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Message from the Steering Committee Chair

Welcome to the Ireland International Conference on Education (IICE-2017) biannual conference (April and October). The IICE-2017 provides an opportunity for academicians and professionals from various educational fields with cross-disciplinary interests to bridge the knowledge gap, promote research esteem and the evolution of pedagogy. The IICE-2017 theme is Global Issues in Education.

We received 381 papers (125 Abstracts, 105 Extended Abstracts, 78 Full Papers), 44 Speaker’s Proposal, 29 Posters and 25 Workshops from 81 countries of which 86 (25 Abstracts, 16 Extended Abstracts, 10 Full Papers), 8 Speaker’s Proposal, 7 Posters, 9 Workshops and finally 32 (19 Abstracts, 11 Extended Abstracts, 8 Full Papers), 3 Speaker’s Proposal, 5 Posters, 3 Workshops and 1 invited Workshop. The IICE double blind paper evaluation method was adopted to evaluate each submission and selected papers will appear in high impact International Journals published by Infonomics Society.

Many people have worked very hard to make this conference possible. I would like to thank all who have helped in making IICE-2017 a success. The Steering Committee and reviewers each deserve credit for their excellent job. I thank the authors who have contributed to IICE-2017 and our Keynote Speakers: Dr Steve Rutherford and Dr Jen Harvey, for agreeing to participate in IICE-2017. I also like to acknowledge my appreciation to the following organisations: Infonomics Society, Cardiff University, Dublin Institute of Technology (DIT) and Canadian Teacher Magazine. It has been a great pleasure to serve as the Steering Committee Chair for IICE-2017. The long term goal of IICE is to build a reputation and respectable conference for the international community.

On behalf of the IICE-2017 Executive members, I would like to encourage you to contribute to the future of IICE conference as authors, speakers, panellists, and volunteer conference organisers. I wish you a pleasant stay in Dublin, and please feel free to exchange ideas with other colleagues.

Professor Charles A. Shoniregun
IICE-2017 Steering Committee Chair
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Keynote Speakers
Keynote Speaker 1

Dr Stephen Rutherford is a National Teaching Fellow, a Reader, and Director of Undergraduate Education in the School of Biosciences, Cardiff University, UK. Stephen gained his BSc and PhD in the biosciences at the University of York, doctoral research at the University of Nevada, Reno, Nevada, USA, and the University of Oxford. During his time in the USA, Stephen was an adjunct teaching faculty at the University of Nevada, Reno and California State University, Sacramento. Stephen joined the School of Biosciences at Cardiff University in 2005, where he has been the Deputy Director of Undergraduate Education since 2009, and has recently become the Director of Undergraduate Education this summer. Stephen’s educational research interests focus around four themes: (i) Self-regulated learning and the development of student study skills; (ii) student identity and knowledge retention during transition from school to university; (iii) collaborative learning and the formation of student learning communities outside of the classroom; and (iv) the use of Web 2.0 tools in assessment, collaborative learning and teaching. Stephen has an extensive publication and presentation record and has edited two collected volumes on Collaborative Learning and Independent Learning respectively. Stephen also has interests in the history of medicine and military surgery, and is currently writing a book in 17th century surgeons, to be published early in 2018. As a champion of teaching innovations, Stephen regularly delivers seminars to HE professionals on technology enhanced education and innovative teaching practice, and was awarded a prestigious UK National Teaching Fellowship in 2016. He has won local awards for teaching excellence and is regularly nominated by students for ‘enriching student life’ awards at the University. Across the sector, Stephen is involved in several projects which have included funding from the Higher Education Academy and Physiological Society.

Title: Learning the Rules of the Game: Developing student-mediated learning in Higher Education

Abstract:
Self-regulated learning is a fundamental aspect of higher education, and students need to develop effective study strategies in this area during the transition period from school to University. Support offered to students during transition to higher education typically focuses on teaching students independent study skills and strategies. However, most new university students already have effective and personalised self-regulated learning strategies, developed through many years of trial and error in their studying at school. Instead, what is needed is to facilitate the students transforming these self-regulated learning skills from the content-focused, strategic or surface learning of secondary education, to the deep learning approaches and critical analysis required of the tertiary sector. In order to make this change students need to be able to identify and understand the ‘rules of the game’ – the conventions of
the community of practice of higher education. Decoding these conventions is a transformative process for new students, and the learning process needs to be supported and encouraged, rather than forced or dictated. Also key to the development of independent learning is the peer-support available to the student. Effective and supportive social- and discipline-based peer networks are fundamental to the student developing their core identity as an independent learner. So fundamental are these social interactions, that we should adopt the term ‘student-mediated’ rather than ‘self-regulated’ learning, to reflect the inherent social nature of the process. Supporting the development of student-mediated learning strategies is fundamental for all educational practitioners from early years up to graduate study, and we should encourage the development of effective social networks to facilitate this from an early age.
Keynote Speaker 2

Dr Jen Harvey joined Dublin Institute of Technology (DIT) in 1999 and is the Head of the DIT Learning, Teaching and Technology Centre (LTTC). Before moving to Dublin, she worked in a number of academic development roles in various Scottish Universities. She is currently involved in coordinating a number of postgraduate LTTC CPD short courses, as well as teaching and supervising on all the LTTC programmes. She chairs the institutional Learning, Teaching and Assessment Strategies committee. Research interests relate to student assessment and feedback strategies, practitioner based evaluations and student transition into Higher Education. She is a board member of the Irish Forum for the enhancement of teaching and learning.

Title: Leading and supporting change in Higher Education: strategies for staff and student engagement

Abstract: Quality of Teaching has become an issue of importance in a time of change in Higher Education. However teaching quality is both complex and difficult to define. Framed within a context of responding to a National Agenda, this presentation aims to explore strategies that seek to encourage and enhance a student centred approach to teaching as a way to enhance the quality of the learning experience for all students. In 2012, the Dublin Institute of Technology made a commitment to a Student Engagement strategy as a way to enrich educational experiences to enhance employability. The significance of harnessing student engagement and active learning processes within the curriculum as a way to lead and support change within institutional teaching practices will also be explored with reference to relevant institutional exemplars and research data.
Workshops
Invited Workshop: The mechanism of the brain function on the basis of the Tri-Anthropo-Type Paschalidis Model and its influence on all the sectors of the human activity

The Model of the three human types, the Tri-Anthropo-Type Paschalidis Model is a neurobiological model with psychosocial interpretations and extensions and translates the neurobiology of the behavior and the character. It explains the way each individual processes the stimuli of the environment, the way he feels, thinks, behaves, reacts, coexists and communicates with people around him, according to the Paschalidis personality Type he belongs to (A, B or C), which is determined by the neurophysiology of his brain. Most importantly, the Model goes one step further and explains the interaction between the health and the psychological state of an individual. It explains the psychosomatic nature of illness as a result of a complex interactive mechanism which involves the brain, the organism’s neurochemistry, the thought, personality and physiology. Furthermore, the Model describes in detail how anyone can change and avoid the Type-specific patterns of thinking and acting which lead to illness.

Organiser: George Paschalidis, Greece
Workshop 1: Developing Intercultural Competence in the Curriculum

Leaders, administrators and educators in Higher Education settings around the world are increasingly aware of the need to internationalise the curriculum and establish learning outcomes that include global mindedness, cultural awareness and intercultural competences. Yet in practice, institutional strategies that focus on student mobility and international research collaboration over the challenges of internationalizing the curriculum prevail across the sector. For academic staff, the development of students’ intercultural competences alongside disciplinary knowledge and skills is a major challenge which entails criticality, reflection and a positive disposition toward the change this entails in how they approach and conceive of their work. Educators and curriculum developers are typically not equipped to integrate a focus on intercultural competence into their work. Drawing upon internationally accepted frameworks and definitions of intercultural competence, this workshop presents practice-based strategies for fostering knowledge, skills and attitudes integral to intercultural competence within the formal curriculum. The purpose of this workshop is to introduce practical curriculum-based strategies for educators who aim to foster the development of intercultural competence among their students. Activities that are readily adaptable to a range of contexts will be shared, encompassing experiential and reflective modes of learning and the fostering of learner criticality. The workshop draws upon examples of practice detailed in two recently published case studies from international higher education contexts and provides opportunity for participants to consider how intercultural competences might be fostered among students in their own contexts of practice.

Organiser: Catherine Peck, Education Consultant, Ireland
Workshop 2: Pop music isn’t academic, or is it?

Many teachers like to use music and song in the language classroom. Yet, despite the rich potential of songs as authentic and stimulating texts, when it comes to designing a listening activity for a song, teachers tend to rely upon the ‘gap fill’; by far the most frequently employed song-related listening task. This workshop will demonstrate a collection of simple, effective techniques that can be easily applied to a range of songs. All techniques incorporate active learning elements such as movement, prediction, student-student interaction and competitive games – providing teachers with a bank of useful and engaging classroom activities. The activities are adaptable for young teen to adult learners, ranging from low intermediate to advanced levels. For Academic English Programs, the activities encompass essential skills and strategies for the learner. Learners can actively employ context and co-text, develop awareness of coherence and cohesion, review and expand vocabulary and develop awareness of prosody and pronunciation to better facilitate listening comprehension. The purpose of this workshop is to present nine dynamic classroom activities for using pop songs that go beyond listening for words and completing a gap fill. The activities demonstrated enable learners to actively employ language skills and strategies, utilize context and co-text, develop awareness of coherence and cohesion, and review and expand vocabulary.

Organiser: Nico Lorenzutti, Education Consultant, Ireland
PhD and Doctorate Consortium

The idea of writing a research paper or developing a topic of research interest that can lead to a PhD / Doctorate degree or proposal is always an endless thinking of where, when, why, what and who. Therefore, becoming an experienced researcher and writer in any field or discipline takes a great deal of practice. The Consortium has the following objectives:

- Provide a supportive setting for feedback on current research that will stimulate exchange of ideas;
- Guide on the future research directions;
- Promote the development of a supportive community of scholars and a spirit of collaborative research;
- Contribute to the conference goals through interaction with other researchers and conference events.

The PhD and Doctorate Consortium highlights possible solutions in response to the lack of competence demonstrated by young researchers and PhD and Doctorate students, and the understanding of what contributes to knowledge gap.

Organiser: Charles A. Shoniregun, Infonomics Society UK and Ireland
Sessions
Session 1: Curriculum, Research and Development

Title: Using a Movie Journal in Foreign Language Classrooms
(Author: Eric Bray)

Title: STEM in Action: A Novel Partnership Designed to Increase the Quality of STEM Education in Central Virginia
(Authors: Susan W. Parker, April D. Hennis Marchetti)

Title: Improving STEM Education through the Development of High-Quality Curricula Aimed at Elementary Educators
(Authors: April D. Hennis Marchetti, Susan W. Parker, Chuck English)

Title: Teacher Education and Programme Renewal: Responsive Ways to Strategically Align Institutional and Professional Graduate Attributes in a SA Research-Intensive University Context
(Author: Arend E. Carl)
Using a Movie Journal in Foreign Language Classrooms

Eric Bray
Yokkaichi University, Japan

Abstract

Foreign language teachers often want to use movies in the classroom because movies are a rich source of both language and culture, and they contain themes that stimulate thought and discussion. However, showing movies to students without doing the time-consuming preparation of tasks for students to do while watching can limit the educational benefits. Using a Movie Journal solves this problem. The Movie Journal contains five questions related to: Summary, Reaction, Prediction, Culture and Vocabulary that students answer after watching a section of the movie in class. Writing in the Movie Journal before discussing the movie leads to better discussions, as students have a chance to think about what they want to say and how best to express these ideas in the foreign language.
STEM in Action: A Novel Partnership Designed to Increase the Quality of STEM Education in Central Virginia

Susan W. Parker, April D. Hennis Marchetti
*Randolph-Macon College, Ashland, USA*

**Abstract**

The USA has historically been a world leader in STEM innovation, a position that is vulnerable due to a dearth of graduates in STEM fields and threats to funding by the current political administration. To compete in the global economy and maintain national security, more skilled graduates are needed to fill STEM jobs, which are expected to increase by 17% this decade. There is a regional need in the Richmond, Virginia area that mirrors the national landscape, where STEM-related employment is expected to grow by 2.4% annually through 2021. To meet this growing demand, Virginia needs to produce 28% more skilled STEM professionals than it is currently generating.

To address these issues for our local area, we have assembled an innovative partnership designed to engage, attract, and retain students in STEM at all levels of education. Our team consists of STEM educators, informal learning nonprofits, Fortune 500 corporations, civic organizations and state government. The project spans elementary school, middle school, high school, and higher education. This project includes the development of STEM curricula aimed at increasing access to high-quality STEM education for elementary students, the engagement of mother-daughter pairs with STEM programming designed for 6th graders, the introduction of STEM enquiry to high school girls in a summer camp setting, the assessment of STEM curricula implemented in informal learning environments, and STEM-specific training aimed at teachers.

This poster will detail the design of these collaborative programs, assemblage of partnerships, identification of funding, and successful implementation of these programs.
Improving STEM Education through the Development of High-Quality Curricula Aimed at Elementary Educators

April D. Hennis Marchetti 1, Susan W. Parker 1, Chuck English2
1 Randolph-Macon College, USA
2 Science Museum of Virginia, USA

1. Scope

In Virginia, the vast majority of elementary educators do not major in a STEM field during their undergraduate training and, thus, report discomfort when teaching science to their students. This project sought to identify ways to increase the confidence of these educators when introducing STEM topics in the classroom. To this end, we endeavored to produce and disseminate STEM resources designed to be easy to understand, easy to implement in and out of the classroom, and engaging to young audiences.

In collaboration with the Science Museum of Virginia (Richmond, Virginia) and the Dumond Conservancy (Miami, Florida), we aimed to broaden resources for formal (classroom) and informal (out-of-school) education by creating curricula and materials for young learners. Mentored by both Museum educators and College faculty, undergraduates developed material sets to make STEM topics accessible and engaging both in and out of the classroom.

Work described here resulted in a body of curricula that will both bring STEM educational opportunities to students in grades 3-5 and encourage educators in those grades to feel more confident when teaching science. These curricular lessons will be disseminated to formal and informal educators in several ways: on partner websites; through the eMedia Virginia educational portal; through a novel backpack lending program in partnership with Virginia public libraries, and at Science Museum of Virginia and Dumond Conservancy educational programs. Lessons-learned and successful curricula developed will also be made available to other museums nationwide.

2. Objective and Motivation

The USA faces a shortage of STEM professionals for several reasons. Elementary school teachers frequently lack resources and training for effective STEM instruction. As students’ progress in school, they often lose interest in STEM or face other barriers, including gender and racial disparities. In an attempt to address this issue, this collaborative project aims to improve the engagement and education of elementary school students in STEM through the production of high-quality curricular materials to support STEM education. Three objectives exist for this work.

1) To change how elementary teachers and informal educators approach science education by producing and distributing curricular materials designed to be used in grades 3-5.

2) To bring STEM learning into informal settings, including the home, by assembling materials to support STEM instruction. Such materials are packaged in backpacks and available for loan through the Virginia public libraries and for distribution at the Science Museum of Virginia and the Dumond Conservancy.

3) To engage pre-service educators and STEM majors at Randolph-Macon College in the endeavor of producing curricular materials through valuable mentored experiences. These activities enable undergraduates to become confident working with STEM curricula, while encouraging STEM majors to apply their expertise toward benefiting the community.

3. References


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Teacher Education and Programme Renewal: Responsive Ways to Strategically Align Institutional and Professional Graduate Attributes in a SA Research-Intensive University Context

Arend E. Carl  
Stellenbosch University, South Africa

Abstract

The Faculty of Education at the particular university had gone through a four-year period of intensive programme renewal. Policy changes for teacher education at national level required faculties of education at all institutions to redesign and submit their teacher training programmes. During the same time of programme renewal, the particular university launched a strategic initiative to focus on the integration of graduate attributes at programme level. This afforded the Faculty of Education the opportunity to not only utilise graduate attributes as the theoretical underpinning for its programmes, but also to, in a responsive way, try to align the graduate attributes of SU with the professional attributes required by education policy. What are these responsive ways?

The research question for this research was: In the context of the institution’s teacher education programmes, during a process of extensive programme renewal, what are responsive ways to strategically align the institutional and professional GA’s? A qualitative research paradigm was followed, with self-study as the research methodology as the researcher is located in the context and intends to make a contribution towards the improvement of this teaching context/setting. Data collection methods used were a literature study, questionnaire survey (open-ended questions), document analysis, observation and reflection. An analysis of the data was done to determine the responsive ways of aligning the graduate and professional attributes.

1. Introduction

The adoption of the new Higher Education Qualifications Sub-Framework (HEQSF) has necessitated the alignment of all higher education programmes with the Sub-Framework. In addition, teacher education programmes need to satisfy the demands of the Minimum Standards for Teacher Education Qualifications (MRTEQ) that were initially promulgated by Government and published in the Government Gazette [1] and adapted on 19 February 2015 [2]. All faculties of education in South Africa were required to redesign and submit their initial teacher training programmes for accreditation.

This programme renewal of the four-year BEd programme (for primary school teachers) serves both these purposes, but goes beyond mere compliance to higher education policies. The process of redesigning the current BEd programme offered by the Faculty of Education and developing new programmes has been a thorough and inclusive process in the period 2010-2015.

The undergraduate programme will fulfill a recognised need of providing a well-rounded, broad education that equips education students with the subject content knowledge base, theory and methodology that will enable them to demonstrate competence and responsibility as academically and professionally qualified beginner teachers. The qualification is intended to develop qualified classroom teachers who can demonstrate focused knowledge and skills in their teaching contexts. It will, in this manner, contribute to equipping beginner teachers to make a positive impact in improving the quality of education in our country.

It is against this background that we saw the opportunity, while redesigning the BEd-programmes, to utilise the opportunity to align the professional attributes with not only the required external policy, but also with the internal policy and strategic thinking of Stellenbosch University (SU), specifically with regard to graduate attributes.

2. External and internal factors

The various external and internal factors which impacted on programme development will be highlighted [3], [4].
3. Theoretical underpinning and graduate attributes

The purpose of the Bachelor of Education programme is multifaceted and focus on the enrichment and deepening of undergraduate training by developing research-based teaching practice. The key outcomes of the programme will demonstrate whether this aim was achieved. Hubball and Burt [5] state that “[p]rogramme-level learning outcomes focus on higher order and integrated learning abilities (e.g. demonstrate critical thinking … communication, problem-solving skills …. The outcomes they list e.g. critical thinking skills, communication skills, scientific inquiry skills, self-directed learning skills, interpersonal and teamwork skills, ethical behavior and social awareness and the application and integration of knowledge, all link up to some extent with the above-mentioned aims and professional attributes of the BEd programme. The focus should thus not only be on cognitive but also affective attributes.

MRTEQ [6] requires that certain types of learning be acquired by students, namely disciplinary, pedagogical, practical, fundamental and situational learning. From this one is required to develop the certain professional attributes focusing on subject knowledge, critical thinking, having a holistic world view, citizenship, an appreciation for diversity, leadership, life-long learning and taking responsibility for developing human potential.

The challenge came when the institution started a process of focusing on generic graduate attributes and how one could align the professional and these general attributes. SU stated the background to the institutional initiative to embed graduate attributes at programme level [7] and an invitation was send out for faculties to participate in the process. SU stated:

This strategic objective calls for all units responsible for the intellectual, emotional and cultural growth of students to indicate how they support the realisation of the SU graduate attributes. The SU graduate attributes are listed as:

• An enquiring mind,
• An engaged citizen,
• A dynamic professional,
• A well-rounded individual [8].

The SU institutional project is based on the work of Simon Barrie. Barrie’s conceptual framework arises from a phenomenographic investigation into academics’ conceptions of graduate attributes. He found that academics held “disparate understandings of the nature of generic attributes and their place amongst the outcomes of a university education” He described this disparity as four increasingly complex categories of how graduate attributes are understood by academics: Precursor Conception, Complement Conception; Translation Conception, and Enabling Conception.

Barrie views translation and enabling as “transformative” and describes the transformative approach as one which sees graduate attributes as having the potential to transform university learning and knowledge and ‘support the creation of new knowledge and transform the individual” [9].

The project outlined in this paper aligns with Barrie’s transformative approach (graduate attributes as having the potential to transform university learning and knowledge) and draws on Barrie’s ‘Integrated’ type, which sees the process of developing graduate attributes as an integral part of the formal curriculum, as well as mainstream university teaching, learning and assessment. The attributes with which the professional attributes would be aligned with, are:

1. An enquiring mind
   • Lifelong learner
   • Critical and creative thinker
   • Exercises responsibility for learning and using knowledge
2. An engaged citizen
   • Leader and collaborator
   • Social entrepreneur
   • Effective in a diverse environment
3. A dynamic professional
   • Problem solver
   • Uses sustainable and effective technology
   • Innovative
4. A well-rounded individual
   • Exposed to cultural, intellectual and sporting life
   • Takes responsibility for own development
   • Takes informed and considered decisions.

4. Research process

The research question for this research was: In the context of the institution’s teacher education programmes, during a process of extensive programme renewal, what are responsive ways to strategically align the institutional and professional GA’s? A qualitative research paradigm was followed, with self-study as the research methodology as the researcher is located in the context and intends to make a contribution towards the improvement of this teaching context/setting. Data collection methods used were a literature study, questionnaire survey (open-ended questions), document analysis, observation and reflection.

5. Possible outcomes

Based on the research question, a possible outcome would be to significantly enhance responsive ways to strategically align SU institutional and professional...
graduate attributes. This could lead to more contextualised programmes and more relevant programme renewal (or adaptation) as well as more appropriate profiling of education students, but within the context of institutional attributes. Evidence can also be provided regarding the value of attributes and that it is indeed to enhance the alignment of general and professional attributes in a responsive way.

6. Limitations

One limitation is that the professional attributes referred to in this research proposal are confined to professional programmes for teacher training and cannot be merely transferred to other faculties; however, the idea of embedding attributes in the learning outcomes is something which can be shared. Using a questionnaire survey might have its limitations (e.g. low response rate), but it also has its strengths (e.g. respondents might be more open when they respond anonymously). The questionnaire survey can be seen as being contextualised (teacher education programmes), so the relevance for other faculties might be a question. External validity might be seen by some as a limitation, but it can be increased if other faculties of education agree with the outcomes of this project. In focus group interviews one has to prevent the participants from saying what they think one might like to hear. By creating a climate of trust and openness, one can largely overcome this challenge when the participants experience it as non-threatening and if they feel they will also benefit from the outcomes of the project. Combining the interview with an open-ended questionnaire might also make the participant less inclined to tell the interviewer what they think he/she wants to hear.

7. Conclusion

Sound educational leadership is required for any programme renewal process and the process to align the graduate attributes in a responsive way in order to mobilise and motivate the appropriate faculty members to engage with programme renewal in a responsive, committed and creative way. If that had not been the case, the outcome of the whole process would have been different.

Oliver [10] reports that in the case of Curtin University it was a challenge to find evidence of success. She states that adopting the graduate attributes as a focus for programme renewal added to the challenges. It is to be seen whether the challenge experienced at Curtin, namely finding convincing institution-wide evidence of effectiveness, will also be the challenge experienced by the SU project. I agree with Oliver when she says: “Nevertheless, attempting to ensure that educational outcomes and values, as expressed in the attributes, are contextualised, embedded and assessed in degree programs, is at the heart of the enterprise and worthy of serious investment and energy” [11].

8. References


Session 2: Learning / Teaching Methodologies and Assessment

Title: Reflecting on Teaching Practices as Multimodally Co-Constructed in Spatial Reality: The Valuable Use of EM/CA Based Video Analysis to Investigate Classroom Activities
(Authors: Béatrice Arend, Vanessa Schetgen)

Title: Proposal of Teaching Methods Combining Role-playing and Metaphor in Undergraduate Business Management Education
(Authors: Takashi Majima, Yoichiro Hashida, Akimichi Aoki, Tomofumi Uetake)

Title: Modelling Best Practice in terms of Inclusive and Reflective Assessment Practices on a Blended Learning Initial Teacher Education Programme
(Author: Louise Heeran Flynn)

Title: Video Observation of Self and Colleagues: Development of an Emergent Framework for Reflective Practice
(Author: Andrew Dineen)
Reflecting on Teaching Practices as Multimodally Co-Constructed in Spatial Reality: The Valuable Use of EM/CA Based Video Analysis to Investigate Classroom Activities

Béatrice Arend¹, Vanessa Schetgen²

¹ University of Luxembourg, Luxembourg
² Luxemburgish Primary School, Luxembourg

Abstract

The aim of our paper is to demonstrate analytical potentialities of video data [2], [4], [5] for the study of joint classroom activities focusing on teaching practices. We will show how a fine-grained EM/CA based video analysis [1], [3] of a situated ‘Sudoku’ activity in a preschool classroom can shed light on the dialogic relationship between the teacher’s instructional work and the children’s understanding of the task to be accomplished.

Video indeed provides a view on classroom activities as multimodally occurring in time and space in the participants’ mutually interwoven verbal and non-verbal utterances. Thus, in the presented case study, our video based analysis allows us to point out how the teacher’s and the children’s positioning in space contributes to configuring the (mis)understanding of the teacher’s instructions.

We can visualize that the children’s access to shared understanding is of particular relevance for a joint task accomplishment and that the access is strongly related to the spatial reality in which the activity takes place. We show how ‘the interchangeability of standpoints’ (if you were where I am, you would see what I see and vice versa) [6] becomes relevant when the teacher presents a Sudoku grid in terms of horizontally oriented rows and vertically oriented columns.

Our paper seeks to underline that the use of CA based video analysis is well suited to elicit and to develop reflection on teaching practices with regard to the concept of perspectival reciprocity as a condition for mutually shared understanding. A fine-grained video analysis is a valuable tool to raise teachers’ awareness for both, spatial reality as mutually constituted and joint understanding as reciprocally co-constructed by the participants in the material design of the classroom [7].

References


Proposal of Teaching Methods Combining Role-playing and Metaphor in Undergraduate Business Management Education

Takashi Majima, Yoichiro Hashida, Akimichi Aoki, Tomofumi Uetake
Senshu University, Japan

Abstract

To understand a pragmatic science like business administration, students need to learn it through three different steps: (1) acquiring knowledge, (2) structurizing knowledge, and (3) generalizing knowledge. In recent years, along with the diffusion of active learning (AL), various types of teaching methods in undergraduate business education have been proposed. However, it is still difficult for undergraduate students who don’t have business experience to learn step (2) and (3) without significant time and effort. To solve this problem, we propose teaching methods combining role-playing (group work) and metaphors familiar to students. We conducted an experimental class and showed the effectiveness of our proposal.

1. Introduction

Most Japanese undergraduate students who study business administration have few opportunities to structuralize and generalize management theory. Therefore, students have difficulties to truly understand management theory. Recently, many classes have been trying to take on active learning (AL) to solve this problem in Japan. The business game is one of the representative examples in the field of business administration. However, it is difficult to do it in a normal class without a lot of time and effort. There are other AL methods which use easily handled material [1], [2]. But the proposed AL methods are not sufficient for practicing management theory.

This paper discusses how students can fully understand management theory. At first, we represent the theoretical framework. Next, we describe our class projects for structuralizing and generalizing management theory. In the last place, we conclude our research.

2. Theoretical Framework

Our research is based on the situated cognition perspective of learning [3]. In this view, knowledge of any action is seen as being embedded in the context. Thus, people learn to do something through interplays with any other actors in the context [4][5].

Based on this perspective, to understand the management theory fully students should use the following three steps.

Step 1: Acquiring knowledge
Students can acquire knowledge by taking traditional style classes or reading books.

Step 2: Structuralizing acquired knowledge
Students can structuralize acquired knowledge by trying to use the acquired knowledge to a certain situation through role-playing (e.g. group work, case study, internship). However, they can’t apply it in other different settings. They just acquire a contextualized knowledge in this step.

Step 3: Generalizing structuralized knowledge
Students can generalize structuralized knowledge based on the similarity [6]. Thus, using metaphors (e.g. parable, comedy performance) which imply how to use the knowledge in different situations is one of effective ways to do this step. They can apply knowledge in any situation through this step.

3. Proposal

We propose teaching methods to support their understanding without spending a lot of time and effort for students who already acquired knowledge on management theory.

3.1. Teaching Methods combining Role-playing and Metaphor

We decided to use group work to structuralize acquired knowledge (Step 2) from the viewpoint of its ease and the familiarity to students. Furthermore, regarding generalizing structuralized knowledge (Step 3), we decided to use comedy performance (Japanese Konto) as a metaphor from the same viewpoint as above (Step 2). Table 1 shows a list of teaching methods that we proposed.
Table 1. Teaching methods combining role-playing and metaphor

<table>
<thead>
<tr>
<th>Theme</th>
<th>Role-playing (Group work)</th>
<th>Metaphor (Title of Japanese Konto)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Citizenship Behavior</td>
<td>Skit (Demonstration of product)</td>
<td>Keisuke Honda as a store clerk</td>
</tr>
<tr>
<td>Managerial accounting</td>
<td>Manufacturing (using origami)</td>
<td>A crane plan and the report</td>
</tr>
<tr>
<td>Dialogue in team building</td>
<td>Marshmallow challenge</td>
<td>Heroes</td>
</tr>
<tr>
<td>SP in services marketing</td>
<td>Skit (Demonstration of service)</td>
<td>None (using a ship metaphor)</td>
</tr>
<tr>
<td>Mindfulness in group learning</td>
<td>Manufacturing (using clay)</td>
<td>Mindfulness laboratory</td>
</tr>
<tr>
<td>Organizational Behavior</td>
<td>Discussion (NASA Exercise)</td>
<td>A product development meeting</td>
</tr>
</tbody>
</table>

3.2. Implementation method of our proposal

We designed the group work based on the PDCA cycle (see Figure 1). Since the group work is done in short time, ice breaker activities are indispensable to improve its quality. Moreover, to deepen the level of understanding, we set up the group work twice.

After the group work, we delivered a lecture using Japanese Konto as a metaphor.

![Image of implementation method]

Figure 1. Implementation method

4. Experimental class

To evaluate the effectiveness of our proposal, we conducted an experimental class work using the method aimed at understanding "Organization Citizenship Behavior (OCB)" which is one of our proposed methods. The details are shown below.

This group work is about thinking and acting on the commercial (3 minutes) of the item given in the group (5-6 students). In this group work, to increase the effectiveness of the organization, it is necessary to identify the role planned and assigned to each student. Its aim is to experience the importance of OCB. After the group work, we explained the importance of voluntary and mutual cooperation (the concept of OCB) by using the Japanese Konto "Keisuke Honda as a store clerk" played by Japanese comedian "Junichi Davidson". This Japanese Konto suggested how to use the concept of OCB in other contexts (as a store clerk in a grocery store).

The subjects were 38 undergraduate students (3rd, 4th grade). We analyzed the students' understanding, interest, and ability to apply by using a questionnaire survey. Each variable was designed using 5-point Likert scale with answers of 1 "Low" and 5 "High".

Table 2 showed that there are some improvements in students' understanding and interest by applying our proposed method. Moreover, we also found some improvements in students' ability to apply learned management theory.

As a result, we confirm that our teaching methods combining role-playing and metaphor were effective in supporting students' understanding.

Table 2. Results of the experimental class

<table>
<thead>
<tr>
<th></th>
<th>Pre-survey</th>
<th>Post-survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding</td>
<td>2.6</td>
<td>2.9</td>
</tr>
<tr>
<td>Interest</td>
<td>4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>Ability to apply</td>
<td>3.1</td>
<td>3.3</td>
</tr>
</tbody>
</table>

5. Conclusion and future studies

We have discussed how to teach the way of doing management theory in real situations. The results of the experiment suggest that our proposed methods work effectively for undergraduate students to understand management theory without taking a lot of time and effort. However, we have some issues that need to be overcome. In the future studies, it would be necessary to refine the content of group learning and present an evaluation method.

6. References


Modelling Best Practice in terms of Inclusive and Reflective Assessment Practices on a Blended Learning Initial Teacher Education Programme

Louise Heeran Flynn  
*Hibernia College, Ireland*

**Abstract**

As part of its blended Professional Master of Education in Post Primary Education programme, Hibernia College offers a unique module where student teachers create a multimedia presentation as their assessment. Using Brookfield’s [1] four lenses, feedback on the multimedia presentation is utilised to help construct a critically reflective essay on the experience and its benefit for the student teacher’s future career in the classroom.

In recent times, it has become apparent that we live and teach in an increasingly pluralistic society, yet in many cases, we may operate a decidedly monolithic environment in the classroom. The teaching, learning and assessment strategies we advocate are an attempt to redress this balance and to help our student teachers to cater for all learners in the classroom. Our programme is predicated on the belief that education is a transformative right to which all must have equal access. We advocate a student-centred, constructivist approach to teaching, learning and assessment which we believe is necessary to equip our student teachers for 21st century classrooms.

At all times, we are cognisant of the virtual cycle whereby we must model best practice for our own student teachers in order to ensure that our student teachers utilise these methods in their own classrooms. This innovative approach to assessment models best practice for our student teachers, teaching them about inclusive teaching, learning and assessment practices.

Our beliefs in relation to education are articulated and evidenced in this multimedia presentation assessment and this assessment can be considered a tangible articulation of our pedagogical philosophy in practice.

This paper will explore the assessment, the pedagogical philosophy which underpins the assessment, together with an exploration of the benefits of such an assessment for our student teachers.

**References**

Video Observation of Self and Colleagues: Development of an Emergent Framework for Reflective Practice

Andrew Dineen
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Abstract

I have been working in the field of education for over ten years, in Sweden, Germany and Ireland. My experience ranges from working hands on in preschool services, to coordinating and developing afterschool programmes in low socio-economic areas, to lecturing on early childhood education degree programmes in Dublin Institute of Technology and National College of Ireland.

1. Introduction

Supporting pedagogical development is what motivates me. Progression of my dissertation, Video Observation of Self and Colleagues: Development of an Emergent Framework for Reflective Practice is my key interest. Most recently I have presented this research at the 2017 ESAI (Educational Studies Association of Ireland) conference, where it has received very positive responses from teacher education programme representatives. My research has also received international interest from colleagues in the field of transformational learning.

Reflective practice has been identified as essential for early years education to continue to develop on a ‘quality’ trajectory [8]. However, from my experience, there is a major deficiency in guidance and support for pedagogical engagement in reflective practice.

Video Observation of Self and Colleagues (VOoSC) is, in essence, an emergent framework to support the development of reflective practice. Participation in VOoSC has been shown to develop higher levels of reflective thinking in pedagogues.

2. The purpose of research study

- To design and deliver a VOoSC intervention as an instrument to develop participants’ reflective thinking.
- To test my hypothesis that VOoSC, as presented in my dissertation, could result in higher levels of reflective thinking among participants.
- To capture participants personal experiences of the VOoSC process. The overarching research questions were:
  1. Can video observation of one’s own and colleagues’ practice be a catalyst for participants’ initial engagement in what Mezirow [6] described as “transformative learning”?
  2. Can the facilitator’s semi-structured, maieutic style of questioning, influenced by Dolci [1], Mezirow [6], Driscoll [2] and Larrivee [5], support transition along Mezirow’s ten phases of transformative learning [6]?
  3. Can Video Observation of Self and Colleague(s) (VOoSC) be used as a framework to support reflective practice?

2. Method of data gathering and analysis

This study has combined the use of video observation (VO) with a facilitation style influenced by the “what, so what, now what” [2] model of reflection and delivered through a maieutic style of questioning [1] that guides participants along Mezirow’s ten phases of transformative learning [6]. Participants’ levels of reflective thinking were interpreted and correlated with Larrivee’s four levels of reflection [5]: pre-reflective, surface reflection, pedagogical reflection and critical reflection. The data was analysed in terms of Mezirow’s ten phases of transformative learning in order to map participants’ evolution.

Why video observation – Previous studies have shown the benefits of video observation, particularly in relation to analysing, critiquing, changing or extending interaction strategies.

Facilitation style – The role of the facilitator, in delivering not only the content of guiding questions, but also the maieutic style of questioning which supported participants to explore possibilities through their discursion, was a crucial aspect of the VO sessions.

“What, So what, Now what?” – Facilitator’s guiding questions linked to Mezirow’s 10 phases (in italics):
1) What jumps out at you? Your initial feelings/thoughts after viewing. Possible disorientating dilemma/Self-examination
2) Why do you think you feel like that? Self-examination, reflection
3) How does this relate to what might be considered good practice? Assessment of epistemic, sociocultural, or psychic assumptions
4) Do you agree or disagree with this? What would you change? Assessment of epistemic, sociocultural, or psychic assumptions
5) What points did you both share and what points were different? Recognition of shared discontent
6) What other possibilities did you have in relation to how you worked? Exploration of options
7) How could you progress with these new ideas? Planning a course of action/Acquisition of knowledge and necessary skills to implement this plan
8) What would this allow you to do? Provision trying of new roles
9) And where do you see that leading to? Building of competence and self-confidence in new roles and relationships
10) How do you see these areas influencing the way you work in Early Years Education? What influence do you see your perspectives having on your career and early years’ education? A reintegration into one’s life on the basis of conditions dictated by one’s perspective.

3. Overview of findings

The following is an example (Dineen, 2016, p. 90, 91) of how participant data was interpreted:

Background of the session: Pedagogues had just watched a couple of minutes of their practice from earlier in the week. In the video, they had been working on preparation tasks as the children engaged in imaginative play.

After they had watched the video, Úna and Cátí (pseudonyms) wrote down and shared ideas on what they saw. To facilitate Úna and Cátí moving through the stages and thought processes on a topic, I may ask a question like, “Where do you think that will lead?”

...Úna and Cátí criticised some of the learning they took from HighScope, where they understood that they are always required to be interacting with the children and they feel under pressure when they are not.

“...okay maybe we should just let them, let it flow, let them kind of be themselves, let them use their own imagination, let them come up with their own little game like they did there. High Scope is, ‘No, you have to be interacting with the children all the time.’ ...Sometimes I feel like I’m butting in. ...I think it’s because we’re told that we have to be interacting with them all the time, you’re conscious of it. (Cátí, 2016, VOOsC, Session 5)

So maybe just having a balance of interacting good with them, you know when you want, when you can, when they want you to! Observing as well, a bit of taking a step back and watching and let them, leaving them to their own devices as well, you know (Úna, 2016, VOOsC, Session 5).

These aspects of the session were interpreted as participants being at Larrivee’s third level pedagogical reflection [5]: as they critiqued and reassessed their interpretations of training guidelines. In the participants’ discussion you can see different stages of thinking and learning as identified in Mezirow’s ten phases of transformative learning. For example, participants had just reflected on what they saw (phase 2), they assessed it (phase 3), shared discontent (phase 4), alternative options were explored and a plan how they could interact with the children was made (phase 5 and 6).

The further stages of transformation were predominantly only touched on in a hypothetical sense, as what I was studying was the development of thought and not going as far as action, on this occasion. However, there were times when participants displayed aspects of phases 7, 8, 9 and 10 of Mezirow’s ten phases. Although this research took place over a short period of five weeks, it can be argued that by actually participating in VOOsC, Úna and Cátí had begun to acquire knowledge and skills for implementing their plans (Phase 7); trying new roles as they engaged in the VOOsC sessions; they also reported trying new roles in preschool sessions (Phase 8), evidence of development of confidence in engagement during VOOsC (Phase 9) and this confidence and engagement skills becoming more evident in one’s life (Phase 10).

The following are the key research questions that findings have explicitly answered:

1. Can video observation of one’s own and colleagues’ practice be a catalyst for participants’ initial engagement in what Mezirow [6] described as “transformative learning”? A resounding yes; video observation of self and colleague has opened the eyes and minds of participants by inducing the first and essential phase of Mezirow’s transformative learning theory [6], the “disorientating dilemma”.

2. Can the facilitator’s semi-structured, maieutic style of questioning, influenced by Dolci [1], Mezirow [6], Driscoll [2] and Larrivee [5], support transition along Mezirow’s ten phases of transformative learning [6]? Yes, the maieutic style of questioning used facilitated participants’ self-exploration and transition along Mezirow’s ten phases of transformative learning [6].

3. Can Video Observation of Self and Colleague(s) (VOOsc) be used as a framework to support reflective practice? The answer to this overarching research question is yes; VOOsc, as presented through the documented thoughts of participants and the literature supported.
interpretations by the researcher, is a more than worthy emergent framework to develop and support the reflective practices and thinking of pedagogues, and in turn develop the level of quality that services provide to children, families and communities.

4. Further development of VOoSC

Colleagues in the field of transformative learning are eager for me to share this emergent methodology with the transformative learning community. However, a larger cohort of participants is necessary to make my findings stronger. Colleagues in the teacher training community, including my dissertation supervisor Melanie Ni Dhuinn (Assistant Prof. Education, University of Dublin, Trinity College) also support and urge me to continue the development of my work towards a PhD. I am currently refining the methodology through suggestions and discussions with past colleagues of Mezirow; Alexis Kokkos, Knud Illeris and Ted Fleming, whom I was delighted to meet at the 2017 Transformative Learning conference in Edinburgh.

I am in the process of reforming the structure of the facilitation questions asked during VOoSC sessions. Alexis Kokkos, Professor Adult Education and PhD. candidate Effrosyni Kostara of Hellenic Open University suggested linking Perkins’ work [7] with my existing framework. Exploration of Perkins’ work is both deepening my own understanding of how learning takes place during VOoSC and aiding the continuous development of VOoSC’s emergent framework.

I have also just begun drawing on literature (Zull [10], Jensen [4], Sylwester [9]) that adds a cognitive neuroscience aspect to VOoSC’s development and linking transformative learning with neuroplasticity [3].

I am eager to begin research with a new cohort shortly, however, this time I want to extend the research from five weeks to eight weeks to enable me to begin evaluating how changes in thinking are influencing pedagogical practice.

One key area where VOoSC can be utilised is supporting pedagogues to self-identify where they can develop their own practice – Pedagogue led, autonomous CPD.

From an ethical perspective, it is essential that organisations and services interested in partaking in VOoSC are fully committed to supporting their staff to engage with the process during the research and supporting CPD after the research has been completed.

References


Session 3:  Global Issues in Education and Research

Title: The Student Perspective on Employability
(Author: Ciara Byrne)

Title: L2 Reading and Dyslexics: Hoping to Help
(Author: Kurt W. Ackermann)

Title: Merger and Acquisition and its Effect on Financial Efficiency of Institutes
(Authors: Hamid Mahmood, Ammara Waqar)
The Student Perspective on Employability

Ciara Byrne
Institute of Technology Carlow, Ireland

Abstract

Owing to the competitive environment in which we operate, organisations must be flexible and adapt quickly in order to remain competitive. In order to achieve this, industry needs graduates that are equally flexible and have the ability to demonstrate required core skills and add value to an organisation. Despite various initiatives put in place by HEI’s and Government bodies industry continues to express concern regarding the lack of transferrable skills in graduates. This study was conducted in order to investigate how student views on transferrable skills align with employer needs. The population selected for the purpose of this research were full time undergraduate students. Research was conducted over a two week period whereby one hundred and sixty randomly selected students were invited to complete a questionnaire. Research established that respondents ranked a range of core competencies identified as being essential for the work place with equal value to that of employers. The value of extracurricular activities such as volunteering, sport and part-time work as a means of enhancing employability prospects was also highlighted. Research concluded that students must be afforded the opportunities to build and develop core skills required by industry but it is equally important to provide guidance to students which will enable them to recognise how skills acquired through extracurricular activities in addition to academic learning, can enhance employability thereby differentiating themselves from other equally qualified graduates in the job market.
L2 Reading and Dyslexics: Hoping to Help

Kurt W. Ackermann
Hokusei Gakuen University Junior College, Japan

Abstract

There is now a rather large body of literature advising how to teach dyslexic learners. However, the assumption is that we know who is dyslexic. What happens if we not only do not know who is dyslexic, but really have no idea who amongst our learners may possibly be dyslexic? With experience one may develop a knack for identifying those who might be, but there may not always be enough time to do that, especially if our time with them is short, but we still want to make an effort to support them. The author endeavoured to formulate a basic test, to be administered early in the course, that might provide clues as to which students may be presenting traits of dyslexia in their L2.

1. Introduction

There are many possible explanations for why learners of a second language perform poorly or beneath expectations when reading in the target language. Educators should have basic knowledge of the relative abilities and motivation of their students. While this seems to be a straightforward concept and is easy to say, the variety of factors that may affect either or both abilities and motivation may be very diverse and complex. The possibility exists that some L2 learners might have a learning disorder (LD), and this could be a major factor. One of those is dyslexia, and identifying its presence in L2 learners could enable instructors to respond with appropriate interventions to support those learners.

2. Methodology

This presentation describes the preliminary results of a study utilizing a simple test to identify possible dyslexic students. Administered near the beginning of a one-semester extensive reading course for second-year junior college students in Japan, the results, though having no clinical basis, may serve to advise the instructor of the potential need for a varied teaching approach, including the use of appropriate interventions for particular students. It could also give some insight into the relative proportion of such students in a second language (L2) learning context, as compared with estimates for the general population. Given that the instructor has no special training in recognizing or accommodating students with learning disorders, the study was done in cooperation with school accessibility support staff.

3. Expected Outcomes

The goal is for this exercise to be one step in helping to focus on identifying L2 learners who may be in potential need of more targeted instructional intervention in their learning. It is possible that the source of their learning difficulties has not been identified previously and that they may benefit from more directed attention.

Naturally, the potential stigma of labelling a learner as even possibly being affected by an LD requires sensitivity and caution. In general, any results that suggest the possible presence of an LD, would not be made public but rather provide the instructor with incentive to pay closer attention to the learner’s needs.

4. Conclusion

The attempt to construct a test that was both appropriate for the context - learners of a second language with varying abilities and experience in the target language – and possible to do within a short timeframe, was challenging. The test results were inconclusive. However, while the exercise did highlight points for improvement, it also showed that it was possible to have learners complete the test within a reasonably short period of time.

Further collaboration with other practitioners is expected to achieve even more useful results.

5. References


Merger and Acquisition of Educational Institutes in Pakistan: Financial and Efficiency Outcome

Hamid Mahmood, Ammara Waqar
Amana Inayat Medical College
Lahore, Pakistan

Abstract

Merger and acquisition turn out to be main sources in dynamic business environment. Educational institute faces the domestic and global competition. Study is conducted to find out Merger and acquisition effect on financial performance of Educational institutes in Pakistan. In this study, sample of 8 Educational institutes is selected through use of financial report. Result obtained using the statistical software SPSS. On the basis of findings, it is concluded that financial performance of acquiring Educational institute sector performance in the post-merger period. Post-merger EFFICIENCY (negative), ROA (negative) and ROE (negative) has been determined.

1. Introduction

Merger and acquisition is to bring two administrations organized with different cultural values, behavior and cultures together. The maxim merger is mostly used identical. Essentially acquisition means “to acquire” or “to takeover”.

Higher Education Commission of Pakistan made it mandatory for Educational institutes to maintain minimum Endowment fund. It becomes difficult for Educational institutes to meet criteria alone so Educational institutes started to combine together. Equal level Educational institutes merged and larger Educational institutes acquire the certain smaller Educational institutes.

This study has significance for worried Educational establishments, clients, shareholders, financial specialists, hopefuls and inner course.

Higher Education Commission of Pakistan has put a condition of endowment fund for Educational institutes in Pakistan. The difficulties are recorded as; unseemly corporate administration rehearses, deficient danger administration, nondurable foundation, disgraceful regulations and check then equalization, lacking educational evaluation abilities and methods, absence of skillful performs and poor abilities and preparing. The fruition of this study would cook that how much and in what way mergers and acquisitions have contributed towards the slant of budgetary execution of Educational institutes and their achievements in education sector.

Objectives of this study is to:
1. Investigate and calculate the post-merger effect on efficiency, ROA and ROE indications of managing an account portion of educational institute.
2. Investigate whether mergers have enhanced the effectiveness of Educational institutes.
3. This study likewise planned to give recommendations and proposals for the advancement of effectiveness of the saving money for Educational institutes.

In this study, data of Educational institutes was collected before and after merger and acquisition from annul reports. Through this examination, their efficiency, ROE and ROA position amid post-merger may have the capacity and to know the impacts of business mixes on the budgetary position of concerned Educational sector/Industry.

2. Methodology

This is a comparative study, so it is mostly based on independent variables. Dependent variables are the acquisition and merger of Educational institute, and Independent variables are profitability (ROA, ROE) and efficiency. Size of this research covered eight Educational institutes that merged in last decades. The collected data were presented and analyzed.

2.1. Financial Performance

The indicators used are Profitability (ROA, ROE) and Efficiency of the institute.

2.2. Hypothesis

H0. “There is no association between merger and acquisition and ROA in education sector”.
H0. “There is no association between merger and acquisition and ROE in education sector”.
H0. “There is no association between merger and acquisition and Efficiency in education sector”.

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3. Result and Discussion

Data was evaluated both before and after M&A and used the paired t-test. Comparison before and after merger of Educational institutes show the different result respectively.

4. Conclusion

In this study, we checked the impact of Merger and acquisition on Efficiency, ROE and ROA of merged Educational institutes. We find show that Post-merger Efficiency (ive), ROE (ive) and ROA (ive). In this research we find that merger and acquisition did not perform well in Pakistan.

5. Recommendations

It is recommended that Educational institutes can expand their business through merger and acquisition increases their market shares and wealth of Educational institute. So, there is need to research more deeply so that we can create correct result.
Session 4: Online Education

Title: The Use of Information and Communication Technology in Kempton Park Library South Africa
(Authors: Margaret Lediga, Madeleine Fombad)

Title: Teaching Creative Arts for Older Adults in an Online Environment
(Authors: Anne-Marie Forbes, Heather Monkhouse)

Title: Teaching and Learning with Mobile Technology: A Qualitative Explorative Study about the Introduction of Tablet Devices in Secondary Education
(Author: Isatu Sall)
The Use of Information and Communication Technology in Kempton Park Library South Africa

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Abstract

The information and knowledge society has resulted into the exponential growth in information and communication technologies (ICTs). One of the milestones of South Africa’s National Development Plan, a policy that charts the country’s development to 2030 (National Planning Commission 2013) is to ensure that high-speed broadband Internet is universally available at competitive prices. Despite the buoyancy of the ICT sector and the dynamic growth experienced in South Africa, the country is yet to meet its national objective of affordable access of ICTs to all to all. The provision of ICTs in public libraries is still at a limited scale [1], [2]. As of 2013, only 858 out of the 1612 libraries available in the country had internet access [1]. This article investigates the use of ICTs in public libraries in South Africa and suggest ways by which ICTs may be used in enhancing the provision of services in public libraries. A quantitative research methodology was used and a survey research design was adopted. Quantitative research is formal, objective, rigorous and systematic process for generating data [3]. This method was appropriate in finding out user’s perceptions on the use of ICT in Kempton Park public library. A census of a total population of 50 regular adult users was obtained from the list of library users. In order for ICTs to be enhanced in public libraries, there is the need to redefine the libraries policy the need for adequate skills training of users and proactive and dynamic leadership and advocacy by professional associations.

References


Teaching Creative Arts for Older Adults in an Online Environment

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Abstract

The role of the creative arts in helping to maintain cognitive function and promote better health outcomes for an ageing population has been receiving increased attention from researchers internationally [1], [2]. Drawing on this research and with the aim of providing opportunities for older adults to engage with the creative arts we developed a one semester course, “Creativity and Ageing” at the University of Tasmania that was offered for the first time in 2016. We targeted this course towards students who had enrolled in the University of Tasmania MOOC “Preventing Dementia” and to retirees looking for strategies to avert decline in cognitive function. A novel curriculum was devised that introduced current research on the benefits of the arts and creativity in ageing and then offered a mix of creative and reflective tasks, delivered and assessed via a D2L online platform. Over two hundred students enrolled, with 81% aged over 50. Each undertook three different creative mini-projects guided by specialist lecturers from the School of Creative Arts. For the first project students were given a creative theme but no restrictions on materials or techniques; for the remaining two projects, students chose from specific projects that included creative writing, stand-up comedy, creating soundscapes and various visual arts projects. Students interacted with staff and one another primarily through discussion boards.

Through anonymous course evaluation survey responses and online feedback, these older adult learners provided valuable insights into their experience of the exploration and in some cases, rediscovery, of their creativity. They also identified a range of benefits they had perceived from engaging in the course, including improvements in confidence, mood and the ability to concentrate. We had devised online discussion groups so that students could ask questions of tutors about their projects, but students reported that they found these more valuable for the emotional support and social benefits gained from discussing their projects and creative challenges with other students. The overwhelmingly positive feedback that we received underlined the importance in curriculum design of clear structure, innovative forms of engagement, formative feedback and developing transferrable skills and processes. Students identified undertaking specific projects or learning art techniques as an initial aim, but by the end of the course they placed higher value on having learned processes and methods to refine their creative work, and the satisfaction they experienced having met the series of scaffolded challenges the course presented.

References


Teaching and Learning with Mobile Technology: A Qualitative Explorative Study about the Introduction of Tablet Devices in Secondary Education

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Abstract

This study contributes to the existing literature in several respects. First, the goal of this study was to unravel the perceptions of important stakeholders on the use of tablet devices in secondary education. While investigating perceptions is necessary to analyse the use of technological innovations in education specific research that goes further than relatively short-time research, including the influence of the novelty effect when introducing tablet devices, is lacking. Besides the need of investigating teacher perceptions, the perspective of secondary school learners remains under-researched. More research is needed to unpack the potential of these devices, more specifically research that goes further than the sales hype. Thus, examining the perceptions of both teachers and students after a considerable time of intensive tablet use is desirable. In order to elaborate existing research, an explorative focus group study was conducted in the first iPad-school in Flanders where the tablet is used in daily teaching and learning practices. As the results for the first research question have shown, this study confirms that perceptions on any educational innovation will influence its practical integration and that teachers are key to the success of the implementation of technology in schools. The results for the first research question are in line with previous research of Becker and Ravitz [1] and Niederhauser and Stoddart [2] who also mentioned that teachers could be distinguished in two groups, namely the behaviourist teachers and the constructivist teachers. Indeed, the results of current study indicate that the teachers using tablet devices can be distinguished into two categories, which has clear consequences for teaching and learning practices. In this context, we labelled the “constructivist teachers” as “innovative teachers”. Innovative teachers attempt to shift from a teacher-centred to a learning-centred innovative approach, integrating educational applications during courses. The “behaviourist teachers” are defined in this study as “instrumental teachers”. Instrumental teacher are teachers who view the instrumental benefits of the tablet and appear to maintain the traditional way of teaching, even while using the tablet devices, since they essentially end up with a simple “book behind glass”. In addition, these two types of teachers can be related to Welliver’s instructional transformation model. Instrumental teachers can be linked to teachers, who stuck in using tablets without a fundamental change in teaching and learning approaches, who use technology as a functional improvement to enhance learning. Innovative teachers can be linked to the highest level of technology integration whereas teachers use tablet devices to transform learning, which opens teaching and learning practices which were previously inconceivable.

Taken together, the results show that the introduction of innovative technology seems to provoke conservative practices among teachers with an instrumental view as they adopt a stringent role and give traditional courses with a tablet device. This is somewhat contrary to the overall intention of introducing tablet devices; instead of revolutionising education, to the tablet strengthened the old educational structures. In other words, to conduct a lesson in a traditional way with tablet devices consolidates the ‘ancient’ didactic model. This consolidation underlines the importance of switching to digital didactics where the tablet device is integrated in such a way that it is used to its full potential during lessons.

Secondly, findings concerning the second research question of this study corroborate the educational potential of these devices, such as browsing the
Internet, working together spontaneously, and using multimedia for a better understanding the course content. Results confirm that tablet devices comprise learning activities that were previously not possible making the device an asset to the learning process. Students in this study reported that in particular the innovative teachers use tablet devices to provide authentic learning experiences and where they can construct and share knowledge in a media-rich environment, which is in line with the little available research. However, both the students and (innovative) teachers also remarked that the introduction of tablet devices entails a shift in learning, for which not all students are ready. Younger students appear to be more flexible in respect to learning through devices, while it seems difficult for older students to change their study habits. This opens avenues for further research.

Thirdly, the fact that the older students in this study advise teachers to improve their didactical skills in order to master tablet devices is a new phenomenon in the research literature. This finding highlights the importance of taking into account the perceptions of students when investigating the introduction of new technology into education.

Fourthly, following Hattie and the e-capacity framework of Vanderlinde and van Braak [3], and as an answer to the third research question, more attention should be paid to the preconditions that ensure the development of innovative teachers through the provision of adapted learning material and an adequate IT infrastructure. Most teachers reported feeling abandoned by publishers due to the lack of adequate teaching material appropriate for the tablet devices. If editors cannot follow or provide adapted digital material, teachers are under pressure to adopt the role of academic authors, which, in turn, generates a heavy workload and ambivalence about the integration of tablet devices into courses. Policy makers should take into account the lack of adequate teaching materials because this deficiency will be an obstacle for schools to implement this technology successfully. Hence, publishers also have a certain responsibility in facilitating the success of these educational innovations. Without appropriate equipment, many teachers will simply use the device in an instrumental way.

Fifthly, more attention should be paid to the (formal and informal) professional development of teachers to support them in this educational reformation. This finding can be linked to the e-capacity framework of Vanderlinde and van Braak, describing that educational change depends on important school-level variables such as an adequate ICT-support team, infrastructure and teacher professional courses. Introducing new technology into education generates a simultaneous need for professionalization. As indicated above, the teacher’s role and competences are crucial to the success of this innovation; adapted teaching materials and equipment are essential in this respect. Aside from professionalization and the need for adapted teaching materials, teachers need time to become familiar with these new devices. To conclude, this study shows that certain supporting conditions must be in place when implementing technological educational tools. Moreover, an educational policy that provides adequate preparation for teachers, attention to digital didactics, adapted didactical material, and technical and pedagogical support will stimulate teacher and student recognition of tablet devices’ potential in education. In sum, policy makers and educators should take the possible pitfalls into account mentioned in this study so lessons can be drawn in order to ensure the smoother future implementation of this technology. Avoiding such pitfalls will facilitate the development of new teaching and learning practices in accordance with the needs of the current digital age.
References


Session 5: Curriculum, Research and Development

Title: A Mediating Role of Reading Strategies in the Relation between Intrinsic Motivation and Reading Competence
(Author: Ai Miyamoto)

Title: Case Study: STEM Education in Singapore. Supportive Practices and Issues in School Science
(Author: Kok-Siang Tan)

Title: Development of Mathematics Skills Diagnostic Battery: Towards Mathematics Skills Profiling
(Author: Tarzimah Tambychik)
A Mediating Role of Reading Strategies in the Relation between Intrinsic Motivation and Reading Competence

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Abstract

From a theoretical perspective, the relation between intrinsic motivation and reading competence seems to be mediated by various facets of reading behaviour including the use of reading strategies. However, empirical evidence for the indirect effect of intrinsic motivation and reading competence through the use of reading strategies is scarce. The purpose of the present study is to investigate the mediating role of reading strategies in the relation between intrinsic motivation and reading competence. In addition, the present study also took into account the relevance of students' immigration background. Within the framework of German National Educational Panel Study (NEPS), a total of 3,829 seventh-grade students in Germany were included in the analyses. The analyses of structural equation modeling revealed that consistent with previous research, there were significant direct and indirect effects of intrinsic motivation on reading competence through reading amount when taking into account the use of reading strategies and previous reading competence. However, although intrinsic motivation positively predicted the use of reading strategies, the use of reading strategies did not significantly contribute to reading competence when taking into account the amount of reading and previous reading competence. These findings were similar regardless of students' immigration background. Inconsistent with our hypothesis, the present study did not confirm the mediating role of the use of reading strategies in the relation between intrinsic reading motivation and reading competence. However, it is possible that the present study might have underestimated the effect of the use of reading strategies on reading competence because the use of reading strategies was measured based on the frequencies, and it did not take into account the quality/effectiveness of the strategy use. Moreover, the use of reading strategies was measured based on the self-report, but students' perceptions of their own use of reading strategies may not always reflect their actual use of strategies. Hence, more objective measures of the use of reading strategies are necessary for future studies investigating the mediating role of the use of strategies in the relation between intrinsic motivation and reading competence.
Case Study: STEM Education in Singapore. Supportive Practices and Issues in School Science

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Abstract

This case study of the STEM Education movement in Singapore, an island-city state in Southeast Asia, documents the success and challenges of the Singapore Education System and its efforts to remain relevant and responsive to the changing needs of the 21st Century industrial and technological sectors. The study shares the practices in and out of the science classroom that support STEM-related learning experiences. It also discusses the issues teachers face in maintaining the balance between supporting STEM learning experiences and preparing students for the high stakes national examinations.

1. Introduction

Singapore is located south of the Malayan Peninsula in Southeast Asia. Formerly a British colony, Singapore gained independence in 1965. As a young sovereign nation and an island city-state with a land area of 719.1 square kilometres, Singapore has neither sustainable natural resources nor a hinterland to defend or support her. There is only a small population of 5.4 million people comprising mainly of the Chinese (74.1%), Malays (13.4%), Indians (9.2%) and other races and nationalities. Singapore has depended largely on the hard work, talent and good relationships of her citizens and residents to overcome her geographical and socio-cultural vulnerability to make rapid progress over the past five decades.

In industrial, economic and business terms, Singapore is at first world level. In areas like science, technology, health and education, Singapore is also ranked high globally [3,5]. For example, the Singapore Education System is often cited as one of the world’s most progressive and effective [5]. The latest TIMSS and PISA results place Singapore as one of the top participating countries [4,8]. Despite doing well in these areas, the Singapore Government consistently works to maintain the competitiveness of the nation while keeping a keen eye on the wellbeing of the people’s socio-cultural and economic needs. To ensure Singaporeans are competitive compared to workers in other young and successful economies, the Government has invested heavily on developing the people through education and training. In the 2017 national budget, 21% was allocated to the Education sector, second only to the Defence sector’s 23% [6]. Much of the investment supports development of the people’s educational opportunities, experiences and skills.

Besides upgrading the people’s capabilities the government also encourages free trade and innovation in value-added and high-end technology enabled products and services. These are also the main support pillars of the Singapore economy.

However, the rapid progress in Science and Technology has resulted in the Singapore Educational System being re-vamped a few times in the past decades. The Singapore school curriculum is revised periodically every five years to deliver up-to-date content knowledge and to ensure relevance and responsiveness to the changing needs of the global economic and industrial situations. This has been especially impactful in the areas of Science, Technology, Education and Mathematics (STEM). It has been predicted that in the coming decades, the number of STEM-related jobs would rise while jobs that rely on low level skills or mundane procedural processes could be greatly reduced [1].

The Singapore Education System has long been responsive to the needs of the changing global environment. Thus, the Science and Mathematics curricula are focused on critical and creative thinking and inquiry-based learning [7]. There is also an increasing use of engineering design concepts and technology-enabled learning approaches for students studying the STEM-related school subjects. The aim of the updated curriculum is to ensure students would graduate well prepared for a STEM-related career and be supportive of STEM initiatives driving the society they live in.
2. STEM Initiatives and Programmes

Although Singapore does not formally have a set of STEM Education curriculum, the school curriculum is planned and implemented with many supportive initiatives, organisations and programmes. These include the Inquiry-based Science Curriculum Framework, the 21st Century Competencies Framework, integrated thematic learning of primary science, the establishment of the Singapore University of Technology and Design, the implementation of the Applied Learning Programme (ALP) and the introduction of Design Thinking in the various subject curricula.

The Singapore Science Curriculum Framework (Figure 1) [7, p.1] has been planned and implemented in the past decade with a strong focus on inquiry-based learning.

![Figure 1. Singapore Science Curriculum Framework](adapted from MoE, 2017) [7, p.1]

The Framework puts inquiry as the core supporting pedagogy and the teacher and students as inquiry learning partners in the classroom. Students will thus graduate from Singapore schools armed with not just the knowledge and skills to solve problems in a scientific manner or attitude, but also empowered with a design mindset when faced with problems and challenges [7].

Besides the inquiry learning focus in the science curriculum, the Ministry of Education has also introduced the 21st Century Competencies Framework [7, p.4]. The 21st Century Framework proposes a series of initiatives to support schools in developing students into Future-ready graduates entering the workforce. The aim is to ensure Singaporeans not only get a well-informed holistic school education but also be equipped with Futureready (or 21st Century) learning skills and attitudes, like being literate in information technology, the ability to communicate effectively and work productively as a team, and to embrace and practise positive socio-emotional values and skills.

Content delivery in the science curriculum is also purposefully designed to ensure facts and skills are taught to students across all levels in a connected and integrated manner. For example, the primary science syllabus is delivered through five main themes, namely, Diversity, Interactions, Cycles, Energy and Systems. However, teachers are professionally developed to deliver these themes as integrated knowledge rather than isolated strands. This is done through student-centric learning activities in the classroom, laboratory and in the field. The aim is to get students to learn science through an investigative approach and with a curious mindset. Teachers help the students integrate these themes through authentic learning experiences so that they can see the close relationships among the events and objects they are engaged in while going about their everyday lives.

At the higher end of education, the Government has also officially opened the Singapore University of Technology and Design (SUTD) and established STEM Inc, an educational organisation to help implement and co-ordinate the Applied Learning Programme (ALP) in secondary schools [10]. These organisations, and the other five universities, five polytechnics and various other research and development institutions, actively play roles in mentoring selected students, from secondary schools to universities, in conducting guided research and industrial practices. Thus most students are broadly exposed to STEM-related learning opportunities while in school through the ALP while a select group are also mentored to take on STEM-related careers and professions.

The ALP is a government-sponsored programme wherein each participating school has to identify a STEM-related area of interest for all their students to be engaged in. Experts from the industry or a research organisation in the target area of interest will be then be assigned to help the school teachers to mentor students in small-scale projects through regular learning sessions and activities in school. The aims are to upgrade the teachers’ capabilities to continue guiding their own students in that area and to promote interest among students in STEM. Some ALP areas of interest include engineering and robotics, health science and health care technology and environmental science and sustainable living.

As a broader strategy to bring STEM and designbased learning to the public, there are also initiatives to promote the design thinking mindset to the community by engaging and encouraging citizens, communities and industries to participate in learning activities that develop problem solving or innovative thinking skills [2]. As schools are part of the larger community, many of these activities are also frequently included in the schools’ various cocurricular activities.

These are the main school and community initiatives and programmes supporting the STEM Education movement in Singapore.

3. Issues in supporting STEM-related learning experiences

Despite the strong and active implementation of educational approaches to support STEM Education, there are a number of hurdles science teachers and
educators need to clear. Two of the main issues relate to lesson schedules (time constraints) and assessment criteria (assessment expectations).

A typical school day in hot and humid Singapore can stretch from 7.30 a.m. in the morning to the early afternoon, typically around 2.30 p.m. or 3.00 p.m. when school is officially dismissed. Secondary school students, for example, may have six to eight subjects to learn in school. They would have a fully packed school week schedule that may also include several co-curricular activities after school hours.

STEM-related learning activities (for example inquiry-based learning and investigative activities) are usually time and resource intensive. It is therefore difficult to fit these activities into the tight school schedule. As such, lessons would mostly be teacher-centred because the syllabus must be covered in time for the national examinations. Over the school year, except for the school-wide ALP activities, only a handful of enriching and engaging STEM-related learning activities may be implemented in class.

The second issue relates to assessment criteria. Inquiry-based science lessons are useful and supportive of STEM-related learning and may help prepare students to tackle the higher order thinking examination questions. However, questions asked in high stakes examinations, are typically objective in nature. That is, these assessment items are crafted as closed type of questions requiring specific responses. STEM-related learning can be open-ended and require students to be divergent in their learning approaches. Open-ended questions are less often included in these examinations. This can be a problem for teachers trying to convince parents and students the value of STEM-related learning activities in preparing students for the high stakes examinations.

4. Conclusion

The inquiry approach in the curriculum and programmes like the ALP are supportive of the spirit of STEM Education. However, teachers have difficulties finding enough time to engage students in meaningful STEM-related learning activities in and out of classroom lessons. While there are higher order thinking questions in the examinations, including problem-solving and designed-based questions in the science practical examination, students are still very much objectively assessed based on their knowledge, understanding and application capabilities.

Despite these time and assessment constraints, a typical science student in Singapore would still be exposed to learning activities and experiences that could spark his or her interest in a STEM-related career in future. This case study underlines the importance of maintaining a good balance between impactful contextual student learning experiences (like those supportive of STEM Education) and content-skill mastery (like those supportive of summative national examinations). The efforts of schools to enthuse students in STEM-related career are commendable but parental and societal pressure for students to do well in high stakes national examinations could slow down or even stall these efforts.

Although the Singapore’s curricular experience may be an attempt to strike a balance between good academic results in national examinations and international studies and graduating students to work and live in the 21 Century, it may be useful to consider integrating STEM-related learning opportunities into the high stakes national examinations preparation, including the assessment criteria. This may be an effective way to encourage parents and the community to support STEM Education while in school teachers can concentrate on developing students to be future-ready and to consider a STEM-related career upon graduation.

5. References


Development of Mathematics Skills Diagnostic Battery: Towards Mathematics Skills Profiling

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Abstract

Mathematics achievement among students, depends on the mastery of basic Mathematics Skill. Basic Mathematics Skills is a transferable skill between domain of mathematics and other disciplines. Basic Mathematics Skills consist of Number Facts Skill, Language Skill, Mathematical Information Skill, Visual Spatial Skill and Arithmetic Skill. Deficit in number fact skill will cause difficulties in making means of mathematics concept and basic operational. Deficit in language skill contributes to misapprehend of number value and mathematics terms. These deficits induce difficulty in making sense of mathematical information. Deficits in each visual spatial skill and arithmetic skill influence the spatiality connection to daily life and application of procedural knowledge. These deficits, incriminate difficulties that could affect students’ potential in career prospect and self-motivation. Early diagnostic on basic mathematics skills are strategic in addressing these issues. The research aims to discuss a development of diagnostic instrument battery for basic mathematics skills and difficulties identification. The battery is developed using 7-steps 3 phases instrument development design. Planning phase comprises three steps which are setting of methodology, identification of construct definition and planning for the battery design. During the second step, content is analysed, and the purpose, the target group, the construct to measure and the limitation are determined. Lay out of battery is designed in the third step. In the development phase, outlining item detailing as the forth step includes determining of construct indicators, item format and details in procedure and manual. The outline is continued with item development in fifth step, that emphasizes on item relevancy, validity, significance, structure and presentation. Later, items are evaluated. Steps sixth and seventh involved in the evaluation phase, which are items refining based on experts’ agreements and feedback of test run, followed with items testing for acceptable psychometric properties. Mathematics Skills Diagnostic Battery comprises five instruments for five skills. The battery is tested on 677 public school students aged 11 to 14 years. Using Rasch Analysis, item reliability for every skill is within 0.98 to 0.99 and index within 8.0 to 14.0 for item separation. Every skill shows positive polarity of items and every skill is uni-dimension with 1st contras of unexplained variance ranged 1.3 to 1.7(<3.0) and variance explained within 42.1 to 82.4 percent (>40%). Overall, the diagnostic battery has acceptable psychometric properties with 83 out of 86 (96.5%) of items are fit with recommended ratio of item difficulty. Person reliability of 0.88 with separation index of 2.7 (>2.0) and Item reliability of 0.99 (>0.8) with index separation of 11.15 (>2.0) indicates that the battery is acceptable. Thus, Mathematics Skills Diagnostic Battery developed, is able to asses and identify the skills and the difficulties. Using item-person mapping, level of basic mathematics skills is identified based on cut off comparison of log-it score item to person. Scalogram is applied and based on the pattern of the mistake, potential skill difficulties and students’ basic mathematics skills is profiled. Findings show that the cut off score value less than 0.60 log-it signifies those who are at risk to have basic mathematics skills difficulties. Mathematical information skill with the highest mean item measure, is the most difficult skill. It is followed by language skill, visual spatial skill and number facts
skill. Arithmetic Skill is the least difficult. The findings also imply that the development of instrumentation facilitates mathematics curriculum in profiling the mathematics difficulties faced by students. The profile is relevant in realizing students’ needs in preparing explicit teaching and learning method. Specific intervention aligning to the needs of the students through profiling is significant.
Session 6: Global Issues in Education and Research

Title: Learning to Revise Beliefs Consistently via Enjoying an Argumentative Apprenticeship? (Author: Elisabetta Montanari)

Title: School Improvement: Educational Leadership and Living-Systems Ontology (Author: Lawrence (Larry) Sackney)

Title: Research on the Educational Aspects of the Camphill Community – Development and Verification of a Research Tool (Author: Šárka Klímová)

Title: EHealth Literacy, Health-Promoting Lifestyle, and Health Behavior Self-Efficacy among College Students (Author: Ju-Chun Chien)
Learning to Revise Beliefs Consistently via Enjoying an Argumentative Apprenticeship?

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Abstract

In my research work I suggest the improvement of students’ ability to revise their beliefs in a consistent fashion as a mean to promote a more inclusive and reflective global society. I support the opportunity of an argumentative intervention as a mechanism of development of this ability. In the intervention, the central activities will be held simultaneously in two sessions: some students will work in groups of peers, while some others will work individually with an expert. This in order to confront the efficacy of working in groups of peers with the one of attending to an apprenticeship.

1. Introduction

One of the main objectives of the European integration project Horizon 2020 is to promote inclusive, innovative and reflective societies. The members of these societies should be able to live with persons from different backgrounds and to dialogue with them about social and personal issues, with an open and respectful attitude.

To support among young people the ability to coexist and interact with others coming from other countries and belonging to different faiths or cultural perspectives is also what pursued by the OECD, by developing a concept of Global Competence for the OECD Education 2030 Framework [1].

In order to achieve this cultural objective of global inclusion, the same document stresses the importance to enhance those educational strategies, which are apt to foster among young people analytical and critical skills. In particular, in this kind of society, it acquires a great social relevance the ability to reflect critically on one’s own ideas and beliefs (e.g. values, p.17 in [1]), and to revise them where needed.

2. Consistency and Beliefs Revision

One case when beliefs system revision is firmly required is in presence of contradictions. Otherwise, the beliefs system would lack in reliability: the arising of a contradiction is a symptom of an inadequacy, since two contradictory statements cannot be both true. One is false and hence there is an error that should be revised.

As concerns globally competent students, coming in contact with new information and different perspectives might make internal contradictions in a young subject’s beliefs system to emerge. This should activate revision processes. Or differently, new information and distinct perspectives might be in contrast with the subject’s ideas and beliefs, so that both new inputs and present positions should be critically evaluated and either the first or the second ones should be eventually modified. Here argumentation comes into play. Why?

2.1. The Role of Argumentation

It is through argumentation that subjects exchange views and compare standpoints, so that it is through argumentation that the way of reasoning of a person can be made known and contradictions become clear.

I suggest that through argumentation we could promote reasoning consistency as well: by strengthening the ability of an arguer to identify the contradictions in one’s own argumentation and in the ones of other arguers, it could be consequently strengthened that arguer’s ability to identify contradictions in his or her own reasoning and in the ones of other arguers. In this way, it is fostered that arguer’s ability to revise his or her ideas and beliefs critically. But how to promote reasoning consistency by means of argumentation?

2.1.1. Possible argumentative strategies. Many studies are already available on the development of argument skills, where the improvement is pursued by fostering practices of peer-discussion, both in group (e.g. the community of inquiry of the curriculum Philosophy for Children developed by M. Lipman [2] and pro and con teams of discussion [3]) and in pair [4].

On the contrary, one of the most recent works on argumentation, Learning to argue via apprenticeship [5], suggests to reconsider the importance of
experiencing a period of apprenticeship with a more capable other. This work highlights that the quality of argumentation shown by the students’ group engaged in this apprenticeship exceeds that of a comparison peer-only group. Which strategy might be the most suitable to adopt for promoting consistency?

2.2. Method

In order to address this question, I began with reviewing the existing literature to discover whether this topic is already debated. As concerns classical contributions, I have examined and reviewed Thought and Language of L. S. Vygotskij [6], Transformative Dimensions of Adult Learning of J. Mezirow [7], Thinking in Education (second edition) of M. Lipman [2] and Argumentation and Education: Theoretical Foundations and Practices of N. Müller Mirza, A.-N. Perret-Clermont (editors) [8]. At the same time, I have started to investigate scientific journals, with especial attention to the publications of the Teachers College of the Columbia University.

In the end, I have concluded to use as a base for the intervention the activities scheme proposed by Deanna Kuhn in her Education for Thinking [9] for improving students’ argumentative skills, but with some relevant differences, depending on the distinct focus of my work. In the study that I am arranging, focused on consistency, when learning to evaluate reasons students will be asked to pay attention to the internal coherence of their reasons; when examining and evaluating opposite side’s reasons, students will be guided to concentrate on the coherence of the opposite side’s reasons and to check if contradictions emerge in their arguments; when generating counterarguments to others’ reasons, they will be encouraged to build a counterargument of the form of a reductio ad absurdum (see [10] for a better understanding of this counter-argumentative strategy); when generating rebuttals, they will be incited to check if their own argumentation is really contradictory. If it is, they will be asked to revise their reasons and to try to generate a counterargument, if it is not, to explain why.

In order to confront the efficacy of working in groups of peers with the one of working with a more capable person, in the form of an apprenticeship, these central activities will be held simultaneously in two sessions: some students will keep on working in groups with their coaches, while some others will work individually with an expert.

2.2.1. The role of the educational relationship in the intervention. An aspect to which it will be given particular attention in the intervention is the quality of the educational relationship: the “relational climate” will be monitored during the intervention and at the end of it students will be probably asked to evaluate their relationship with other students, coaches and experts as “very positive”, “positive”, “negative”, “very negative” or “insignificant”. These evaluations will be then discussed with reference to the results of the training.

In fact: “extended exercise of thinking and reasoning skills in a cognitively rich environment can serve as a sufficient condition for their development.” (p.1245 in [3]), but, if the environment is both cognitively and emotionally rich, the results might be even better.

3. Conclusion

As far as I have proceeded, supporting the opportunity of an argumentative intervention for improving internal coherence in argumentation and thinking appears at the same consistent with the existing literature and an original insight.

4. References

School Improvement: Educational Leadership and Living-Systems Ontology

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Abstract

Although school improvement continues to present as an unsolved educational problem in the age of accelerations, the required changes are relatively straightforward. Essentially, schools need to be retooled with students’ experiences and high-quality instruction as the center of the design. This paper presents findings of (part of larger study) research into the leadership of high-quality learning community schools, wherein the design features yielded school-wide improvement in teaching and learning. Educational leadership emerged organically throughout the school, and the school leaders took collaborative, questioning, expanding and protecting professional practice. These leadership activities reflected the ontology of living systems, as different from managed systems, and enabled the leaders to create an environment in which authentic teaching and rich learning flourished.

1. Introduction

How to improve teaching and learning given the globalized and technological context of schools continues to present as an unresolved educational problem. Darling-Hammond [1], for one, argues for schools to be retooled with students’ experiences and high-quality instruction at the center of the cultural design that takes into account the new realities. This paper presents findings from our research on high-quality learning community schools operating as living systems, that provided the kind of design features for which Darling-Hammond was arguing [7, 6, 5, 4]. I begin with a brief discussion of the contextual, conceptual, historical, and ontological context that situates the kind of leadership needed to transform schools and conclude with salient findings on leadership based on living systems ontology.

2. Environment and Organization

In today’s globalized environment, schools cannot settle for incremental improvement; they must occasionally engage in transformations to stay on top. The stories leaders tell must make transformation meaningful. They have to role model the desired mind-sets and behavior. In addition, they must establish a culture of collaboration and a strong focus on problem solving. Emphasizing what works well and discussing how to get more out of these strengths taps into creativity, passion, and the desire to succeed [1].

Transformation requires extraordinary energy: school staff must fundamentally rethink and reshape how the school operates from day-to-day. When the leaders version of the transformation story is clear, success comes from sharing it with staff, encouraging debate about it, reinforcing it, and encouraging staff to infuse it with their own personal meaning within the culture of the school. Emphasizing what works well and discussing how to get more out of those strengths taps into staffs energy and motivation to improve [7].

Every culture is ethnocentric, fiercely loyal to its own interpretation of reality [3]. Davis states, “We are acolytes of our own realities, prisoners of our perceptions, so blindly loyal to the patterns and habits of our lives we forget that, like all human beings, we too are enveloped by the constraints and protection of culture” (p. 12). The culture embraces both the action of its people, and the character and nature of the metaphors that direct them forward. The kind of culture required for educational transformation is different from what exists in many schools.

Schools are impacted by what occurs in their environment. Globalization is unleashing a wave of technological, economic, and sociological change that will impact our society and what we need from our schools in unimaginable ways. Ross [9] contends that the next wave of globalization and innovation will challenge society across the globe, “threatening to return many to poverty” (p. 16). He views the key industries of the future to be robotics, genomics, the codeification of money, cyber security, big data and data analytics - as well as the geopolitical, cultural, and generational contexts out of which they are emerging. AI and robotics could upend the conventional workplace.
My children have an entirely different set of opportunities and challenges than I had growing up in a farming community in Saskatchewan. As a child, I grew up listening to a battery-operated radio. Our children grew up with television and initial computer technology. Our grandchildren are growing up with smartphones, robots, and powerful computers. Furthermore, they are growing up in a multicultural, large city whereas I lived in a highly homogeneous culture.

If data analytics, genomics, machine translations, computer algorithms, cyber, and robotics are the high growth industries of the future, then the people who will make their living in those industries need to be fluent in the coding languages behind these industries. Programming fluency teaches you how to think in a very different way. It teaches you abstraction around breaking problems into small parts and then solving them, around systems and how systems interconnect. Learning how to think is one of the most important things schools can teach our youth. Ross [9] contends that tomorrow's workplace “will be increasingly characterized by competition between humans and robots” (p.247). Interestingly, the Province of British Columbia has recently mandated coding to be taught to students as part of its revised curriculum.

Japan, who is the leading developer of robotics, has built robots that can serve as multipurpose assistants. Honda has created a fully functioning humanoid that is sophisticated enough to interpret human emotions, movements, and conversation [9]. Robots are being created to help paraplegics and people with weakened muscles walk. In addition, because of its aging population and tight immigration rules Japan is developing eldercare robots.

Tasks that were once the exclusive domain of humans - jobs that require situational awareness, spatial reasoning, dexterity, and human judgment - are opening up to robots. Robots that can intelligently interact with the environment through cloud robotics are leading to driverless cars, delivery drones, surgical robots, and automated delivery trucks - are all part of the future.

Such a technological shift requires a highly educated workforce. Yet the push for STEM learning in North American schools is not bearing the kind of results envisaged. News media in Canada are reporting declining math scores and yet math is such a highly needed skill in a technological society. Children spend so much time on their electronics that the inundation of content is not only non-stop, but is abbreviated and quick. As Calvin White [11] states, “Page one is as far as they go.” Complexity, challenging ideas that take time to fully get, that require one to ponder and reflect, and that require information or research that demands criticism, is being met by brains unaccustomed and unprepared in this function. In essence, our children are not developing the kind of learning that will be necessary in a global, technological society. They are not able to think deeply, critically, and creatively. So much of their learning is brief, superficial, and interrupted. Moreover, so much of their time is spent multitasking which negates deep learning.

3. Robots in Schools

Robots are starting to impact teaching and learning in schools. For example, at Greenleaf elementary school in Splendora, Texas, a 12-year-old boy named Christian sits at home because he has a compromised immune system. Instead, a VGO robot sits in the front row for him. The robot has a network-enabled video camera, allowing Christian to sit in his living room and from his laptop see and hear what is happening in the classroom in real time. He can raise his hand, be called by the teacher, and answer questions that the teacher and the whole class can hear through the robot. Students can also talk to Christian by talking to the robot [9, p.34].

In France, a robotics company, Aldebaran, has created a smaller than two-foot humanoid robot called NAO that is serving as a teaching assistant in science, math, and computer science classes in 70 countries. The robot has also been adapted to serve as a classroom buddy to help autistic students communicate more effectively [9].

In Europe, Anthony Seldon, vice-chancellor of the University of Buckingham, has written that robots will begin replacing teachers in the classroom within the next 10 years as part of a shift to one-on-one learning. Robots would learn to read the brains and facial expressions of students and thereby adapt the communication that works for them [2, p. E3]. The personalized nature of the robots would enable students to learn at their own pace. As noted by Ross [9], the automated teaching of math and science will form the vanguard of machine-led learning.

What we are starting to witness is technology assisting, and, in some cases, taking over teaching roles. School staffs have access to massive amounts of data but as my colleague Lorna Earl from the University of Toronto states, “Schools are data rich but information poor.” Data analytics can provide teachers with information that can help them to improve instruction with various types of students.

4. Organizational Ideology

Where does this leave us in how schooling needs to be organized? Contemporary organizational theory holds two different worldviews of conceptualizing and constructing organizations. Following Wheatley [10], we argue the differences in how schools are organized as that of managed systems and living systems. Each way of organizing has a distinct ontology and epistemology, yielding a distinctive set of administrative and educational practices [6].
Managed systems, usually thought of as bureaucratic systems, are underpinned by a belief in an objective, stable, regular, and predictable universe known through empirical observations. Organizations accomplish their tasks through determining the one best way of doing the task and then routinizing and standardizing the processes. Managed systems position schools as hierarchical systems that direct, control, and manage learning through centrally created processes. In such systems teaching and learning are contained by curriculum documents, learning expectations, and outcome measures. In contrast, a living system stems from a belief in a complex integrated world in which all the elements are interconnected, reciprocal, and relational. Living systems self-organize and change in response to the feedback they receive from their environment while retaining the integrity of its purpose and meaning. Furthermore, living systems are characterized by their totality of patterns, connections, relationships, interactions, and mutual influences that emerge among people. Knowledge is always partial, conditional, and situated [7]. Living systems need to “feed on continual flows of matter and energy from their environment to stay alive” [5, p. 79].

Moving to living systems requires a paradigm shift for how schools accomplish their work. First, living systems operate as interlinked networks. Second, it requires a shift in language and focus so that meaning, patterns, purposes, influences, and relationships become the primary terms: a perception of learning as the center of everything. Third, schoolwork is accomplished through collaboration and common understandings. Fourth, members build a community of practice that guides subsequent individual and collective action. Fifth, it requires a shift from a deficit model to a capacity building model [6, 4].

In living systems, all learning and growth are natural features of life. Learning occurs everywhere—in and out of school, and everyone is capable of learning in a unique way. On this foundation are built authentic educational experiences that allow students and teachers to grow naturally [7]. The received curriculum serves as a backdrop against which “compelling interests and issues are confronted, explored, and resolved in personally meaningful ways” [7, p.855].

Historically, the managed system has been the dominant framework within which schools and schooling occurs. This ontology produces an epistemology that limits teaching and learning to the normalizing standards and controlled curriculum [8]. While the managed system has provided an efficient platform for delivering the cultural knowledge necessary to function in our society, it is not particularly good at fostering creativity, self-motivation, innovation and problem solving so necessary in a globalized, technological society. Interested readers are asked to refer to [6, 7] for further elaboration on the difference between managed and living systems.

Suffice it to say, our contention is that building learning communities based on living systems ontology has the best chance of improving teaching and learning given the globalized and technological environment within which schools presently and in the future will work.

5. Learning Community Research

Our focus on learning communities grew out of our work and that of others on school improvement. In order to obtain a clearer understanding of the processes, structures, and interactions that developed in learning communities, we set out to find schools that functioned as high-capacity learning communities. We defined high capacity schools as follows: (1) evidence of high energy and enthusiasm for learning across the board; (2) a reputation for high quality in teaching and learning; (3) a collaborative culture among staff, administration and students; (4) innovation and experimentation in pedagogy and curriculum; (5) reflective practices among the staff; (6) authentic school-community relationships; and (7) a record of improved student learning outcomes [5].

The study was conducted in the Provinces of Saskatchewan and Ontario. School district administrators and departmental officials were asked to nominate schools that expressed the seven attributes. To offset the subjectivity inherent in a reputational sample, surveys were conducted with administrators, staff and students in 144 schools. In addition, administrators were asked to provide school data on provincial and international testing results, attendance, dropouts, staff turnover and training, and other measures. Based on the data, learning community profiles were developed for each school from which we selected 15 top-ranked schools for intensive case study. From this group, four schools were selected for further intensive ethnographic investigations [11].

Our data indicated that schools that operated as high-capacity learning communities had a different set of philosophical assumptions from those found in typical schools. We characterized these schools as being living systems. The next section focuses on the leadership found in such schools since it is beyond the scope of this paper to deal with all aspects of such schools.

6. Nature of Leadership

Our analysis of the data showed a number of leadership features that characterized high-capacity learning community schools using living systems ontology. Leadership emerged naturally from events and issues in the school, that was tightly focused on learning and teaching, that was contextually sensitive,
and that was collaborative and focused on the schools’ mission and vision.

Collaborative practices occurred through structured teams and planned meetings. Leadership was fluid and emerged as colleagues worked out common issues, through generating curriculum units, shared instructional ideas, and generative problem solving. Principals played a key role by being good collaborators, by listening and encouraging joint problem solving, by facilitating responsive communication patterns, and by providing spaces for teachers to talk to one another.

In these schools talk focused on teaching and learning. The principals constantly asked questions as they moved about the school, and they regularly asked teachers to think about how they might improve student learning [7]. Questioning was a way of life in these schools and was used as a starting point for innovation and creativity. Many of the staff and principals had knowledge of Appreciative Inquiry (AI) and regularly used the concepts in their work with students and one another. Question storming was common and the use of questioning methods resulted in an upsurge in student engagement and interest in classroom activities [6].

The energy and excitement were palpable in these schools. In classrooms, we found a level of engagement that was not evident in low-capacity learning community schools. When queried about who had created such an environment, teachers invariably pointed to the principal. The principals however pointed to the staff in their school.

In these high-capacity schools, leadership emerged as a set of activities that attempted to move educational practice to improved student learning. From the data, we identified four broad categories of activities: regulating practice, coordinating practice, expanding practice, and protecting practice [7]. The issue of regulating practice is a question of accountability. While attention was devoted to accountability, it was not something that the principals and teachers fretted over. Instead, through a culture of professional commitment to improve student learning, and supported by leadership action when necessary, provided an environment for meaningful learning activities.

A common leadership task is to ensure that individual practices are aligned with organizational goals and provincial mandates. The role of the principal is to keep everyone moving in the desired direction. They achieved this by setting up opportunities for teachers to work together on purposeful activities and by constantly emphasizing the mission and vision of the school.

Principals expanded practice by providing opportunities for professional development. In high-capacity schools, the professional culture allowed for experimentation and risk-taking. By working collaboratively not only were issues resolved but also provided for new instructional opportunities to emerge. The philosophy that seemed to operate in high-capacity learning community schools was “if teachers are not growing, then the children are not growing.” Furthermore, making mistakes was not viewed as being negative, rather it meant that teachers were trying different instructional strategies and would lead to improvement.

Another role leaders contributed was the expansion of practice by serving as a disturbing function [6]. They accomplished this by modeling professional practice, framing professional conversation, asking questions, and encouraging collaboration.

Principals also protected staff from distractions. They did not micromanage the work of teachers. Instead, they viewed teachers as being professional to whom they gave professional autonomy and responsibility. As well, principals created a culture of commitment by collectively articulating a compelling vision for the school. “Each principal had a vision of where the school needed to go, and they enlisted others by pointing out the gap between what was happening and what could be happening” [7, p. 863]. They refused to accept that students cannot learn but instead focused on a pathway of improvement.

Leaders stressed the importance of keeping abreast of technology and how it might contribute to improved learning. These high-capacity schools had more up-to-date technology and used it to enhance teaching compared to the low-capacity schools. It should be noted however that the principals did not push the use of technology but rather that it be used naturally to enhance teaching and learning. Training and support was provided when and as needed. School test data were also part of the school’s focus. Data were analyzed and strategies were developed to deal with areas of weakness.

Furthermore, the teachers and principals utilized the neuroscience research to help them deal with students with learning difficulties. In essence, the principal and school staffs were acutely aware of how technology and neuroscience might be used to improve teaching and learning.

7. Conclusion

As they worked through their challenges, school staffs and principals endorsed practices that respected everyone and that sustained the learning of students and adults alike. Leaders in high-capacity schools were not consumed with questions of jurisdiction or control. Instead, their efforts were driven with questions of learning and improvement.

The ability of people to adapt their skills to the changing needs of the workplace is critical. Lifelong learning needs to be the norm. School staff need to understand that the world as they have experienced it in the past is no longer the same. This new attitude
was best expressed in the high-capacity learning community schools using living-systems ontology.

Whether leaders realize it or not, they appear to be in front of the camera when they speak or act. The best approach is to lead by example or model the way. As Mahatma Gandhi stated, “I must be the change I want to see in others.” This was certainly the case in the high-capacity learning community schools. The principals were the first learners in the school.

Leadership for learning was about noticing compelling disturbances and supporting people as they responded. This ontological standpoint generated a set of epistemological benchmarks that resulted in rich intellectual growth and that replenished the human spirit.

In conclusion, principals in high-capacity learning community schools concentrated on building capacity for teaching and learning. This approach resonated with the ontology of living systems. Yet, most schools are structurally designed as managed systems. Part of the problem is as Wheatley [10, p. 32] observes, “The tension of our times is that we want our organizations to behave as living systems, but we only know how to treat them as machines.” Moving to a different ideology requires giving up on a worldview that has been part of our culture for a long time and that is not easy. We are constrained by our culture. Leadership, however, is the glue that can move people forward.

8. Acknowledgement

A special thanks to Dr Coral Mitchell who collaborated with me on this project.

9. References


Research on the Educational Aspects of the Camphill Community – Development and Verification of a Research Tool

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**Abstract**

This article focuses on the research area of dissertation. The topic of dissertation is the educational aspects of Camphill community. This article briefly introduces a Camphill Community as the main topic. Camphill Movement still waits to be processed in the Czech Republic. Article also describes the preparation of a research instrument, which was created to confirm the existence of educational Camphill’s aspects. These have been defined on the basis of previous observations in two different Camphill communities. The paper also deals with outlining of the implementation of a pilot research and presents the results of that research.

1. **Introduction**

The present paper describes a partial research study carried out as part of a dissertation. The research study focuses on the educational aspects of an anthroposophical community for persons with intellectual disability called Camphill. The objective of the dissertation was to describe and analyse the educational aspects of Camphill.

With a tradition of over 75 years and presence in more than 20 countries, Camphill of the 21st century is a true alternative to state institutions and other organisations for children, adolescents, adults and seniors with various types of disability, particularly of an intellectual nature. Camphill was established on the principles of the anthroposophical concept of man, according to which everybody is equal, irrespective of education, gender, age, health, or religion. Therefore, everybody deserves respect, dignified life, and a sense of meaningfulness in the community or society. In Camphill, these principles are achieved through curative education, which is the main pillar of therapeutic approaches in Camphill, both direct and indirect, performed by means of comprehensive education through the whole environment.

The topic of the dissertation mentioned above, i.e. the education aspects of Camphill, is very difficult to define. The term ‘educational aspects’ is very broad and difficult to translate to other languages. However, these aspects comprise a natural part of Camphill and the term is used throughout the paper and the whole research study. Regarding the fact that educational aspects depend on the interpretation of each individual, the authors defined the aspects based on their own experience of life in Camphill and based on an analysis of scientific literature on social aspects of community life.

2. **Theoretical introduction – overview of existing knowledge**

Czech scientific literature is marked by an alarming absence of literature on the issue of Camphill, although the first and only Camphill was opened in the Czech Republic already in 2004 – Camphill on the Confluence. The list of scientific literature is limited to the following five titles: Péče o mentálně postižené v zahraničí (Holandsko a camphillské hnutí): pro posluchače učitelství ŠMVZP [11], Waldorfská pedagogika a jiné alternativy [10], Camphillské hnutí a německý výchovně vzdělávací systém: (pěče o mentálně postižené v zahraničí II): pro posluchače speciální pedagogiky [9], Psychopedie: kapitoly z didaktiky mentálně retardovaných [8] and Průvodce českou anthroposofií [4].


So far, the educational aspects of Camphill have not been examined in such extent as in the dissertation, not even in international literature. International academic papers and publications address Camphill from different perspectives – special education, social education, historical, etc.
3. Research methodology

The research methodology is based on the following publications: Úspěšný návrh výzkumu by K. Punch [5] and Základy pedagogicko-psychologického výzkumu pro studenty učitelství by J. Skutil [7].

3.1. Research objective and research questions

The objective of the research study was to confirm or disprove the existence of selected educational aspects in Camphill from the perspective of co-workers, i.e. employees and volunteers working/living in Camphill.

The research question is based on the main objective and is defined as follows: Do the respondents (employees, volunteers, teachers, therapists) who live or work in Camphill perceive the selected educational aspects as part of life/work in Camphill?

3.2. Description of the respondents and questionnaire administration

The research study was conducted during a period of four weeks from mid-November until mid-December 2015 in Camphill School Aberdeen, which is historically the first Camphill community with the longest tradition. At the same time, the community has a sufficient number of co-workers, who have years of experience of life and work in the Camphill movement.

The sample of respondents was recruited by means of deliberate sampling; the respondents were selected according to several criteria (length of experience in the movement, nationality, age, degree of education, current position in the community) to achieve diversity across the criteria.

A total of 20 respondents were asked to participate in the research study. Prior to completion of the questionnaire they were explained the topic of the dissertation and the significance of the research study. The questionnaire was distributed in a personal meeting with the respondents in order to achieve a high return rate. Despite this fact, the return rate was not 100%, which was probably caused by the length of the questionnaire. Of the total of 20 questionnaires, 12 were completed and returned.

3.3. Questionnaire design

Based on the objective of the research study a non-standardized questionnaire was developed. The items of the questionnaire were derived from the educational areas of life in Camphill, which were commented on by the respondents.

The first part of the questionnaire includes identification data, which explain the purpose of the questionnaire and describe the data handling procedure. The first part of the questionnaire also specifies the instructions concerning the required format of the responses. The final part of the questionnaire includes acknowledgement for participation.

The questionnaire comprises a total of 29 items (see Table 1).

Table 1. Questionnaire structure

<table>
<thead>
<tr>
<th>Item number</th>
<th>Item type</th>
<th>Item focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-12</td>
<td>Population</td>
<td>Gender, age, nationality of degree of education, field of study, education in Camphill, length of experience in the movement, number of communities in which the respondent lived/worked, current community, life inside/outsdide the community motivation for joining the movement, current position in the community</td>
</tr>
<tr>
<td>13-16</td>
<td>Opinion</td>
<td>Aspect of coexistence with other people in the community (prosocial behaviour, altruistic behaviour, indirect educational effects, learning through positive models)</td>
</tr>
<tr>
<td>17-20</td>
<td>Opinion</td>
<td>The item provides space for the respondents to add another item</td>
</tr>
<tr>
<td>21-24</td>
<td>Opinion</td>
<td>Aspect of specific areas of co-existence and work in the community, elements of social learning, principles of democracy and election, elements of experiential learning, cooperative methods of work, primary focus, secondary focus on performance, importance of festivals as significant pillars of the community</td>
</tr>
<tr>
<td>25-28</td>
<td>Opinion</td>
<td>The item provides space for the respondents to add another item</td>
</tr>
</tbody>
</table>

The validity and reliability of the research tool was assessed.

4. Results of the research study and their interpretation

The research question defined at the beginning of the research study was whether the respondents perceived the existence of the educational aspects of life/work in the Camphill community defined by the authors. The objective of the partial research study was to confirm or disprove the existence of these educational aspects based on an assessment of the respondents’ statements.

It was observed that the respondents, i.e. employees and volunteers working/living at Camphill School Aberdeen perceived the selected educational aspects of Camphill and were able to illustrate these aspects by examples from their everyday experience with caring for, educating and living with children with intellectual disability.

The following educational aspects were mentioned most frequently: self-assessment and group evaluation, significance of festivals as important pillars of the community, elements of experiential learning, and mutual help. The existence of other...
selected aspects was also confirmed, albeit less frequently.
The findings suggest that the educational aspects are present in Camphill, and that they can be subjected to a deeper analysis in the next stage of the research.

5. Conclusion

The partial research study was conducted as the first step into the field, the purpose of which was to understand the attitudes of the employees/volunteers’ livings in a selected Camphill community and use their responses to confirm the existence of predefined educational aspects of Camphill for further stages of research. This objective was achieved and the results of the partial study will help formulate questions for follow-up interviews with the actors of the Camphill movement, which will serve as a basis for a deeper analysis of educational aspects of Camphill.

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6. References


EHealth Literacy, Health-Promoting Lifestyle, and Health Behavior Self-Efficacy among College Students

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Abstract

The present study examined whether college students’ demographic characteristics, living habits, and/or online health information seeking experience could have an impact on eHealth literacy (EHL), health behavior self-efficacy (HBSE), and health-promoting lifestyle (HPL), respectively. It also tested which factors would be more impactful than others on HPL and EHL. The results indicated that: (1) More than 80% of Taiwanese college students had online health information seeking experience and about 90% of them regarded it as useful. However, they received an average rating on EHL. (2) EHL, HBSE, and HPL all correlated with one another positively at medium magnitudes. (3) The variables that best predicted students’ HPL were HBSE, EHL, and good living habits. (4) The variables that best predicted students’ EHL were HBSE, health-related majors, and online health information seeking experience. (5) Students with health-related majors revealed higher levels of EHL, HBSE, and health responsibility than students with non-health-related majors.

1. Introduction

Modern healthcare has received significant advancement in recent years. With information technology, the focus of healthcare has been changed from cure to prevention more broadly. The Ottawa Charter for Health Promotion also proposed that school, home, work and community settings should enable people to develop personal skills to cope with chronic illness and injuries [1].

The Internet has increasingly become a convenient source of health-related information [2], most people can easily apply what they have learned from the searching medium. Unfortunately, not all of the online health-related resources were accurate and valuable.

In order to help people make effective use of the online health information and lead a healthier lifestyle, there was a need to investigate people’s eHealth literacy status and the related factors that might facilitate or inhibit people’s judgement on the online health information.

Nearly every Taiwanese college student can easily access to the Internet [3], and their health conditions are closely related to the nation’s competitive position. Therefore, the participants in this study were college students.

In the present study, there were three main objectives: (1) To examine whether an individual’s demographic characteristics, living habits, and/or online health information seeking experience could have an impact on eHealth literacy, health behavior self-efficacy, and health-promoting lifestyle, respectively. (2) To examine the relationship between eHealth literacy, health behavior self-efficacy, and health-promoting lifestyle among college students. (3) To determine predictors of eHealth literacy and health-promoting lifestyle in college students. Figure 1 displayed the variables used in the analyses in this study.
2. Literature review

2.1. EHealth literacy

According to the National Network of Libraries of Medicine, health literacy was defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” [4].

Nutbeam proposed a Health Literacy Model that was widely cited and used in practice in various health situations [5]. This model included three sequential levels of health literacy: functional, interactive, and critical health literacy. According to Nutbeam, functional health literacy was defined as basic health literacy skills for individuals to obtain relevant health information and apply that knowledge to a limited range of prescribed activities. Interactive health literacy was defined as advanced literacy skills that enable individuals to extract information and derive meaning from different forms of communication; to apply new information to changing circumstances; and to interact with greater confidence with information providers such as health care professionals. And critical health literacy was defined as most advanced cognitive skills, can be applied to critically analyze information, and to use this information to exert greater control over life events and situations.

EHealth literacy in this study referred to people’s ability to access to online health-related information and further to seek, understand, evaluate, and make use of the online health information.

Cheng, Chang, and Li examined junior high school students’ eHealth literacy and found out that students, on average, had higher levels of eHealth literacy; moreover, the degree of eHealth literacy was positively correlated to the frequency of online health information seeking [6].

On the other hand, college students with higher levels of critical eHealth literacy reported to engage more frequently in multiple positive health behaviors, including eating, exercise, and sleep behaviors [7]-[8].

2.2. Health behavior self-efficacy

Self-efficacy was defined as a person’s confidence in their ability to perform a specific behavior [9]. Health behavior self-efficacy in this study referred to individual’s confidence in one’s ability to take action on health behavior.

Self-efficacy had a positive significant correlation with health-promoting lifestyle and all of its sub-domains among Iran health house workers [10].

For patients with diabetes, self-efficacy was positively associated with interactive health literacy and critical health literacy, respectively [11].

According to Lee, Lee, and Song, health concept, perceived health status, health behavior self-efficacy, and the amount of health promotion sources could significantly impact on junior high school students’ health-promoting lifestyle. Moreover, health behavior self-efficacy had the largest impact [12].

2.3. Health-promoting lifestyle

Health-promoting lifestyle has been defined as a “multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization, and fulfillment of the individual” [13].

According to Walker, Sechrist, and Pender, the six components of HPL were: self-actualization, interpersonal support, health responsibility, stress management, exercise, and nutrition.

Gender was one of the significant determinants of health-promoting lifestyle [14]. Medical students’ smoking status and perceived health status resulted in a significant difference in HPL total score [15].

Jackson, Tucker, and Herman’s study revealed that health self-efficacy was not only significantly associated with engagement in a health-promoting lifestyle, but also significantly predicted the level of engagement in a health-promoting lifestyle [16].

According to Yang, Luo, and Chiang, students who majored in medical fields had greater concern with their health and frequently sought health information, exhibited better eHealth literacy, and had a positive health-promoting lifestyle. Moreover, college students with higher critical eHealth literacy engaged better in health-promoting activities than those with functional and interactive literacy [17].

Taken together, the results of the previous studies indicated that (1) eHealth literacy, self-efficacy, and health-promoting lifestyle were associated positively with each other; and (2) gender, smoking status, perceived health status, and health behavior self-efficacy could significantly impact on health-promoting lifestyle.

3. Methods

3.1. Participants

The population of this study was comprised by all college students in Taiwan. The participants were recruited by means of convenience sampling. A pilot study was conducted on 180 Taiwanese college students in Jun 2016 to test the feasibility of the 3 self-developed instruments. Schedule of formal data gathering was from October 4 to December 6, 2016. A total of 835 participants were recruited and the valid participants were 800 (95.81%) college students between the ages of 18 – 24 in this study.

There were more female (468, 58.5%) than male (332, 41.5%) students in this study. Approximately,
two-fifth students’ academic majors were health-related fields (313, 39.1%). The rest were students in the non-health-related majors (487, 60.9%). The majority of participants (387, 48.4%) perceived their health status as fair. And 40.6% of participants (n = 324) perceived their health status as “good or very good. About 44% students reported to have positive living habits. More specifically, most students were eating out (613, 76.60%), had a part-time job (456, 57.0%), were non-smokers (719, 89.9%), did not exercise regularly (429, 53.6%), and needed more time to sleep (529, 66.1%). Not only the majority of students had online health information seeking experience (655, 81.9%), but also they regarded the online health information as useful (722, 90.3%).

College students expressed somewhat positive levels of health behavior self-efficacy (M_{item} = 5.22, SD_{item} = 0.87) and health promoting lifestyle (M_{item} = 5.20, SD_{item} = 0.79). However, their eHealth literacy levels almost reached to somewhat positive (M_{item} = 4.95, SD_{item} = 0.85).

3.2. Instruments

There were 3 self-developed questionnaires in this study: the EHealth Literacy Scale (EHLS), the Health Behavior Self-Efficacy Scale (HBSES), and the Health-Promoting Lifestyle Scale (HPLS). Item analysis, item-to-total correlations, and the exploratory factor analysis (EFA) were used to examine the questionnaires’ construct validity. Cronbach’s alpha coefficients were used to examine their reliability. The results revealed that these questionnaires were well-developed instruments.

3.2.1. The EHealth Literacy Scale (EHLS). The structure of the EHLS (EHealth Literacy Scale) was based on a 3 - component health literacy model proposed by Nutbeam in 2000. A seven-point Likert scale (with 7 being “very true to me” and 1 being “very untrue to me”) was used to measure participants’ online health literacy levels, with higher mean scores indicating higher levels of eHealth literacy. The exploratory factor analysis (EFA) was to establish meaningful factors underlying the EHLS. A principal components analysis with varimax rotation identified 3 factors (each item’s factor loading was greater than 0.4). The EHLS contained 11 items. The 3 factors accounted for 69.09% of the total variance. The alpha reliability coefficient for the total scale was 0.88.

3.2.2. The Health Behavior Self-Efficacy Scale (HBSES). The HBSES (Health Behavior Self-Efficacy Scale) was a 5-item self-report measure of how people perceived their confidence to take action on health behavior. It was measured on a 7-point Likert scale (with 7 being “very true to me” and 1 being “very untrue to me); with higher mean scores indicating more confidence to engage in health behavior. The exploratory factor analysis was used to determine the number of factors underlying the 5 items on the HBSES. A principal components analysis with varimax rotation revealed a one-factor solution which explained 57.04% of the total variance (each item’s factor loading was greater than 0.4). The alpha reliability coefficient for the total scale was 0.81.

3.2.3. The Health-Promoting Lifestyle Scale (HPLS). The structure of the self-developed HPLS (Health-Promoting Lifestyle Scale) was based on a six-component model proposed by Walker, Sechrist, and Pender in 1987. A seven-point Likert scale (with 7 being “very true to me” and 1 being “very untrue to me”) was used to measure participants’ health-promoting levels in daily life; with higher mean scores indicating higher levels of health-promoting lifestyle. The EFA was to establish meaningful factors underlying the HPLS. A principal components analysis with varimax rotation identified six factors (each item’s factor loading was greater than 0.4). The HPLS contained 26 items. The six factors accounted for 70.53% of the total variance. The alpha reliability coefficient for the total scale was 0.92.

4. Results

4.1. Gender to EHL, HBSE, & HPL

A one-way MANOVA was used to test the effect of gender on the three components of eHealth literacy. The overall Wilks’ lambda was significant, Wilks’ Λ = .98, F (3, 796) = 6.57, p < .01, multivariate η^2 = .02. The univariate tests revealed that female college students had higher levels of eHealth literacy than male students (Functional: F (1, 798) = 7.22, p < .01; Interactive : F (1, 798) = 19.63, p < .01; Critical : F (1, 798) = 8.74, p < .01).

One-way ANOVA was conducted to detect any significant differences between males and females on the health behavior self-efficacy. The results revealed statistically significant differences, F (1, 798) = 8.47, p < .01, partial η^2 = .01. Thus, female college students had higher levels of health behavior self-efficacy than male students.

A one-way MANOVA was used to determine whether gender had any statistically significant differences on the 6 components of health promoting lifestyle. The overall Wilks’ lambda was significant, Wilks’ Λ = .92, F (6, 793) = 12.13, p < .01, multivariate η^2 = .08.

The univariate tests revealed that female college students had higher levels of performance than male students on self-actualization, interpersonal support, health responsibility, and stress management subscale. On the other hand, male college students
exercised more frequently than female students. There was no significant gender difference in nutrition subscale.

4.2. Academic majors to EHL, HBSE, & HPL

A one-way MANOVA was used to test whether different academic majors differed significantly with respect to the three components of eHealth literacy. The overall Wilks’ lambda was significant, Wilks’ Λ = .91, F (3, 796) = 26.48, p < .01, multivariate η² = .09. The univariate tests revealed that students with health-related majors had higher levels of eHealth literacy than students with non-health-related majors.

One-way ANOVA was conducted to detect any significant differences between students with health-related majors and with non-health related majors towards health behavior self-efficacy. The results revealed statistically significant differences, F (1, 798) = 9.65, p < .01, partial η² = .01. Thus, students with health-related majors had higher levels of health behavior self-efficacy than those with non-health related majors.

A one-way MANOVA was used to determine whether academic majors had any statistically significant differences on the 6 components of health promoting lifestyle. The overall Wilks’ lambda was significant, Wilks’ Λ = .98, F (6, 793) = 2.89, p < .01, multivariate η² = .02. The univariate tests revealed that students with health-related majors had higher levels of health responsibility than students with non-health-related majors.

4.3. Health status to EHL, HBSE, & HPL

A one-way MANOVA was used to test the effect of perceived health status on the three components of eHealth literacy. The overall Wilks’ lambda was significant, Wilks’ Λ = .97, F (6, 1590) = 4.60, p < .01, multivariate η² = .02. Post-hoc comparisons using Games-Howell’s test indicated that students who perceived their health condition to be good had the highest level of health promoting lifestyle.

4.4. Living habits to EHL, HBSE, & HPL

A one-way MANOVA was used to test the effect of personal living habits on the three components of eHealth literacy. The overall Wilks’ lambda was significant, Wilks’ Λ = 1.00, F (3, 796) = 1.10, p = .35, multivariate η² = .00. In other words, there was no significant difference in the eHealth literacy in students between good or poor living habits.

One-way ANOVA was conducted to detect any significant differences between students with different living habits on the health behavior self-efficacy. The results revealed statistically significant differences, F (1, 798) = 21.81, p < .01, partial η² = .03. Thus, students with good living habits had higher levels of health behavior self-efficacy than the poor ones.

A one-way MANOVA was used to determine whether students’ personal living habits had any statistically significant differences on the 6 components of health promoting lifestyle. The overall Wilks’ lambda was significant, Wilks’ Λ = .93, F (6, 793) = 9.41, p < .01, multivariate η² = .07. The univariate tests revealed that students with good living habits had higher levels of performance than poor living habits students on self-actualization, health responsibility, stress management, exercise, and nutrition subscale.

4.5. OHI seeking to EHL, HBSE, & HPL

A one-way MANOVA was used to test the effect of online health information seeking experience on the three components of eHealth literacy. The overall Wilks’ lambda was significant, Wilks’ Λ = .93, F (3, 796) = 18.86, p < .01, multivariate η² = .07. The univariate tests revealed that students who had online health information seeking experience had higher levels of eHealth literacy than those without the experience.

One-way ANOVA was conducted to detect any significant differences between students with or without the online health information seeking experience on the health behavior self-efficacy. The results revealed statistically significant differences, F (1, 798) = 22.06, p < .01, partial η² = .03. Thus, students who had the online health information seeking experience had higher levels of health behavior self-efficacy than those without the experience.

A one-way MANOVA was used to determine whether students’ online health-related information seeking experience had any statistically significant
differences on the 6 components of health promoting lifestyle. The overall Wilks’ lambda was significant, Wilks’ $\Lambda = .96$, $F (6, 793) = 5.61, p < .01$, multivariate $\eta^2 = .04$. The univariate tests revealed that students with online health-related information seeking experience had higher levels of performance than those without the experience on self-actualization, interpersonal support, health responsibility, stress management, and nutrition subscale.

Table 1 illustrated summary of main differences identified.

Table 1. Summary of main differences identified

<table>
<thead>
<tr>
<th>Differences</th>
<th>EHL</th>
<th>Health Status</th>
<th>Living Habits</th>
<th>OHI</th>
<th>Seeking</th>
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<tr>
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<td>H &gt; NI</td>
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<tr>
<td>Interactive</td>
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<td>H &gt; NI</td>
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<tr>
<td>Critical</td>
<td>F &gt; M</td>
<td>H &gt; NI</td>
<td>Good &gt; Poor</td>
<td>Good &gt; Poor</td>
<td>Yes &gt; No</td>
</tr>
<tr>
<td>HBSE</td>
<td>F &gt; M</td>
<td>H &gt; NI</td>
<td>Good &gt; Fair &gt; Poor</td>
<td>Good &gt; Poor</td>
<td>Yes &gt; No</td>
</tr>
</tbody>
</table>

4.6. Correlation between main variables

Pearson’s correlation was performed to illustrate the correlation between eHealth literacy, health behavior self-efficacy, and health promoting lifestyle. The results indicated that EHL, HBSE, and HPL all correlated with one another positively at medium magnitudes, see Table 2.

Table 2. Pearson’s correlation coefficients for the main variables

<table>
<thead>
<tr>
<th></th>
<th>EHL</th>
<th>HBSE</th>
<th>HPL</th>
</tr>
</thead>
</table>
| EHealth Literacy| –    | 0.52**| 0.51**| 1
| Health Behavior Self-Efficacy| –    | 0.75**| 1    |

4.7. Testing variables for predicting HPL

A stepwise multiple regression analysis was applied to determine which variables were the best predictors of college students’ eHealth literacy. The overall model was significant, $F (3, 796) = 128.01, R = .57$, adjusted $R^2 = .32, p < .01$.

The variables that best predicted students’ eHealth literacy were health behavior self-efficacy ($\beta = .48$), health-related majors ($\beta = .18$), and online health-related information seeking experience ($\beta = .13$). The whole model explained 32% of the variation in EHL. The values of the VIF were small. Therefore, there was no significant evidence of multicollinearity problem in the regression models, see Table 3.

Table 3. Stepwise multiple regression analysis on Health Promoting Lifestyle

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
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<tr>
<td>Sources</td>
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<td>HBSE</td>
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<td>Health Majors</td>
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<td>.05</td>
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<tr>
<td>OHI Seeking</td>
<td>.27</td>
<td>.06</td>
</tr>
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</table>

Dependent Variable: Health Promoting Lifestyle

5. Conclusion

The present study examined whether college students’ demographic characteristics, living habits, and/or online health information seeking experience could have an impact on eHealth literacy, health behavior self-efficacy, and health-promoting lifestyle, respectively. It also tested which factors would be more impactful than others on health-promoting lifestyle and eHealth literacy. The results indicated that: (1) More than 80% of Taiwanese college students had online health information seeking...
experience and about 90% of them regarded it as useful. However, they received an average rating on eHealth literacy. (2) EHealth literacy, health behavior self-efficacy, and health promoting lifestyle all correlated with one another positively at medium magnitudes. (3) The variables that best predicted students’ health promoting lifestyle were health behavior self-efficacy, eHealth literacy, and good living habits. (4) The variables that best predicted students’ eHealth literacy were health behavior self-efficacy, health-related majors, and online health information seeking experience. (5) Students with health-related majors revealed higher levels of eHealth literacy, health behavior self-efficacy, health responsibility than students with non-health-related majors.

The present study not only addressed the positive association between eHealth literacy, health behavior self-efficacy, and health promoting lifestyle, but also revealed the determinants that could influence college students’ eHealth literacy and health promoting lifestyle. Owing to students with non-health-related majors had relatively lower levels of eHealth literacy, there’s a need to improve their judgment capacity of online health information.

Moreover, health behavior self-efficacy clearly had the most significant impact on both eHealth literacy and health promoting lifestyle; therefore, the facilitators should consider creating HBSE program in improving health promotion skills of college students. Lastly, the three self-developed questionnaires had proven to be more effective and rigorous than those previous ones. Thus, the future studies could make use of them.

6. References


Session 7: Inclusive Education

Title: The Schooling Experience of Six Adolescent Boys who have been Diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD)  
(Author: Kathy Gibbs)

Title: Is it Marginalisation or Poor Implementation? The Travails of School-Aged Children in Accessing Educational Opportunity in Nigeria  
(Author: Stephen D. Bolaji)

Title: Teacher-Student Communication about Puberty in Elementary School  
(Authors: Miluše Rašková, Dominika Provázková Stolinská, Alena Vavrdová)

Title: Increasing Access to Higher Education in Ireland  
(Authors: Margaret Scanlon, Fred Powell, Pat Leahy, Hilary Jenkinson, Olive Byrne)
The Schooling Experience of Six Adolescent Boys who have been Diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD)

Kathy Gibbs
Griffith University, Australia

Abstract

This multiple, instrumental case study, explored the experience of schooling of six adolescent boys diagnosed with AD/HD. The study utilised social constructionism as the theoretical orientation for examining the participants’ (boys, their mothers and their teachers) understandings of the boys’ experiences of school. In addition, the study explored the participants’ perspectives on the boys’ experiences in relation to an explanatory theory of AD/HD, the Dynamic Developmental Theory (DDT), which accounts for both neuro-biological and cognitive bases. Data were collected by means of semi-structured individual and focus group interviews as well as a review of school reports across a two year period. Findings from the study indicated the importance of friendships for the boys as well as the need for teachers to be knowledgeable about AD/HD and teaching strategies that engage and support adolescent learners with AD/HD. The findings also suggested that psycho-stimulant medication in conjunction with an engaging classroom environment and skilled teaching helps adolescent boys with AD/HD to have a positive schooling experience. The study accounted for the perspectives of schooling not only from the boys but from their mothers and their teachers. The study also extended the DDT model of AD/HD to include adolescent behaviours within an educational context. It is expected the findings of the study will be published in educational and psychological journals to enable teachers, parents and other professionals working with children, to understand the learning, social-emotional and behavioural difficulties that are associated with children and adolescents with AD/HD.
Is it Marginalisation or Poor Implementation? The Travails of School-Aged Children in Accessing Educational Opportunity in Nigeria

Stephen D. Bolaji
Charles Darwin University, Northern Territory

Abstract

This study examined and sought to know why access in the Universal Basic Education (UBE) policy embraced by the governments of Africa countries towards ensuring a free and compulsory uninterrupted access to 9-year formal education for every child of school-aged yet unresolved. Previous studies on a decade of the UBE policy implemented in Nigeria informed that access to education among the school-aged children in the rural areas access remains stagnated [1]. This paper sought to understand if access to education in the rural areas was as a result of poor implementation or shared marginalisation with over 4.5 million school-age children are out of school in two regional rural areas in Nigeria. Data collection for this study was through document analysis and a semi-structure interview with 10 local education administrators in the two rural areas. According to the analysed data, the challenge of access to education in the rural areas was political and inadequate infrastructural facilities that could support learning. Recommendations have been provided to enhance equitable access to education among the school-aged children in the rural areas in Nigeria.

References

Teacher-Student Communication about Puberty in Elementary School

Miluše Rašková, Dominika Provázková Stolinská, Alena Vavrdová
Faculty of Education, Palacký University Olomouc, Czech Republic

Abstract

Puberty is an important element of sex education in European and global dimension. It is a normal feature of human development, a life stage with a number of changes that affects the individual and the environment. Children need to be prepared for puberty on time and appropriately, for all the changes, relations and context that are associated with this stage. Children have to acquire the necessary knowledge and they have to communicate about puberty before its onset. That is, during the prepubescent period, when they are primary school pupils. Communication about puberty is to have its basis in the family. However, the fact that the child gains subjectively and socially desirable knowledge, attitudes and behavior from the family cannot be guaranteed. School is supposed to create the knowledge about puberty, the basis of attitudes and the ways of decision-making. Parents and teachers often have barriers in communication with a child about puberty. These barriers are connected with a personal unpreparedness obtained by life experience.

Do the teachers and pupils communicate about puberty? How and in what frequency does the teacher evaluate the pupil’s level of communication about puberty?

The paper is a description of the research questionnaire, which was used in the Czech Republic and China. We realized whether the children of middle school age consider the friends to be the source of information about puberty and we learnt the level of mutual communication about puberty between primary school pupils.
Increasing Access to Higher Education in Ireland

Margaret Scanlon, Fred Powell, Pat Leahy, Hilary Jenkinson, Olive Byrne
University College Cork, Ireland

Abstract

The number of young people going on higher education (HE) in Ireland has increased significantly over the last three decades, but lower socio-economic groups continue to be under-represented. Our project set out to contribute to a growing body of research on the barriers to participation. The findings suggest that economic factors continue to act as a deterrent. Young people’s attitudes to higher education were mixed. The majority of young people in our study wanted to go on to college but often lacked confidence in relation to certain aspects of college life, both social and academic.

1. Introduction

The project set out to explore the under-representation of young people from disadvantaged backgrounds in higher education. The research was located in three disadvantaged communities, both urban and rural, and included: a survey of senior cycle students (5th and 6th year) in six schools; interviews with 13 teachers/head teachers; focus groups with 70 school students; interviews and focus groups with 25 parents and interviews with 6 representatives from youth and community organisations.

2. Literature Review

The financial barriers to HE are well documented and include not only the cost of going to college, but also the loss of potential earnings [1, 2, 3]. Furthermore, young people from middle class families are able to access learning resources and services (e.g. tuition) which enable them to maintain their relative advantage when competing for college places [1]. Other factors contributing to the under-representation of young people from lower socio-economic groups include lower levels of family history of HE participation and perceptions of universities as elitist.

3. Analysis of Findings

There were some very positive findings, particularly in relation to young people’s interest and orientation towards higher education. In our survey with senior cycle students, the majority of respondents said that they wanted to progress to higher education. Students’ positive views on what college might be like were also evident in the focus group discussions. The fact that the majority of students are aspiring to go on to higher education is a significant development because earlier studies on educational disadvantage indicated that young people from poorer backgrounds saw higher education, particularly universities, as being remote and unobtainable [1]. However, a number of studies in the UK and Australia have challenged the idea that young people from working class backgrounds are deterred by fears of ‘not fitting in’ [3, 4, 5]. Our research provides further weight to this argument. Increased interest in higher education may be a response to a changing jobs market in Ireland, but also to the success of access initiatives such as the Higher Education Access Route (HEAR).

The numbers of young people from disadvantaged communities who are interested in progressing to higher education may be on the increase, but the proportion who actually achieve this goal straight from school is likely to be much smaller. The research identified a number of significant barriers to access.

The interviews and focus groups suggest that the cost of higher education is a source of concern for potential entrants, and their families. Most families in disadvantaged communities would not be able to afford the costs of HE, consequently the student grants system was seen as key to enabling young people to progress. However, interviews with parents suggest that reliance on a grant presented its own challenges: they were concerned, for example that their children might not qualify for the full grant, that it would not cover all costs, and that some costs might be payable before the grant was issued.

Head teachers and community workers noted that some young people lived in conditions of extreme poverty. When families were struggling financially, education was inevitably pushed down the list of priorities. A recurring theme, particularly amongst teachers, was that middle-class students have a competitive advantage over their working-class peers as they can afford educational resources and private tuition. Teachers also reported that while parents want the best for their children and would like them to progress to HE, they do not always provide the
supports and advice that would enable them to get there. This may be due to the fact that many working-class parents left school early to start work and so are unfamiliar with the education system, particularly higher education.

Young people aspired to go on to higher education, and tended to have a positive view of college life. However, they also appeared to lack confidence in their ability to progress to higher education, particularly if their parents or siblings had not gone to college. In some instances, they were unsure of whether they would be academically capable, in others it was anxiety about moving to a new area, not knowing anyone or not having the kinds of supports they had in school.

Teachers consistently reported that some of those who aspired to go on to higher education, would not get the necessary grades (or points). Teachers were adamant that this did not indicate a lack of ability. It was attributed to a range of factors e.g. lack of educational resources in the home or young people working part-time and not devoting enough time to exam preparation. Parents also reported that a lack of confidence impacted on academic outcomes: young people did not think that they could achieve high grades and get to college, so they do not work consistently towards this goal.

4. Discussion

Our research suggests that the barriers to higher education arise not only at the point of entry to college (e.g. registration fees) but are the product of long term structural factors, including poverty and inequality of access to educational resources and services. Another set of potential barriers relate to young people’s orientations towards higher education. The young people in our study exhibited mixed feelings in relation to higher education. On the one hand they had very positive views of what college might be like and believed that having a degree would improve their job prospects. However they also displayed a lack of confidence in relation to their own ability to successfully transition from school to college.

5. Conclusions

Increasing access to higher education has become a key objective of education policy in recent years. However, while higher education has expanded, this growth has not been accompanied by equality of access for young people from socially and economically disadvantaged groups. Our research suggests that this is not due to lack of interest on the part of young people from disadvantaged backgrounds, but the product of a series of complex and inter-related barriers to access.

6. Acknowledgements

The research was funded by the Irish Research Council and the Department of Education and Skills.

7. References


Session 8: Learning / Teaching Methodologies, Assessment and Research Management

Title: Young People’s Construction of Life Courses During VET (Vocational Education and Training)  
(Authors: Marit Rismark, Kitt Lyngsnæs)

Title: Perceptions of Tertiary Music Students on the Benefits of Ensemble Activities  
(Authors: Heather Monkhouse, Anne-Marie Forbes)

Title: Now You See Me, Now You Don’t: 21st Century Learning for Postgraduate Diploma Students in Governance  
(Author: Ina Gouws)

Title: Exploring Student Voice in a Natural Sciences Method Course  
(Author: Yvonne Nsubuga)

Title: The Research-Teaching Nexus as a Tool for Curriculum Design in a Graduate Taught Programme  
(Authors: Deborah Wallace, Peter Doran)
Abstract

This paper reports on a six-year longitudinal study of 16-22-year-olds and their experiences throughout this essential period of life. The aim of the study was to describe the educational choices that young people make and to analyze the backgrounds and reasons for their choices in a wider context. The purpose of this paper is threefold. Firstly, we present the participants and the research method of the longitudinal study. Altogether 35 young people who entered VET at the age of 16 were interviewed on a yearly basis over the six-year period. Secondly, the main findings are presented. The data presentation is organized through three conceptual categories that emerged from the data material. These categories describe the young people’s pathways through VET. The category, “stayers”, describes the pathways of those who completed the VET program that they started on. The category “movers” describes the more complex pathways of those who changed their original course of education. The category “leavers” describes the pathways of those who left the program at some point. Thirdly, based on the three categories, we discuss the different pathways in accordance to life courses and the transitions into adulthood for this group of young people. The discussion is informed by the theoretical concepts “agency” and “educational affordances”. Agency refers to the capacity to act independently and to make free choices. The concept educational affordances describe the degree to which the educational system have invitational qualities such as opportunities to participate in and have access to adapted teaching and learning activities, support and guidance as well as interpersonal interactions.
Perceptions of Tertiary Music Students on the Benefits of Ensemble Activities

Heather Monkhouse, Anne-Marie Forbes
University of Tasmania, Australia

Abstract

Group music-making is a prominent part of the curriculum for tertiary music students centered on the development of professional performance skills and behaviours. This research investigated student perceptions of the benefits of ensemble activities for musical skill development, as well as perceived benefits in the areas of social engagement and personal well-being. While the results of this study confirm earlier findings [1], [2], that tertiary students value their participation in music making and perceive a variety of musical and social benefits, the data gathered provided further insights into student perceptions on the contribution of ensemble activities to a sense of wellness and belonging and mood enhancement.

1. Scope

Tertiary music students at the University of Tasmania, Conservatorium of Music engage in a range of different ensemble activities including wind ensemble, big band, orchestra, choirs and contemporary jazz ensembles. Students enrolled in these ensemble activities were surveyed via Survey Monkey and were asked to describe their reasons for joining a particular ensemble, their musical background and what they valued about participating in group music-making activities. They were asked to reflect on challenges they faced when committing to an ensemble program and record their perceptions of different types of ensemble activities, modes of teaching delivery and engagement. Questions drawn from the Warwick-Edinburgh Mental Well-Being Scale [3] were used to provide measures of social connectedness, affect and wellbeing.

2. Objective and Motivation

Increased stress levels and mental health issues have a noticeable impact on the progress and completion of students at the University of Tasmania and issues of stress and burnout are common among tertiary music students [4]. This research sought student feedback to discern whether the embedding of ensemble activities in the curriculum, and certain performance conditions, might be a way of ameliorating stress and promoting mental health and well-being among tertiary music students, and thus potentially lifting completion rates and times. The student responses also provided important insights into the ensemble experience in both rehearsal and performance situations and highlighted the role of group dynamics for positive engagement. This has implications for tertiary music curriculum design to provide an ensemble program that meets the requirements of specialist performance training, and simultaneously addresses the expectations of enjoyment and positive emotional benefits that students have identified.

3. References


Now You See Me, Now You Don't: 21st Century Learning for Postgraduate Diploma Students in Governance

Ina Gouws
University of the Free State, South Africa

Abstract

This study investigates the effective use of a multimodal learning environment for students in a postgraduate diploma course in Governance. The challenge was to impart a lot of knowledge during one week of contact sessions in the beginning of the semester, whereafter students did not have any formal interaction with the lecturer before the exams at the end of the semester. This study considers the use of the Learner Management System to ensure continuous engagement with course material by means of interactive and collaborative learning strategies. The research paradigm followed is 21st Century Learning and Multimodality is the theory applied. Scaffolding is utilized as a learning strategy to this situation where students are provided with online support while independently and collaboratively navigating the learning environment created for them. Most of the research available is applied to undergraduate student learning. There is a need to investigate how postgraduate students with little formal contact with their lecturer can benefit from this approach. This is a research project in progress. Pre- and post-reflection method is applied to obtain students’ perceptions of the process and their personal learning experiences. The focus is not on final grades in this case. The assumption is that students will have a learning environment encouraging continuous and constructive academic activity while considering diverse learning needs.

1. Introduction

Students enrolled in the postgraduate diploma in Governance at the University of the Free State currently have one week of contact sessions for each of the three modules they are registered for in each semester. Thereafter lecturers and students do not see each other in a formal setting again until the examinations at the end of the semester. Since many of the students live in other provinces, they write in satellite venues which means lecturers don’t even see some of the students during examinations. Students are left to their own devices with their study guide and text book (which is currently still the core material) for 8-9 weeks before the examination. Although there is communication between students and lecturers via e-mail and with phone calls, there is no structure to the 8-9 weeks during which students are expected to work constructively to learn, and to prepare effectively for the examination. This situation is not sustainable.

2. Purpose of this project

The objective of this project is to provide a structured online learning environment for postgraduate diploma students who do not have access to regular formal contact sessions for the largest part of the semester. This learning environment should not only guide students through the course material, but also assist them in learning 21st century skills needed to thrive in this world. The application of this on the Human Resource Management module is used as a pilot project with the purpose of application to all modules if the results are favorable.

3. Participants

Participants in this project are students registered for the Human Resource Management module in the postgraduate diploma in Governance. Students vary in age, gender and socio-economic background. Most students are adult learners with full-time jobs. The latter is a major consideration for students enrolling in this programme because they know they don’t have formal contact sessions every week and therefore do not have to take leave or make special arrangements with their families.

These students have limited knowledge and experience with technology which is a central consideration in the design and introduction of this online learning environment, as well as the guidance and training to use it. In addition, the lecturer for Human Resource Management is a participant as the designer of the online learning environment.
4. Paradigm

This project is approached from 21st-Century Learning as research paradigm. Therefore, students are exposed to:

- Learning and Innovation Skills;
- Information, Media and Technology Skills;
- Life and Career Skills.

This 21st century learning environment requires an innovative support system [5]. The goal is to provide this support system within the online learning environment designed in the Blackboard LMS.

5. Theory

The theory applied to this project is Multimodality. In their article, the New London Group argue that “the multiplicity of communications channels and increasing cultural and linguistic diversity in the world today call for a much broader view of literacy than portrayed by traditional language-based approaches” [4].

Marchetti and Cullen [3] also highlight that “Crucial to an understanding of multimodal studies is interaction not only between teachers and students but also with input materials, the classroom environment and external abstract factors such as students’ cultural background, identity, and relationships with the external world.” Against the background and purpose provided, applying this theory will assist in ascertaining whether the different modes used to communicate with students in the design of this learning environment, will assist them in constructive 21st century learning.

6. Strategy

In attempting to address the project objectives, Scaffolding was chosen as a teaching strategy. The students in this programme need support to complete their studies successfully by reaching the outcomes set in each module. By focusing on Human Resource Management to start with, a learning environment is built in the Blackboard LMS where content is built into weekly activities, formative assessments, supplementary concept videos and multimedia aids to assist the student to systematically and constructively work through the outcomes of the module throughout the semester [1]. Tasks are built in sequentially, where in activities for one learning section must be completed successfully before the next section can be accessed. This also include collaboration and set times for online consultation with the lecturer. Students are given unlimited attempts at assessments, activities as well as access to previously completed learning sections throughout the semester. They are therefore able to review as much as they need.

7. Data collection

Students are asked to reflect on the semester ahead and what will be expected of them with the online learning environment created for them. They are again asked to reflect in the middle of the semester and lastly at the end. The focus of this reflection is on access to the LMS, clarity of instructions, the technical skills they need to complete all tasks, helpfulness of assessments and activities to understand the content and lastly about skills they obtained during the process which are helpful in their lives and careers. The lecturer reflects on the process of creating the online learning environment as well as on development of a particular skill - patience. Reflection focus on being patient enough to communicate around obstacles, reducing student confusion, reassuring panicking students, empowering students to become independent learners and lastly to re-orientate lost students [2].

8. References


Exploring Student Voice in a Natural Sciences Method Course

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Abstract

Student voice in the design of Science teacher education curricula remains largely under-utilised and under-researched. In the South African science teachers’ education context, the importance of incorporating student voice into curriculum design decision making has become even more pertinent given the ongoing recurrucululation process in teacher education programmes, the low uptake of Science subjects among South African learners coupled with poor performance in these subjects, and amid the persistent student calls for more relevancy and Africanisation of higher education curricula.

1. Introduction

This paper is based on a small exploratory study that was conducted to compare the current content of a Natural Sciences method course with students’ aspirations in terms of Science education. The overall aim of the study was to gain insight into the extent to which students’ science education aspiration were addressed by the current content of the Natural Sciences method course, and to reflect on the implications the findings have on the content of future Natural Sciences method courses. The study attempted to answer two main research questions:

- What Science education achievements do students aspire to obtain from the Natural Sciences method course?
- Which Science education achievements are addressed in the current content of the Natural Sciences method course?

2. Theoretical framework

The study was underpinned by the concept of functionings from the capabilities approach to human development as postulated by Sen [4]. Functionings are the desired or valued activities (doings) and human states (beings) that individuals are actually able to achieve, and which constitute their desired life style option. Students attending the Natural Sciences method course place value on engaging in certain activities and achieving certain outcomes during this course that will enable them to become the kind of Natural Sciences teacher they wish to be. According to capabilities theory thinking, good quality Science teacher education has a multipurpose role: providing students with learning opportunities or options (capabilities) that will enable them to achieve their valued Science education functionings, the space to articulate these valued functionings and the development of agency to actively work towards achieving them. During this study students stated valued Science education functionings provided a theoretical lens through which to analyse and gain insight into the extent to which student voice was reflected in the current content of the Natural Sciences method course.

3. Research methodology

The study was situated in the interpretivist paradigm which allowed students to convey their understanding and experiences of valued science education functioning. The participants in the study were 103 second and third year students who were attending the Natural Sciences method course as part of their 4-year degree in Bachelor of Education. A short questionnaire was administered to all the students attending the course in which they were asked to state (in any order) five major Science education valued functionings they wished to achieve from attending the Natural Sciences method course. A grounded theory approach was used to place the students’ responses into key categories, and frequency counts conducted of the student responses that fell within each category. Document analysis was used to establish the current content of the course. The identified categories of students’ valued Science education functionings were then compared with the current content of the Natural Sciences course to gain a measure of the extent to which they corresponded with each other.

4. Findings

A total of 11 major categories of valued Science education functionings were identified from the students’ responses. The categories of valued functionings with the highest number of student responses were ‘Acquisition of Science content knowledge (75), ‘Using different teaching methods’ (63), and ‘Development of effective Science teacher qualities’ (33). Categories of students’ valued
functionings which corresponded with the current content of the Natural Sciences method course included ‘Developing Science lesson plans,’ ‘Effective learner assessment,’ ‘Using different teaching methods,’ and ‘Conducting science practicals.’ The students’ responses included two categories of valued functionings, namely ‘Development of effective Science teacher qualities,’ and ‘Classroom management,’ which were not addressed in the current content of the Natural Science method course. Conversely, only a few student responses fell in the category of ‘ICT integration,’ and ‘Production of Science education materials,’ which form part of the current Natural Sciences method course content.

5. Discussion and Conclusions

Viewed through a capabilities approach lens, education should enable individuals to realise their valued functionings [3]. Preliminary analysis of findings revealed a wide scope of valued Science education functionings among the students’ responses. The challenge for the Natural Sciences method course then, is not only the selection of the relevant content to address individual students’ valued functionings, but also how to structure and deliver this content effectively and efficiently within the limited physical and financial resources of the Education Faculty, and allocated time frame for the course. However, the absence of the necessary content to enable the realisation of some of the students’ valued functionings calls for the identification and incorporation of the appropriate missing content into the course in future. The acquisition of Natural Sciences content as the most commonly valued science education functioning seems to reflect a general concern among students over mastering Natural Sciences content, which points to a need to place stronger focus on Natural Sciences content in the course, or for more holistic approach to teacher science education competency than is currently the case. Although small, this study demonstrated one theoretically strong possible approach to listening to student voice when determining content for Science teacher training courses. There is need for a more in-depth investigation into this specific approach, and into other possible meaningful student involvement in determining the content of Science education teacher courses.

6. References


The Research-Teaching Nexus as a Tool for Curriculum Design in a Graduate Taught Programme

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Abstract

Our graduate taught programme in Clinical Research incorporates a “Research-Teaching Nexus” approach with the intention to improve the student educational experience by emphasizing research content as well as research process and problems. This practice has strongly influenced our teaching manner through the integration of research by means of a wide-ranging programme of hands on practical experience complementing classroombased learning. The objective of this study is to map our programme outcomes and module learning outcomes to the Healey & Jenkins pedagogical model [1] thus ensuring that all aspects of research are integrated into our current curriculum and identify areas of the curriculum for enhancement. The perceived outcomes of this exercise will be to couple research to teaching in our curriculum, broaden the students’ awareness of what constitutes research, and to encourage students to be more focused on their level of learning / understanding through acting as both consumers and producers of research.

1. Introduction

The relationship between research and teaching is somewhat under debate due to ambiguous and contradictory findings. A large body of work suggests a positive synergy, however, many other studies cast significant doubt as to whether there is really any proven synergistic link present, in fact it is far more likely to be multi-dimensional. However, in the disciplines of Medicine or Science, Technology, Engineering, Mathematics (STEM), it could be suggested that the relationship is completely synergistic. Research and teaching are widely perceived as being the primary processes in higher education and as previously mentioned the establishment of a positive synergy between the two is somewhat open to debate and can often depend on program level and discipline [2,3]. Indeed, Clark et al., [4] proposed, “The coupling of research with teaching and learning is a basic feature of modern higher education”. Brew et al., along with others have favored a positive synergistic interlinked relationship between research and education [5]. However, others consider this link to be both conditional, dependent on the subject area and organizational context, varying from no linkage [2] to only a modest positive relationship [6].

A possible explanation, which may help explain the inconsistency, is the actual definition of “research” that is used in a particular study. The term “research” is an all-encompassing umbrella term for “Basic”, “Applied” and more “Commercially-driven” research (OECD 2002). Indeed, this is how research is commonly perceived in Medicine where we are involved in so-called “bench to bedside” clinical research.

However, it also covers many different academic activities such as scientific writing, curriculum development or knowledge production, aspects that students are sometimes unaware of. Nonetheless, scientific writing and knowledge production are key factors in any type of laboratory or clinical based research. Here, the student must develop the ability to both assess the literature with a critical mind and disseminate effectively, that is, the skills and knowledge to appraise, evaluate and enhance clinical research.

Brew [7] suggested that the OECD definition was in itself too narrow to cover many of the aspects of the academic driven process of knowledge production. It is hypothesized that employment of more broad definitions for research can be beneficial by helping both teachers and students to see a connection between teaching and research. Indeed a large proportion of medicine and STEM students often only think of research and teaching in the context of learning the necessary skills to perform laboratory experiments with the area of scientific writing and communication largely ignored. Fortunately, our discipline contains clarity on what actually constitutes “research”, that is, the “doing” and the “dissemination” of research. The challenge is to ensure that our students are also aware of this, thereby enabling them to develop the required skill set.
end, we will map our programme and module learning outcomes to the four quadrants of the Healey & Jenkins model.

Many pedagogic models have been established in an attempt to describe the relationship between research, teaching and learning [8,9]. Some propose a synergistic link between research and teaching, the two or “scholarship”, that is that research and teaching being two-sides of the same phenomenon, specifically, learning [5,10]. The Healey & Jenkins model [9,1] is one of the most prominent and comprehensive models and builds on the work by Griffiths [8]. Here, it is proposed that there are four different types of relations between research and education. These are organized into research-tutored, research-based, research-led and research-orientated education. Adding to this model further, it can be thought of as existing in two parts, the first distinguishing between student focused education where students are participants (“producers”), to teacher focused education where students are an audience or passive recipients of learning content (“consumers”). In the study outlined here we will map our programme and module learning outcomes to the four quadrants of the Healey & Jenkins model in order to assess if indeed all research themes have been incorporated into our curriculum. This will provide a valuable means of performing a comprehensive curriculum review and enhancement process and a highly productive resource to create a tangible link between research and teaching for both students and teachers.

2. Conclusion

Programme and learning outcomes for each module will be mapped under the four headings, 1: research-tutored, 2: research-based, 3: research-led and 4: research-orientated education. The results of this mapping exercise will be presented and discussed in the context of curriculum design and perceived student benefit.

3. References


