impacts employee engagement (Heger, 2007). In this regard, Heger (2007) believes that organizations must provide a clear understanding of ‘how do they personally benefit from it’ to all levels of employees. This factor provides a cogent list of various employee value propositions that can enhance employee engagement in organizations.

Latham and Pinder (2005), and Heger (2007) content that opportunities for career growth and skill augmentation, and reduced barriers to performance constitute a strong employee value proposition that significantly enhances employee engagement in organizations.

**Factor 4 – Culture**

The fourth factor that has emerged from the data is culture. This factor has four variables loaded on it: customer orientation (0.797), quality of teamwork (0.728), leadership support (0.659), and quality of supervision (0.577). This factor shows that four aspects of organizational culture, as expressed by the four variables loaded on this factor, influence employee engagement. This finding supports the work of many previous researchers (Towers Perrin, 2003; Heger, 2007).

**Factor 5 – Clear communication**

Clear communication is the fifth factor that has emerged after data reduction. The three variables loaded on this factor are: lack of role clarity (0.733), clarity of vision/mission (0.629), and open communication (0.565). (As previously discussed, one of the variables loaded on this factor, i.e. lack of role clarity was negatively worded to reduce bias on account of the tendency of the respondents to reply in the affirmative. Responses to this variable were reverse coded at the time of data entry).
The importance of clear communication in fostering and augmenting employee engagement is well documented in literature (Walton, 2009; Ruck and Trainer, 2012). It is believed that communication is as an antecedent to employee engagement (Witemeyer, 2013). Clear communication of the organizational vision/mission (Towers Perrin, 2003; Vance, 2006) and the role played by individual employees in achieving it can influence employee engagement (Medlin and Greene, 2008).

**Factor 6 – Compensation**

Compensation is the last factor that has emerged out of the analysis. This factor has two variables loaded on it: pay and rewards (0.770), and recognition for good performance (0.547).

Compensation and employee engagement are believed to be positively and significantly linked (Goldthorpe et al., 1968; Cropanzano and Mitchell, 2005; Sandhu et al., 2017). Past researchers have differentiated between the tangible/rational and intangible/emotional components of compensation (Bakker et al., 2012). Pay, perks and rewards constitute the tangible components of the compensation package (Vance, 2006; Bakker et al., 2012), where as recognition and praise for good work constitute the intangible components of employee compensation (Ghosh et al., 2016). Both of them play a significant role in enhancing engagement among employees (Bakker et al., 2012; Ghosh et al., 2016).

**MODEL DEVELOPMENT**

With a view to examine the impact of the six factors extracted after factor analysis on overall employee engagement, a multivariate regression model was developed (refer to figure 2 and regression equation 1). The six factors, i.e. emotional satisfaction, perceived fairness, personal development, culture, clear communication, and compensation were presumed to be the independent variables and overall employee engagement in the banking industry was presumed to be the dependent variable. The set of hypotheses exhibited in table 7 were proposed. As evident, the regression model hypothesizes that overall employee engagement in the banking industry is impacted by emotional satisfaction, perceived fairness, personal development, culture, clear communication, and compensation.
Figure 2. Model to be tested

Source: Authors’ study

\[ Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6, \]

where………………………………………………............................(equation 1)

Y = the dependent variable (overall employee engagement in the banking industry),

\(X_1\) to \(X_6\) = the six independent variables extracted from factor analysis (emotional satisfaction, perceived fairness, personal development, culture, communication, and compensation),

a = the constant, and

\(\beta_1\) to \(\beta_6\) = slope coefficients

Table 7. Hypotheses
Null hypotheses | Alternate hypotheses
---|---
H01: There is no significant impact of emotional satisfaction on employee engagement. | H1: There is a significant impact of emotional satisfaction on employee engagement.
H02: There is no significant impact of perceived fairness on employee engagement. | H2: There is a significant impact of perceived fairness on employee engagement.
H03: There is no significant impact of personal development on employee engagement. | H3: There is a significant impact of personal development on employee engagement.
H04: There is no significant impact of culture on employee engagement. | H4: There is a significant impact of culture on employee engagement.
H05: There is no significant impact of clear communication on employee engagement. | H5: There is a significant impact of clear communication on employee engagement.
H06: There is no significant impact of compensation on employee engagement. | H6: There is a significant impact of compensation on employee engagement.

Source: Authors’ study

Model test

The proposed model was tested with the help of multiple regression analysis. Prior to the application of regression analysis, the existence of multicollinearity among the independent variables was examined. Multicollinearity is a situation wherein two or more predictors are highly correlated and limit the accuracy of regression analysis. First, the correlation matrix was used to assess the extent of correlations among the independent variables (refer to table 8). As a rule of thumb, data are considered free from the problem of multicollinearity if pair-wise correlation coefficients of all pairs of predictors are less than 0.8 (Gujarati, 2008). As evident from table 8, the pair-wise correlation coefficients of all pairs of predictors are less than 0.8. This indicates that data are free from the problem of multicollinearity. Second, the value of the VIF (Variance Inflation Factor) of variables was used to examine the presence of multicollinearity among variables. Variables are considered highly collinear if their VIFs exceed 10 (Gujarati, 2008). In the present analysis, VIFs of all the independent variables are less than 10 (refer to table 9). This further indicates that multicollinearity is not a matter of concern in the present
study. Thus, the model is valid and reliable.

Before proceeding with regression analysis, normal distribution of variables was ensured. For this purpose, the normal probability plot of regression standardized residual was used.

Results of multiple regression analysis are exhibited in tables 9 to 11. As can be seen from table 11, the overall model is significant \((F=180.063, \ p=0.000)\). This indicates that there exists a significant correlation between the independent variables and the dependent variable. The adjusted \(R^2\) is 0.607 (refer to table 10). This shows that 60.7 percent variation in the dependent variable can be explained by the six dependent variables: emotional satisfaction, perceived fairness, personal development, culture, clear communication, and compensation.

Table 9 depicts that two factors, i.e. emotional satisfaction and compensation have a significant positive impact on the dependent variable. The coefficients of both these factors are positive and significant at 5 percent significance level. Thus, \(H_01\) and \(H_06\) are rejected. Further, perceived fairness, personal development, culture, and clear communication are not statistically significant in the model. As such, \(H_02, H_03, H_04,\) and \(H_05\) are accepted. This suggests that these four factors have no impact on the dependent variable. The regression equation thus takes the shape of equation 2 and the model takes the shape of figure 3.

The standardized b values of the significant factors indicate that in absolute terms, factor 1, i.e. emotional satisfaction, has the maximum impact on overall employee engagement in the banking industry. Therefore, it can be said that, hierarchically, emotional satisfaction and compensation significantly impact employee engagement in the banking industry.

The results of the current study support existing literature. According to the current study, emotional satisfaction significantly impacts employee engagement \((p=0.000)\). Previous studies also suggest the same (Sandhu et al., 2017). In the past, many researchers have emphasized the link between emotions and engagement (Kahn, 1990; Coffman and Gonzales-Molina, 2002; Konrad, 2006). Sandhu et al. (2017) underscore that an emotionally rich environment can significantly drive employee engagement. In fact their study established emotional satiety as the most important driver of employee engagement. Further, the present study also establishes compensation as a significant driver of employee engagement \((p=0.000)\). Studies
conducted by Vance (2006), Saks (2007), Walton (2009), Bakker et al. (2012), Ghosh et al. (2016), Mozammel and Haan (2016), and Sandhu et al. (2017) suggest the same. It may be pertinent to mention here that one of these studies (Ghosh et al., 2016) specifically examined the drivers of employee engagement in private banks. It may be further relevant to mention that evidence that contradicts these results is also available. A recent study undertaken by Mishra and Mohanty (2016) indicates that pay, benefits and recognition do not impact employee engagement.

According to the current study, perceived fairness does not impact employee engagement. The studies of Maslach et al. (2001), and Rasheed et al. (2013) contradict this finding. Their studies indicate that fairness and a sense of organizational justice augment employee engagement. The present study also found that personal development does not impact employee engagement. Studies are available that both support (Ghosh et al., 2016) and contradict (Vance, 2006; Heger, 2007; Gary, 2010; Rothmann and Rothmann, 2010; Witemeyer, 2010) this finding. Furthermore, the current study found no impact of clear communication on employee engagement. Once again, extant literature both supports (Sandhu et al., 2017) and contradicts this finding (Gary 2010; Ruck and Trainer, 2012; Witemeyer, 2013).

Table 8. Pearson’s correlation

<table>
<thead>
<tr>
<th></th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2</td>
<td>0.176**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3</td>
<td>0.158**</td>
<td>0.497**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>F4</td>
<td>0.093*</td>
<td>0.305**</td>
<td>0.322**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F5</td>
<td>0.105**</td>
<td>0.415**</td>
<td>0.470**</td>
<td>0.352**</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>F6</td>
<td>0.447**</td>
<td>0.149**</td>
<td>0.279**</td>
<td>0.121**</td>
<td>0.075*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>0.765**</td>
<td>0.204**</td>
<td>0.193**</td>
<td>0.120**</td>
<td>0.135**</td>
<td>0.470**</td>
<td>1</td>
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</table>

**Significant at 5 per cent level of significance
*Significant at 1 per cent level of significance

Source: Authors’ study
Table 9. Results of multiple regression analysis

<table>
<thead>
<tr>
<th>Factors</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Significance (p value)</th>
<th>VIF</th>
</tr>
</thead>
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<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>b</td>
<td></td>
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<tr>
<td>Emotional satisfaction</td>
<td>0.606</td>
<td>0.024</td>
<td>0.648</td>
<td>25.527</td>
<td>0.000*</td>
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<td>Perceived fairness</td>
<td>0.057</td>
<td>0.038</td>
<td>0.043</td>
<td>1.517</td>
<td>0.130</td>
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<td>Personal development</td>
<td>0.003</td>
<td>0.037</td>
<td>0.003</td>
<td>0.083</td>
<td>0.934</td>
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<tr>
<td>Culture</td>
<td>0.013</td>
<td>0.023</td>
<td>0.014</td>
<td>0.537</td>
<td>0.592</td>
</tr>
<tr>
<td>Clear communication</td>
<td>0.027</td>
<td>0.027</td>
<td>0.028</td>
<td>0.990</td>
<td>0.322</td>
</tr>
<tr>
<td>Compensation</td>
<td>0.089</td>
<td>0.016</td>
<td>0.153</td>
<td>5.564</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

*Significant at 5 per cent level of significance; intercept (constant) = 0.348; R²=0.610; adjusted R²=0.607

Source: Authors’ study

Table 10. Model summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>SE of the estimate</th>
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<tr>
<td>1</td>
<td>0.610</td>
<td>0.607</td>
<td>0.61036</td>
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</table>

Source: Authors’ study

Table 11. ANOVA for regression

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
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<tbody>
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<td>6</td>
<td>67.081</td>
<td>180.063</td>
<td>0.000</td>
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<td>Residual</td>
<td>257.425</td>
<td>691</td>
<td>0.373</td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td>659.908</td>
<td>697</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ study

\[ Y = a + \beta_1 X_1 + \beta_6 X_6 \] .................................................................(equation 2)

\[ Y = 0.348 + 0.606 + 0.089, \text{ where} \]
$Y = \text{overall employee engagement in the banking sector},$

$a = \text{constant},$

$X_1 = \text{emotional satisfaction},$ and

$X_6 = \text{compensation}$

**Figure 3. Proposed model: Significant drivers of employee engagement in banking industry**

*Source: Authors’ study*

To sum up the work undertaken in this section, it can be said that there exist six drivers of employee engagement in the banking industry: emotional satisfaction, perceived fairness, personal development, culture, clear communication, and compensation. Results of regression analysis show that two of these factors, i.e. emotional satisfaction and compensation are significant in the overall model.

**DISCUSSION**

This section presents a discussion on the theoretical and practical implications of the study. This section also highlights the study limitations and provides scope for further research.

Reinforcement theory has a wide acceptability in practitioner communities because of its conceptual connection with employee engagement (Walton, 2009).
Reinforcement theory recommends the use of positive and negative consequences to bring about goal directed modifications in employee behavior (Steers et al., 2004).

The current study establishes that satisfaction of the emotional needs of the employees and compensation significantly impact employee engagement. An integration of the findings of the current study with reinforcement theory suggests that satisfaction of the emotional needs of the employee and system of compensation can be systematically and selectively used to align employee behaviors with behaviors typically associated with high levels of engagement and organizational success.

Differentiation in consequences of performance and non-performance/underperformance is a powerful tool to modify employee behavior and enhance the overall level of employee engagement (Rynes et al., 2005). By incentivizing performance and engagement, organizations can achieve higher levels of engagement (Heger, 2007). The significant drivers of employee engagement, as established by the current study, may thus be differentially used in banks to augment overall levels of employee engagement. The results of the study may also be used to evaluate exiting programs aimed at engaging employees in banks.

Like every other study, this study also suffers from some limitations. First, the study suffers from a regional bias that may prevent generalization of findings. Data was primarily collected from bank branches located in and around Chandigarh, India. Second, despite the use of many variables, the data could not explain the total variance. Third, existing literature indicates that good human resource policies and practices positively impact employee engagement (Marescaux et al., 2013). However, according to current study, personal development and communication do not impact employee engagement. The present study did not delve into the reasons behind the same. The reasons why such factors do not impact employee engagement, despite providing a strong personal value proposition to the employees, warrant further attention. Fourth, some scholars are skeptical about the use of a quantitative model to make sense of employee engagement (Gerst, 2013). The authors tried to partly address this issue through convergent interviews used to recognize contemporary concerns and variables related to employee engagement. Also, the growing popularity/acceptance of engagement surveys (Mishra and Mohanty, 2016) lends credence to this study. However, despite these
strengths, the study suffers from the limitations of the use of a quantitative model to explain a relatively qualitative phenomenon like employee engagement.

Despite the limitations of the study, the authors believe that the findings of the current study have significant theoretical and practical implications. Apart from helping bank practitioners design and deploy effective employee engagement policies, the current study also adds to the existing literature on employee engagement.

REFERENCES


ANNEXURE 1. LIST OF VARIABLES USED IN THE QUESTIONNAIRE

<table>
<thead>
<tr>
<th>V1</th>
<th>Work-role congruence</th>
</tr>
</thead>
<tbody>
<tr>
<td>V2</td>
<td>Quality of supervision</td>
</tr>
<tr>
<td>V3</td>
<td>Resource inadequacy*</td>
</tr>
<tr>
<td>V4</td>
<td>Quality of teamwork</td>
</tr>
<tr>
<td>V5</td>
<td>Sustainability of workload</td>
</tr>
<tr>
<td>V6</td>
<td>Personal control and empowerment</td>
</tr>
<tr>
<td>V7</td>
<td>Lack of role clarity*</td>
</tr>
<tr>
<td>V8</td>
<td>Customer orientation</td>
</tr>
<tr>
<td>V9</td>
<td>Career growth</td>
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<td>V10</td>
<td>Leadership support</td>
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<tr>
<td>V11</td>
<td>Autonomy</td>
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<tr>
<td>V12</td>
<td>Clarity of vision/mission</td>
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<tr>
<td>V13</td>
<td>Company reputation</td>
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<tr>
<td>V14</td>
<td>Organizational justice</td>
</tr>
<tr>
<td>V15</td>
<td>Skill and knowledge enhancement opportunities</td>
</tr>
<tr>
<td>V16</td>
<td>Pay and rewards</td>
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<td>V17</td>
<td>Work-life balance policies</td>
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<td>V18</td>
<td>Transparent system of performance appraisal</td>
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<td>V19</td>
<td>Barriers to performance*</td>
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<tr>
<td>V20</td>
<td>Leadership ethics</td>
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<tr>
<td>V21</td>
<td>Recognition for good performance</td>
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<tr>
<td>V22</td>
<td>Open communication</td>
</tr>
<tr>
<td>V23</td>
<td>Personal influence</td>
</tr>
<tr>
<td>V24</td>
<td>Reciprocal trust</td>
</tr>
<tr>
<td>V25</td>
<td>Job security</td>
</tr>
<tr>
<td>V26</td>
<td>Job satisfaction</td>
</tr>
<tr>
<td>V27</td>
<td>Competence to handle customer queries</td>
</tr>
<tr>
<td>V28</td>
<td>Sense of belonging</td>
</tr>
<tr>
<td>V29</td>
<td>Respect for employees</td>
</tr>
</tbody>
</table>

*Items negatively worded to reduce bias on account of the tendency of the respondents to respond in the affirmative
This book contains a compilation of papers presented at the International Conference on “Responsible Research and Transformation in Education” which was held from 5th to 7th of April, 2017 at the Grange City Hotel and House of Lords, Palace of Westminster all in London, UK.

The purpose of this publication is to provide an equitable platform that enables the dissemination of research findings, geared towards the transformation of education, as a catalyst for societal growth and modernization.

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