University of KwaZulu-Natal

TEACHING AND LEARNING IN THE COLLEGE OF LAW AND MANAGEMENT STUDIES:

SHARED APPROACHES, LESSONS AND GOOD PRACTICES

Compiled and Edited by Kriben Pillay and Fiona Farquharson

Foreword by Professor John Mubangizi

October 2014
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ACKNOWLEDGEMENTS

A publication like this would not be possible without the support and commitment of a number of people.

Our sincere thanks are due to the authors – both from our College and from institutions elsewhere – for allowing us to include their work; and to Dr Rubby Dhunpath, Director, UKZN Teaching and Learning, for encouraging this project at its inception.

We are also most grateful to the following Journal and Book Editors who have so kindly granted permission for us to include previously published material in this in-house publication:

**Administratio Publica**

**African Journal of Business Ethics**

**Alternation: Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa**

**Alternative Access to Higher Education: Underprepared students or underprepared institutions?**

**Progressio, South African Journal for Open and Distance Learning Practice**
The original copyright of Progressio is duly acknowledged.

**Simulations, Games and Role Play in University Education**


Permission to include Chapter 12 was granted by the Editor, Professor Dr. Claus Nygaard, Institute for Learning in Higher Education.

**South African Journal of Higher Education (SAJHE)**


The original copyright of UNISA Press is duly acknowledged.

Lastly, we would like to acknowledge Kriyanka Moodley for her invaluable editorial assistance, also Kerry Pentz for designing the cover and typesetting the manuscript in such a professional manner.
A glance through the pages of this compilation will show that it is a unique publication. All the contributions herein were initially published either in various peer-reviewed and accredited academic journals, or as chapters in books. Not only should the authors of those papers be congratulated and commended for producing the knowledge, but also the journal and book editors should be thanked for graciously granting permission for that knowledge to be disseminated further through this publication.

This volume is about sharing teaching and learning approaches, lessons and best practice. It is about thematic and topical experiences researched and presented by some of the most experienced and respected academics in the College of Law and Management Studies at the University of KwaZulu-Natal (UKZN). The topics and broad scholarly areas covered range from theoretical approaches to teaching and learning, creative pedagogy, assessment, student access and throughput, and social regeneration through practitioner research and public leadership. These are all important aspects of teaching and learning which, in turn, is the main raison d'être for any university. Indeed while UKZN is a research-led university, teaching and learning remains one of our core functions. Goal Four of the University Strategic Plan requires us to promote excellence in teaching and learning. One of the strategies of achieving that goal is by promoting innovation, creativity, scholarship and research in teaching and learning. This compilation and the contributions herein demonstrate exactly that.

The idea that teaching and learning is worthy of scholarly pursuit and publication is certainly not a new one. Indeed there is no shortage of literature on the topic. However, a publication of this nature has various advantages. It makes scholarly information on teaching and learning more accessible; it brings together such information in the context of people who work in the same environment, with similar challenges, similar resources, and with the same type of students; it makes it easy for the reader to share and learn through the approaches and ideas presented and also makes it easy for the reader to identify cross-cutting themes, approaches and models. It is therefore neither a surprise nor a coincidence that almost all the papers in this publication demonstrate a student-centred approach to teaching and learning.

It is also worth noting that most of the papers reflect the authors’ personal teaching and learning experiences with their students. Most research on teaching and learning often begins with academics’ own questions about their students’ learning and an urge to understand their experiences and challenges more clearly. These types of questions might focus on individual courses, student behaviour within or across courses, or even on curriculum transformation. Some questions can be explored by individual academics, and others might become part of collaborative efforts between academics working together to share their experiences and results. Research on teaching and learning can, therefore, inform pedagogical practice by presenting ideas for teaching methods, materials, or even ways to assess student learning. It can also impact on other academics by providing inspiration that might actually change the way in which they view and understand teaching and learning. This makes research in teaching and learning a vital part of the fabric of higher education. It also makes it worthwhile to compile, as is done through this volume, research work on teaching and learning. And, doing it in a way that can be shared with others and then built upon goes a long way towards developing and inspiring other researchers.
Academics, as individuals, work hard at their teaching within their own lectures and disciplines, but the larger process of teaching and learning cannot be enhanced if the work of improvement is done alone and separately from others. So, this compilation provides an ideal opportunity for this sharing to take place and for all of us to gain from the research and findings of our colleagues. It is for that reason that Professor Kriben Pillay, the College Dean of Teaching and Learning, should be commended for the idea to compile this volume.

As you read through the pages of this publication, I invite you to thoughtfully consider the authors’ findings and conclusions. You will find the descriptions of approaches and examples of practices and experiences quite motivating. You will also find the new ideas and innovative perspectives on teaching and learning to be thought-provoking. Read, learn, share and be inspired.

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PREFACE

There are enormous challenges facing teaching and learning the world over, but these challenges have been exacerbated specifically within the South African developmental context, framed as it is by centuries of social inequalities. With increasing numbers of students coming into the university as first generation tertiary learners, there is often an overwhelming tension of trying to make these learners competent in basic academic literacies. And beyond this task is that of making our learners fit pre-existing moulds of knowledge construction. Herein lies the possibility of a different kind of academic endeavour.

The social change activist, Charles Eisenstein¹, presents a compelling narrative of a world – not a world gone wrong – but one that has evolved out of an increasingly redundant story, the Story of Separation. This story of separation not only manifests in all form of human division, but has embedded within it very questionable world-views that the academy teaches as true: such as the worldview of scientific objectivity, or, more tangibly, the economic ‘truth’ of unbridled growth, which ignores the actuality of depleting natural resources and the despoliation of the earth in order to create, within the competitive market paradigm, enormous varieties of non-renewable products, most of which we don’t need, and which, in their final obsolete and degraded forms, end up being shipped to third world countries for dumping – thereby creating another set of problems ad infinitum.

And this is the story, to a large degree, that we are educating our learners to participate in. So, if we fully see the growing futility of the Story of Separation (which I am using now as short-hand for a basket of questionable knowledge systems), we can begin to re-envision teaching and learning in the Academy, we can initiate a profound shift of perception by acknowledging that we are being challenged by a variety of factors to have new, more integrative perspectives.

For ease of communication, we can talk about functional and deep learning. And in the realm of the functional, I would include the qualities that we have come to expect of a university scholar: deeply independent critical thinking, which is embedded in an intellect that is both analytical and synthetical, without forsaking the creative imagination, with the ability to communicate well, both orally and through the written medium.

The 21st century demands far more of us, however. At the level of deep learning it’s also calling for a consciousness that clearly holds the perspective of interdependence, which is integrative in its actions, and which nurtures an adaptive intelligence. This has implications for all domains of our being, not just the intellectual.

Interdependence is a fact of life, and this fact, brought consciously into the endeavours of teaching and learning, not only has obvious implications for revised and new innovative curricula developments, but challenges us to display the highest levels of critical thought and complex reasoning – that is analytical and synthetical; that is both local and global, and, if you probe deeply - like admiring the elegance of a mathematical formula or a musical composition - profoundly creative and aesthetic as well. Of course, the acquisition of particular disciplinary skills at their highest potential is taken as a given; an interdependent outcome of the vision that we carry.

So, I find that by holding a higher level perspective of what is essential for excellence in teaching and learning, one that meets the challenges of our society in this era, we cannot proceed without the necessary foundation. This model, holding as it does the vision of interdependence, assists us to co-create this foundation, because to critically understand interdependence and to directly see the fact thereof (in whatever ways academics devise learning contexts for this to happen), one is immediately engaging in higher level learning. And a powerful outcome of this extended emphasis is that this excellence, which helps to develop a high quality student, also develops one who sees herself embedded in a co-dependent system. This, in the long term, must surely have an impact on the current world-view that is predominantly self-centred and fragmentary.

It is by no means an easy journey, wedded as we are – psychologically, intellectually and economically – to a story that is not working (where even the super-rich will be forced, eventually, to surrender to the fact of interdependence), but which is compelling because of a logic that the Academy, starting with the Greeks, has propagated with much persuasion. But it is falling apart. We can see it in our own country in the following ways: in the astronomical national debt (encouraged by a banking system that thrives on debt); in the rising protests against poor service delivery, underpinned as these are by well-documented cases of rampant greed and corruption; in our very narrow conceptions of transformation; and in our compliance-ridden institutions that cannot adapt intelligently and further fuel fear and despair.

We are not a healthy country, or indeed a healthy world, and whether we can successfully make the transition to what Eisenstein calls *Interbeing*, is what teaching and learning is being challenged to do. Fundamentally, *Interbeing* is simply the age-old African concept of *Ubuntu*. Although *Ubuntu* is now a romantic term, no longer resonant of its true roots, it nevertheless points to where we have to go, which Eisenstein calls the Ancient and New Story.

Are we willing to make the transition?

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EDITORIAL

It is all too easy to become embroiled in the tyranny of the urgent, rather than taking time to reflect and to learn. In The Fifth Discipline: the Art and Practice of the Learning Organisation (1990), Peter Senge refers to an ongoing commitment to “sharpening the saw” as being critical for individual growth and development, as well as for organizational learning. One of the best vehicles for honing both mind and practice is through engaging thoughtfully and deeply with the work of others. So often, however, the experience of offering thoughts and ideas to the academic community is daunting, or discouraging – particularly if the environment is a competitive, rather than a collaborative one. For this reason, the specific objectives of this book are to share best practices and lessons learnt in a collegial setting; to celebrate the achievements of published authors in our College and to encourage novice or hesitant writers to take the plunge, knowing that their efforts are fully supported by their peers.

The papers in this publication are arranged into five chapters, representing the following themes: Theoretical approaches to teaching and learning; Creative pedagogy using simulations and software; Teaching, learning and assessment; Enhancing student access and throughput; and Social regeneration through practitioner research and public leadership.

Chapter 1, Theoretical approaches to teaching and learning, begins with a paper by Vanessa Tang on “A Piagetian-Bloomsian Approach to Teaching and Learning Economic Concepts”. Motivated by a real-world problem, namely the difficulties she experienced with the teaching and learning of economic concepts at undergraduate level at UKZN, Vanessa devised an innovative approach, drawing on her in-depth knowledge of Piaget and Bloom’s theories and taxonomies. She notes that Piaget’s and Bloom’s educational theories and realist-constructivist view see learners as “the manufacturers of their own development” (Flavell, 1996:2000) and credits this as the inspiration for her teaching approach. Vanessa’s paper adopts a cognitive-constructionist approach to teaching and learning, which includes a teaching strategy that engages students, as well as developing their analytical and creative skills, while they identify, explore and link key concepts (Tang, 2011:37).

The second paper in this chapter, “Critical pedagogy for teaching Human Resource Management in the context of social change” by Shaun Ruggunan and Dorothy Spiller, examines critical pedagogy in the context of contemporary South Africa. The authors interrogate the question of what teaching HRM should look like in a rapidly changing environment, suggesting that HRM teaching and learning should be informed by macro-level developments such as the global financial crisis, as well as micro-level (but no less significant) issues, such as Marikana. The paper explores two objectives: firstly, understanding “how CMS [critical management studies] and emancipatory education can inform a critical approach to teaching and learning in HRM at tertiary level” and secondly to examine how this could operate in practice (Ruggunan and Spiller, 2014:30). Through exploring CMS using Marikana as a case study, the authors propose the development of “an HRM curriculum and teaching and learning approaches that help to nurture the attributes of reflection, discernment, critique and evaluation” (Ruggunan and Spiller, 2014:30).
Chapter 2. Creative pedagogy using simulations and software, looks at how developments in ICT and technology can be used in innovative ways for teaching and learning.

The first paper, “MSD – A simulation for understanding social complexity”, by Shamim Bodhanya and Cecile Gerwel Proches (2012), examines how the authors have used interactive simulations to facilitate learning for postgraduate students at the Graduate School of Business and Leadership (GSB&L) at UKZN. Given that the focus is on educating current and future executives and leaders, the authors explore alternative approaches to classroom teaching and learning activities, emphasizing the "interplay between the field of management, the educator, and student characteristics" (Bodhanya and Gerwel, 2012:207), rather than the traditional planning, coordination and control model. They conclude that simulations provide a particularly valuable experiential learning method for adult learners.

The second paper, "A Pedagogical Intervention Based on Agile Software Development Methodology" by Sanjay Ranjeeth, Ashley Marimuthu and Manoj Maharaj (2013) critically examines how the "agile" approach was used in the context of an existing academic programme at UKZN. The authors explore pedagogical aspects as well as the degree to which students accepted the approach as a methodological framework for developing an information system – one of the tasks on their capstone major project course. The authors conclude that one of the biggest challenges lies in the socio-technical, behavioural realm and that: "while many research methods may attempt to quantify the success of the agile approach towards software development, it is equally important to ascertain whether the software development team adhered to the principles of agile methodology before the methodology itself is evaluated" (Ranjeeth et al. 2013:245).

Chapter 3 looks at the theme of Teaching, learning and assessment. The first paper, “The experience of using the ‘newsflash approach’ to democratise teaching, learning and assessment at a South African university" by Betty Mubangizi and Frances O’Brien is rooted in the authors’ belief that higher education in South Africa should reflect "vibrant participation and equitable access“ (2013:184). The use of print literacies in the curriculum, specifically popular/mass print media, is explored using Bloom’s amended taxonomy (1956) of learning objectives and activity theory to structure the reflection. The authors’ experience of using the “newsflash” approach confirms their view that popular media, structured into the curriculum, can provide students with active and collaborative learning opportunities. It also democratizes learning and prepares South African students to take their place in global society (Mubangizi and O’Brien, 2013:194).

“The use of Different Types of Multiple-Choice Questions in Electronic Assessment" by Upasana Singh and Ruth de Villiers (2012) investigates the benefits of online assessment tools, particularly when used in conjunction with other ‘traditional’ assessment tools to create a holistic picture of a learner. Recent developments in Information and Communication Technology (ICT) provide many benefits to educators, allowing them to use electronic multiple-choice question (MCQ) formats in creative ways. The authors look specifically at how MCQ
formats can be applied; at the types of MCQs that can be used to assess higher order thinking skills (HOTS) in Bloom's taxonomy and the levels of study for which such questions are best suited (2012:125).

Chapter 4, Enhancing student access and throughput, introduces the following paper by Jabulani Zikhali and Koye Gerry Bokana, “Critical Reflections on Management Studies’ Access Initiative” (2013). Alongside mainstream courses, the former Faculty of Management Studies (FMS) at UKZN offered a Bachelor of Commerce (BCom4) – Extended Curriculum programme (which has now been superseded by a reconfigured extended curriculum programme, but one which is still served by the findings of this paper). The needs of previously disadvantaged students, who might not otherwise have been able to pursue their studies at a higher education institution, are catered for by extending the programme by one academic year; including foundation and augmented modules and providing structured support in the form of ongoing monitoring, teaching and tutoring. The authors explore the progression and retention data and conclude that the BCom4 Extended Curriculum programme could well provide some useful lessons for mainstream programmes. They highlight the need, however, for “collaboration between Access Initiatives at UKZN to share experiences, learn from each other’s best practices, and allow students to mix, so that they can build their own discourse communities” (Zikhali and Bokhana, 2013:164).

Chapter 5, the final chapter, is dedicated to the theme: Social regeneration through practitioner research and public leadership.

In “LED Postgraduate Education and Mindful Research: Deepening the Practitioner Research Paradigm” (2011), Kriben Pillay presents an ontological perspective for the practice of practitioner research. He “draws a distinction between self-study as a cognitive strategy (where meta-critical thinking is employed in the development of professional practice) and self-study as mindful self-observation (which is a form of meta-cognition), where the latter can be regarded as an ontological condition prior to the thinking process, and which makes for more mindful – rather than mindless – living and learning” (Pillay, 2011:195). While Local Economic Development postgraduate education is the specific focus of this exploration, the thesis can be applied to all areas of education; especially as the findings of neuroscience support the practice of mindfulness in healing the sense of separation that is chronically felt by human beings and which lies at the core of divisive, mindless behaviours.

The final paper in the compilation, “Inculcating public leadership for citizen value” by Betty Mubangizi and Francois Theron, offers a provocative look at the practice of public administration in South Africa, which “tends to pay lip-service to the principles of public participation and citizen empowerment” (Mubangizi and Theron, 2011:33). The authors examine the curricula at selected South African universities and the extent to which these inculcate a “people-and citizen-centered approach” in Public Administration teaching and learning. The authors
suggest that a multi-disciplinary approach should be adopted: one where the curriculum incorporates a social research as well as a practical component (Mubangizi and Theron, 2011:47).

As editors, we have thoroughly enjoyed working on this compilation, which represents a “first” in both our College and the wider University – one that we hope will lay the foundation for similar efforts in the future. We hope that you will find this book a useful resource; that it contributes towards high quality teaching and learning in our College and that it will inspire future collaborations and innovative practices.

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Chapter 1

Theoretical Approaches to Teaching and Learning
A Piagetian-Bloomsian Approach to Teaching and Learning Economic Concepts

Vanessa Tang

ABSTRACT

The teaching and learning of economic concepts at undergraduate level can be a frustrating passage for both teachers and learners. Students often arrive with a fear of economics as well as weak cognitive skills. Over the years, I have implemented a number of changes in my teaching strategies, eventually adopting a Piagetian-Bloomsian approach. This involves the visual representation and communication of an individual’s knowledge structure, comprising single or multiple concepts which s/he has constructed. It takes the form of a matrix and is similar to mind mapping. This guided instructional technique is designed to foster students’ cognitive growth. Its effectiveness is validated by the results of a survey, which demonstrates that students find this approach useful and that there is a strong positive correlation between higher cognitive skills and this particular teaching approach. An improvement has also been recorded in examination scores over four teaching semesters.

Keywords: Piaget, Bloom, cognitive mapping, teaching and learning strategies, economic concepts, undergraduate level

INTRODUCTION

It is common knowledge that a number of students arrive at university with educational and cognitive deficits. In the teaching and learning of economic concepts, the passage can be frustrating for both teachers and learners. Additionally, students often arrive with a fear of economics. This is because for many students economics is a completely new disciplinary field. The subject includes the application of mathematical methods to represent economic theories - and many students do not enjoy mathematics. Also, as in the study of mathematics, the ability to apply logical and rational reasoning is a vital ingredient in the study of economics.

Over the years, I have had to resort to a number of changes in teaching methods and eventually adopted a Piagetian-Bloomsian approach to teaching and learning. At its core is the instructional applicability of Jean Piaget and Benjamin Bloom’s theories and educational principles in developing knowledge.

Jean Piaget was a French-Swiss cognitive scientist, whose learning theory on cognitive and constructivist development has had a major influential impact on education. Whilst Piaget’s theory is geared towards knowledge acquisition for children however, his inspired insights on the nature of children and their cognitive growth are useful and can also be applied to adults in higher learning; for essentially what matters in cognitive growth "is
not the age at which skills develop, but the sequence in which they develop and how they continue to evolve” (Burman, 2008:162). Echoing a similar viewpoint and influenced by Piaget’s ideas, is the work of Jerome Bruner and his influential book *The Process of Education*.

Piaget’s assimilation-accommodation model of cognitive growth is insightful. His model allows us to reflect on the mental framework that cognitive development is an active process of acquisition and modification – a continuous process, step-by-step, of self-construction and discovery. For decades, a large number of works have used the Piagetian theory to emphasize discovery learning, as Sweller (2009:127) points out.

What is the theoretical link between Piaget and Bloom? For Piaget, the mind of the learner exhibits cognitive dualism, but it is a duality of a particular type. For instance, at the University of KwaZulu-Natal (UKZN), the learner is thrust into a situation where a novel concept is presented by the instructor. Piaget maintains that the learner has two cognitive characteristics. First the learner must assimilate that new concept into her current set of cognate processes which are also two-fold: understanding and acting on the now shifting experiential understanding. These cognate changes are “plans” as it were, and the learner knows that the external reality can confront these plans or desires. The second response (as part of the duality) is that the learner must reconcile or accommodate this new concept with the external world. To be fair, this explanation of the underlying theory confounds Piaget and Vygotsky (Gillen, 2000). The latter sees a fundamental need for an external facilitator in this dual process. Sandwiched in between the learner and the external reality is a conjunctural that an instructor helps the learner negotiate. This is where Bloom’s (1984) paper is explicit as to the role of the instructor or tutor, indicating that his roots are firmly in the Piaget camp via the influence of Vygotsky. Piaget’s and Bloom’s educational theories and realist-constructivist view see learners as “the manufacturers of their own development” (Flavell, 1996:200). This is what inspired and changed my teaching approach.

Thus, Piaget’s and Bloom’s educational theories and realist-constructivist views construct learners as “the manufacturers of their own development” (Flavell, 1996:200). This principle has inspired and changed my teaching approach, which now inhabits a connectionist framework.

This paper takes a cognitive-constructivist approach to teaching and learning and proposes a teaching strategy that is designed to engage students and develop their analytical and creative skills as they identify, explore and link key concepts. The effectiveness of this teaching and learning approach is verified by the results of a survey. The overall results show that students find this teaching approach useful and there is also a strong positive correlation between higher cognitive skills and usefulness of the teaching approach. In addition, there has been an improvement in examination scores in four teaching semesters.

The paper is divided into seven sections. The first section sets the background. The second section discusses the conceptual adapted framework of the Piagetian-Bloomsian approach. The third section describes the Piagetian-Bloomsian technique and then explores its potential usage as an instructional tool. The fourth section addresses the educational objectives of the Piagetian-Bloomsian approach and offers a practical discussion of its applications. The fifth section provides the empirical framework of this study. The sixth section highlights the hypotheses of the study and discusses the survey methodology and results. Concluding remarks are made in the last section.

### THEORETICAL BASE

Good teaching involves getting students to use higher cognitive level processes (Biggs, 1989) and involves the creation of problem-solving scenarios for learners that follow on from one another, with some guidance and freedom (Piaget in Evans, 1973:53). To be able to discuss with others what one is learning, and learning-by-doing, translates into better understanding (Piaget, 1926). The theoretical considerations of the proposed Piagetian-
Bloomsian approach support and draw on the realist-constructivist views of both Piaget and Bloom. Visually, the approach is closely related to various graphical organizers that are used in a variety of disciplines. Most of these, such as mind mapping, are based on a cognitive approach. This section explores the conceptual framework of the Piagetian-Bloomsian approach.

The theoretical base of Bloom (1984) is relatively easy to discern. While the analysis is mostly empirical, the categories that are set up to evaluate improved performance have an implicit link to the theory of learning. These categories are: firstly instruction in a class with a teacher and the occasional test; secondly the class now with formative testing and feedback from the instructor and peers, and finally the one-on-one tutoring approach. Abstracting from Piaget, this structure is directly from Vygotsky. Bloom's contribution is to realize the final category is prohibitively expensive. His second category provides a “middle way” without losing too much learning by way of effect. Whether this compromise is entirely effective has yet to be established. Slavin (1987) suggests not. The study does have a short-term bias, however (Bloom, 1987). Berger (2004) is closer to the type of Piaget, Vygotsky and Bloom study that we are conducting here.

A cognitive conceptual framework

The term “cognitive” gives a broader and deeper theoretical perspective on the idea of how mapping techniques can improve the quality of teaching. Historically, the term “cognitive mapping” was first linked, supposedly, to the experimental investigations of Edward Tolman (1948). He referred to cognitive mapping as mental constructions of the spatial layout of the environment, indicating the location of different features of the environment and the paths linked to them. Others such as Jonassen, Beissner and Yacci (1993) have referred to cognitive mapping as two-dimensional or three dimensional diagrams that represent the structure and relationships between ideas.

Piaget's assimilation-accommodation model of cognitive growth can be used as a basis for cognitive maps and to the end, this active instructional strategy results in conceptual change, since economic concepts are now better and more accurately reasoned and represented – satisfying theoretical views regarding knowledge coherence.

According to ongoing research in education, cognitive maps are useful tools for:

- Problem solving (Buzan & Buzan, 1993);
- Creative thinking (Buzan, 2000);
- Representing, assessing, conveying, and acquiring structural knowledge (Jonassen, Beissner, & Yacci, 1993); and
- Identifying, exploring, understanding and linking key concepts (White and Gunstone, 1992; Novak & Canas, 2008).

The aforementioned assumptions, that cognitive mapping can be helpful and can increase learning effectiveness, suggest that cognitive mapping techniques could play an important role in teaching. The *sine qua non* of most current cognitive maps is that of Bloom's taxonomy. Usually put in a pyramid structure (although it need not be, see for instance, Sam Weinberg and Jack Schneider, 2010), the elements of any attempt to come to grips with a novel idea, helped by an instructor, must include knowledge, comprehension, application, analysis, synthesis and evaluation. All of these elements include the four areas above. Bloom's influence is clearly evident in these expressions of cognitive maps.

A constructivist conceptual framework

Universities are said to be among the most promising candidates for encouraging constructivist-learning environments (Jonassen, Mayes, and McAleese, 1993). Likewise, Piaget and Bloom recognize the importance
of students’ active participation. By implication, the educational principle is based on a hardly debatable psychological fact that; “intelligence proceeds from action” (Piaget, 1950:35). Cognitive mapping as a cognitive tool is constructivist because it actively engages learners in the creation of knowledge that reflects their comprehension and conception of the information (Kommers & Lanzing, 1997).

In higher learning at UKZN, all courses, now termed modules, require a module template. These templates set out the goals and objectives of a course. In addition, the template also requires some framework for establishing how these goals or objectives are met. No matter what one’s assessment of this structure may be, it is easy to discern that the template structure has antecedents in the taxonomies of Bloom, which, we have argued above, have strong theoretical links to Piaget and Vygotsky. Thus at UKZN, we have the practical expression of well-established (but not without its detractors) educational and cognitive theory. Arising from this practical application of Bloom, it is thus of some interest to determine if the theoretical ideas, on which these practical ideas are based, can be tested in the classroom context at UKZN. Also, the taxonomy of Bloom is undergoing renewed interest, given that on-line instruction, using the so called Web 2.0 applications, is now commonplace. See, for example the Schoenfeld-Tacher, McConnell Graham (2001) study where computer-aided instruction, combined with Bloom’s taxonomy, provided measurable benefits to learners.

THE PIAGETIAN-BLOOMSIAN APPROACH

In this section, a description of the Piagetian-Bloomsian technique is provided and its potential use as an instructional tool is explored.

What is the Piagetian-Bloomsian Technique?

The Piagetian-Bloomsian instructional technique is designed to offer a conceptual change regarding knowledge coherence and to foster student’s cognitive growth. The technique is a visual-guided representation and communication of an individual’s knowledge structure – i.e. single or multiple concepts as constructed by the individual. It takes the form of a matrix and is similar to mind mapping.

This technique is aimed at stimulating learners and creates a more effective teaching and learning environment. The matrix system of learning has five essential characteristics similar to mind mapping:

1. The main topic is identified.
2. The key themes relating to the main topic are then identified.
3. Colours are used to highlight the main topic and the key themes.
4. Key themes are explored/linked and can comprise key words, definitions, questions, codes, symbols, diagrams or tables.
5. Sub themes are explored/linked and can comprise key words, definitions, questions, codes, symbols, diagrams or tables.

For a visual distinction between the mind map and the Piagetian-Bloomsian approach, please see Figure 1 and Figure 2 in Appendix 1. Technically, it aims to visually provide a one-page recording of knowledge showing relationships or connections among multiple topics/concepts and also allowing one to draw conclusions. As a visual representation of ideas or knowledge, it can help learners to think, or to review a subject in a more structured, holistic sense.
Uses of the Piagetian-Bloomsian technique

Learners need opportunities to discuss their tentative understanding with others and to build conceptual connections to their existing knowledge. Piaget (1926), Laurillard (1993), Jonassen et al. (1993) and Brown (1997) argue that the learner constructs knowledge through active participation both in arriving at, and articulating, their personal understandings of new ideas and concepts. Similarly, Bloom’s taxonomy and its learning expectations echo this viewpoint.

As an instructional tool, the Piagetian-Bloomsian technique can be used by teachers in testing, reviewing and stimulating thoughts in a particular unit of a course. A recent paper in this regard is that of Lundquist and Hill (2009), who still find uses for Bloom’s methods in English language instruction. In this case, Bloom’s approach helps to align class test results with university standards and benchmarks. This reinforces our earlier impetus for examining Bloom, as UKZN’s quality control processes rise out of the underlying theory.

The Piagetian-Bloomsian representation can be a useful structure/framework for testing, reviewing and stimulating thoughts in a particular unit of a course. It aims to create a way for the teacher and the learner to see interconnections and potential relationships between topics and concepts in the course, thus assisting users to see how best to present the connection between the concepts in the course. This allows learners to present their knowledge in a more logical and coherent form, with the freedom to discuss and confer with peers.

When used correctly, this teaching approach can help to reduce the need for student memorization and can also accelerate meaningful cognitive development. Further, this Piagetian-Bloomsian technique can be used by the instructor as the basis for the organization of a lecture and to generate questions so as to stimulate “dormant” thoughts. I have often taught using this approach, but have generally found that this method of teaching works better for smaller groups. In my experience, making “skeleton” concept maps available in advance as lecture notes often leads to a better response and more meaningful cognitive processing. It gives the learners a preview of what they will be working on and also helps to ease the instruction.

OBJECTIVES AND APPLICATION OF THE PIAGETIAN-BLOOMSIAN APPROACH

In order to provide a sense of realism and to be able to gauge the achievement effects of this Piagetian-Bloomsian instructional approach, this paper uses Bloom’s classic taxonomy of educational objectives (started in 1948 and completed in 1956). The first part of this section of the paper begins by addressing the desired and reasonable educational objectives. The second part provides a description of how students can be introduced to this teaching method, in the process targeting the desired cognitive skills for the teaching of economics.

Objectives

Whilst the paper chooses to follow Bloom’s classic Taxonomy, it does acknowledge that the twenty-first century has brought us a revision (as illustrated in Figure 1 below) of Benjamin Bloom’s work on the taxonomy of the cognitive domain (Anderson and Krathwohl, 2001). Technically, it is worthwhile pointing out that in the revised taxonomy, whilst the hierarchical systems have changed; their instructional objectives have remained essentially the same. For instance, Bloom’s “synthesis” essentially addresses the revised higher cognitive level of “creation”. The classic Bloom’s taxonomy remains useful and for the purpose of this paper, the de facto standard for the educational objectives of learners in economics courses.
Bloom’s taxonomy, presented in Figure 1 below, identified six educational levels arranged in hierarchy from the least to more complex cognitive objectives. Since the heart of this paper is not on the determination of educational objectives, I refer interested readers to Bloom (1956); Bruner (1960); Saunders and Walstad (1990); Clerici-Arias (1994) and Anderson and Krathwohl (2001).

In educational objectives, when relating to Bloom’s taxonomy of the cognitive domain more explicitly, the first four levels target students’ recall of prior learning; translation of information based on prior learning; the selection and application of data to problem-solving followed by comparative and contrasting analysis.

The two highest levels of learning objectives, namely synthesis and evaluation, are closely tied. The synthesis cognitive objective requires the integration of elements and parts, so as to form a whole. This much desired outcome addresses the construction, creativity and inventiveness of learners. On the other hand, the evaluation cognitive objective, placed on the highest cognitive hierarchy, is concerned with the learner’s ability to make a judgment, either quantitatively or qualitatively, based on their own or external criteria. This learning outcome is most challenging in Bloom’s levels of cognitive performance, since it requires competence beyond all the other categories and added logical value.

Applications

If one accepts that every “learning involves a restructuring of the student’s schemas, learner involvement becomes mandatory” (Webb, 1980:96). The Piagetian-Bloomsian teaching and learning promotes active student engagement (discussing, writing or drawing, asking and answering questions) in teaching and learning. This section of the paper provides an application of the Piagetian-Bloomsian technique in the context of the analysis of Demand and Supply theory. A classroom-lecture/tutorial discussion at first year undergraduate level on the subject of Demand and Supply concepts is the framework of this section of the paper.
For teachers applying the Piagetian-Bloomsian technique, it is best to start by identifying the main topic of a question/problem that students generally struggle with, which provides the context for their concept map. After the domain or related question/problem has been selected, the next stage is to identify the key concepts that apply to the domain, starting from the most general concepts and arranged hierarchically. Once the preliminary map is built, learners are then guided to seek linkages.

In the context of the demand and supply theory of the application, one can refer to a constructed illustrative targeting framework (see Figure 1 in Appendix 2). As illustrated in Figure 1, the main topic and learning objectives as key themes are first identified and later probed. Students are asked to use this framework in discussing and recording their thoughts and notes.

Contextualizing the key concept and identifying key themes are a first step. The discussion of each key theme takes the form of several questions; for example, in a discussion on the demand theory, students are required to use their environment to bring about what the law of demand means for each learner’s purchasing decisions. They are also expected to identify related key economic variables, to assess any possible relationships between the key variables and raise hypotheses.

Students are encouraged to use both their knowledge of prior learning and their environment to raise questions and possible links so as to discuss each theme. For instance, a discussion on the basic “demand concept” could include and lead to questions such as: (1) what does a demand curve looks like and why? (2) Since demand can affect price, what is the impact of demand on price and why? (3) How sensitive are demanders in the market? And so on…

There are many graphs in economics which are used to convey information graphically. Many students are uncomfortable with graphs and graphing, however. Understanding the basic parts of any graph makes reading and graphing easier. On the demand concept, a discussion of the graph would start by hypothesizing the relationship between identified variables. Learners then construct an abstract graph of the relationship. Thereafter, they use the graph to question and determine the steepness or slope of the curve, together with possible shifts and movements along the curve. In the process, exceptional cases are compared and hypothesized.

For a discussion of the basic supply theory, interested readers can adopt a similar approach. In my experience, a mirror-image approach to teaching economics (applicable in this case) works well with students, since it simplifies their learning. Students are reminded to integrate the economic issues that have been raised; encouraged to attempt a comparative and contrasting analysis of the key economic concepts under study and to draw their own conclusions.

In another classroom session, or, time permitting, at the end of the session, students’ answers can then be discussed. They are encouraged to critically appraise their efforts against a ‘sample format’ provided by the teacher. In the context of the application of this paper, an illustration of a potential sample format is provided for interested readers in Figure 1, Appendix 2.

**EMPIRICAL FRAMEWORK**

The following section takes a look at the three measures used in this study to assess the validity and reliability of the proposed Piagetian-Bloomsian approach to the teaching and learning of economics:

1. **Class Observations**
2. **Examination results and questions**
3. **Survey**
Class observations

The class observations used the first year undergraduate Economics 101 students at the University of KwaZulu-Natal (Pietermaritzburg campus) as the case study. The Economics 101 module is taught during the first semester.

Over the years, with the gradual increase in the use of the Piagetian-Bloomsian teaching strategy, many students are at times opposed (judging by their behaviour), or else quite receptive to this teaching and learning approach. This is possibly due to the students’ previous educational backgrounds (especially learners who have spent most of their schooling learning by rote) or to the fact that this teaching approach requires much “effort”.

Over the years, I have also found that in the initial stages of development, the process of application is much harder, especially among bigger teaching groups. There are a number of factors hindering its potential benefits. In my experience, the most important are students’ interest and attitude, followed by the increasing size of the classroom. At this juncture, it is important to mention that there has been a distinct increase in the intake of first year economic students. This has had a severe impact, as it stretches existing resources. Needless to say, the application of a Piagetian-Bloomsian teaching and learning approach is increasingly more demanding and challenging.

Examination results and questions

I first introduced the Piagetian-Bloomsian approach to teaching and learning in 2005. Between 2005 and 2006, students were introduced to this approach on an irregular basis, since the different aspects of the approach were not yet fully designed. It was only in 2007 and 2008 that I used the approach more extensively. In four teaching semesters, during the period 2005–2008, the examination scores for the case study (Economics 101) have steadily risen, with a distinct improvement from 2007, with a fifty four percent pass rate, to sixty six percent in 2008. As a matter of interest to readers, this Piagetian-Bloomsian approach was not applied in 2009, owing to a sabbatical break. The examination score was found to be relatively lower in 2009. It is worthwhile pointing out that in 2009, the new intake of learners in Economics 101 was the first group solely educated via outcomes-based educational methods. An alternative explanation is that the school system does not impart the necessary learning skills that ease the application of the Piagetian-Bloomsian approach.

I have also noticed that the academic profile of students has declined, with larger numbers of weaker students becoming visible, especially after 2008. Whilst we do acknowledge the assistance of tutor support, the support structures (such as budget) and profile of tutors have also weakened. Nevertheless, the standard of examination papers has improved. For a comparison of a higher-order 2005 exam question, relative to the higher-order 2008 exam question, see Figure 2 below. It is worthwhile pointing out that in 2005, the pass rate was 48 percent and 66 percent in 2008.

![Figure 2: Examination Questions.](image-url)
In the year of this survey, concern had been raised by the university regarding the low pass rates and low throughput rates. An unacceptable number of learners were taking much longer to finish a degree. Clearly, a fresh approach was needed to overcome students’ fear and indifference, as well as addressing the low pass rates and decreasing completion rates.

The purpose of conducting a survey was to determine the usefulness and reliability of the Piagetian-Bloomsian teaching approach. In particular, the aim was to assess the correlations between higher cognitive skills and the usefulness of the lecture approach, as well as the relationship between overall intellectual development and usefulness of the lectures.

Student feedback from the case study (First Year Economics 101) was collected through a survey administered during the last lecture in May 2008. A total of 205 students took the survey. The students were given an evaluation questionnaire and asked to anonymously evaluate the usefulness of the lectures, as well as the higher perceived cognitive skills acquired and the perceived increased intellectual development. The survey questions used a Likert-scale with values ranging from “agree”, “neutral” to “disagree”. The relationships between the survey questions were examined using the Spearman correlation analysis.

EMPIRICAL SURVEY ASSESSMENT

Hypotheses
This study aims to test the following four hypotheses:

- \( H_0: \) There is no correlation between cognitive skills and usefulness of lectures;
- \( H_0: \) There is no correlation between two highest order cognitive skills;
- \( H_0: \) There is no correlation between increased intellectual development and usefulness of lectures;
- \( H_0: \) There is no correlation between increased intellectual development and cognitive skills.

We do this in the next section and find support to “not fail to reject these null hypotheses.”

Methodology
This study elects to use the Spearman's rank correlation also known as Spearman's \( \rho \) (denoted as \( Sp \) in this study) to carry out the above hypothesis tests of this study. The Spearman's correlation technique is appropriate, since we are dealing with non-parametric ordinal data and also the variables in this study are not normally distributed. The correlation tests aim at measuring the magnitude and direction (positive or negative) of the association between paired variables.

The null and alternate hypotheses for the Spearman test are:

- \( H_0: \) \( Sp = 0 \)
- \( H_1: \) \( Sp \neq 0 \)

Mathematically, the Spearman Rank formula is:

\[
Sp = 1 - \frac{6 \sum d^2}{n^3 - n}
\]
where:

\[ S_p = \text{Spearman rank correlation; } \]
\[ d = \text{the difference between the ranks of corresponding values; } \]
\[ n = \text{number of observations in each data set. } \]

The Spearman’s rank correlation coefficient will take on a value between -1 and +1 and with an adjustment which is distributed approximately as student’s t distribution with \( n - 2 \) degrees of freedom under each null hypothesis. All our variables are positively correlated as expected.

Results

The overall results show that seventy percent of students found this teaching method useful and the results also indicate that sixty-four percent believe that “at the end of this module, I have developed intellectually beyond the point I was at when I started studying this section of economics”. However, only forty-nine percent indicated that “as a result of attending lectures, I have learned to think in new ways” and fifty-two percent reported that they have “developed an ability to critically evaluate issues or problems in the field of economics.”

The correlation results for the questions (Q) related to the variables under study (for example, evaluation) are shown in the upper correlation matrix below (Table 1) and further supported by the mean statistical results in Figure 1, Appendix 3.

<table>
<thead>
<tr>
<th></th>
<th>Q evaluation</th>
<th>Q useful</th>
<th>Q intellect</th>
<th>Q synthesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q evaluation</td>
<td>1</td>
<td>0.784</td>
<td>0.838</td>
<td>0.945</td>
</tr>
<tr>
<td>Q useful</td>
<td>1</td>
<td>0.911</td>
<td>0.785</td>
<td></td>
</tr>
<tr>
<td>Q intellect</td>
<td>1</td>
<td>0.821</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q synthesis</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The statistical results are indicative of a positive correlation between both higher cognitive skills (synthesis and evaluation) and the usefulness of the lecture approach (\( n = 205, S_p = 0.785 \) and \( n=205, S_p =0.784 \)). The findings therefore suggest that a cognitive-constructivist instructional approach may well be associated with the attainment of higher cognitive educational objectives. The P-Values are all at (low) levels. By the usual conventional criteria, this difference is considered to be extremely statistically significant. Thus we are able to put ourselves in the position of being able to “not fail to reject all the null hypotheses.”

Additionally, the statistical results point towards a strong positive association between the two higher cognitive skills of evaluation and synthesis (\( n = 205, = S_p 0.945 \)). This study therefore provides robust empirical evidence that creative skills and critical skills are strongly and positively related.

Lastly, the empirical estimates also indicate a strong positive relationship between increased intellectual development and the usefulness of the lecture approach (\( n = 205, S_p = 0.911 \)). The findings thus indicate a strong positive relationship between increased intellectual development and the two higher cognitive skills (\( n = 205, S_p = 0.821 \) and \( n = 205, S_p = 0.838 \)). Increased intellectual development is thus significantly correlated with both the theoretically identified categories. This points to the usefulness of the Piagetian-Bloomsian teaching approach in enhancing cognitive skills.

Overall, the above empirical findings confirm the usefulness, validity and reliability of this Piagetian-Bloomsian teaching strategy, with an acceptable measured effect size for social science research.
CONCLUSION

This study has explored the effectiveness of a cognitive-constructivist approach to teaching and learning economic concepts. The empirical findings of this study suggest that: (1) creative skills are associated with critical skills; (2) the higher cognitive skills are correlated with the usefulness of the Piagetian-Bloomsian teaching and learning approach; (3) an increased intellectual development is significantly correlated with the Piagetian-Bloomsian teaching and learning approach and (4) an increase in intellectual development is associated with higher cognitive skills.

It is well-known that there are a number of students arriving at university with educational deficits. In my experience, although not all students appreciate the Piagetian-Bloomsian teaching and learning approach, the method will evolve over time since we are dealing with an ever-changing heterogeneous group of students. However, I hope that the teaching and learning strategy presented here, along with the findings on its effectiveness will inspire others to interrogate its potential. Also, considering the challenges facing undergraduate studies in South African Universities, educators and educationalists should perhaps pay more attention to the need for constructivist learning and the value to be derived from Jean Piaget and Benjamin Bloom’s work.

I hope that in sharing my views and providing a statistical analysis of teaching and learning in economics inspires us to find other approaches to teaching and learning. After all, for Jean Piaget, in conversations with Bringuier (1980:132), “education means making creators… You have to make inventors, innovators, not conformists” and Bloom’s taxonomy encourages this view of Piaget.
APPENDIX 1

FIGURE 1: THE MIND MAP APPROACH

<table>
<thead>
<tr>
<th>MAIN TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme</td>
</tr>
<tr>
<td>definitions &amp; /</td>
</tr>
<tr>
<td>key words &amp; /</td>
</tr>
<tr>
<td>symbols &amp; /</td>
</tr>
<tr>
<td>diagrams &amp; /</td>
</tr>
<tr>
<td>tables &amp; /</td>
</tr>
</tbody>
</table>

FIGURE 2: THE PIAGET-BLOOM APPROACH.
APPENDIX 2

<table>
<thead>
<tr>
<th>Law</th>
<th>Graph</th>
<th>Movement (curve)</th>
<th>Shift (curve)</th>
<th>Equilibrium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P IQ</td>
<td>Slope (-ve) P</td>
<td>▲P P</td>
<td>▲ in. Income. Taste/preferences. Population. Expectations (future prices). Prices of other related products (complements and substitutes).</td>
<td>Qd = Qs Equilibrium price is the price that equates quantity demanded to quantity supplied. If any disturbance from that price occurs excess demand or excess supply emerges.</td>
</tr>
<tr>
<td>-ve</td>
<td>D Q</td>
<td>D Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ve</td>
<td>S Q</td>
<td>S Q</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 1: PIAGET-BLOOM APPLICATION – DEMAND AND SUPPLY.

APPENDIX 3

FIGURE 1: BOX & WHISKER PLOT.
Acknowledgement

The author gratefully acknowledges Richard Simson, Arnold Wentzel, Merle Holden and the anonymous referees for their kind suggestions and encouragement.

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Critical pedagogy for teaching HRM in the context of social change

Shaun Ruggunan and Dorothy Spiller

ABSTRACT

This paper considers the imperatives of human resource management (HRM) studies in the context of contemporary South Africa. The authors draw on critical management studies (CMS) together with the principles of emancipatory education to inform their argument for a critical and relevant HRM curriculum and associated teaching and learning approaches. The authors propose that the content and processes of HRM education should prepare students for critical participation in the workplace and contemporary South African society. The discussion outlines the rationale for the study, the specific prompts for its initiation, the theoretical framework of CMS and Freire's concept of emancipatory education.

Keywords: Critical management studies, emancipatory education, human resource management, criticality, ethics

INTRODUCTION AND RATIONALE

The rationale for this paper emerged from debates on the purpose of higher education and, specifically, the purpose of business education within the context of the current global financial crisis. Over the past two decades, the debate about the purposes of university education has intensified (Barnett, 2005). Multiple stakeholders contend vociferously for particular priorities in university education and for certain agendas. Contributors to the discussion include governments, employers, university leaders, academics, and students. Contestation about the goals of university education has been fuelled by significant changes in the sector, such as mass higher education, internationalisation, technological developments, a reduction in government financial support and associated rises in student fees. Additionally, the rapidity of change in contemporary society has compelled the higher education sector to try and redefine and articulate its usefulness and purpose. The pressure to demonstrate relevance is exacerbated in professional disciplines such as management, because of its immediate and direct relationship to employers and future work opportunities.

The literature on the role of business education debates the purpose and practice of business education (Fenwick, 2005; Hault and Perret, 2011; Islam, 2012; Moosmayer, 2011; Pellisyery, 2013; Spicer et al. 2009), yet South African academia's participation in the literature and debates remains largely absent. The Global Foundation for Management Education (GFME) published a series of essays in 2010, attempting to engage with the role of management education within the context of the global financial crisis. Scholarly reflections on the global financial crisis (Das, 2011; Davies, 2010; Stiglitz, 2010) suggest that perhaps a new and more critical approach towards business education is required. As Adler et al. (2007:1) contended, critical management studies have profound consequences for changing management practices. At its core, CMS do not focus on the … personal failures of
managers nor the poor management of specific firms, but the social injustice and environmental destructiveness of the broader social and economic systems that these managers and firms serve and reproduce.

Instead, CMS encourages a management studies education that is concerned with social justice; equitable and fair human resources practices; the environment and the consequences of unethical business practices.

Adam Jones, writing in the Guardian in 2009, asked, “Are business schools responsible for the financial crisis?” Whilst such a question may be blunt, and clearly the answer to such a question needs to be nuanced, it does raise the spectre of what exactly is happening in business education at universities. Are the courses on social corporate responsibility and ethics in business merely peripheral ‘add-ons’ to mainstream business curricula? More so, where are the components for a more critical perspective in business curricula? What does a critical business studies education entail, and what does this mean for the business studies academic?

South Africa is not viewed as having a critical management studies tradition or movement. This paper is an attempt to spearhead the debate on the role of CMS in the classroom. Our objectives are as follows:

- To understand how CMS and emancipatory education can inform a critical approach to teaching and learning in human resources management education at a tertiary level; and
- To explore how this may operate in practice.

The authors reflect on these objectives in the context of HRM education in contemporary South Africa. The paper proposes that HRM educators must prepare students for critical participation in a volatile and dynamic workplace that is beset by challenges inherited from the Apartheid era and the uncertainties and tensions attendant on the new democracy. The term critical participation was chosen deliberately to emphasise the need to develop practitioners who are not simply agents of business, but who are equipped to interrogate the social, political, and ethical values that underlie business practices and discourses. Corresponding to this goal, the paper argues for an HRM curriculum and teaching and learning approaches that help to nurture the attributes of reflection, discernment, critique, and evaluation.

In the ensuing discussion, these questions about the content and processes of HRM education are considered in an exploratory manner. The exploration is located in the ideas of CMS and emancipatory education, and the specific personal and political prompts for the study are identified. Supported by the framework of CMS and emancipatory education, the paper outlines a proposal for reconceptualising the curriculum, teaching and learning approaches, and assessment strategies in HRM education.

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The vision and strategies that are proposed are seen as the first stage of an extended project that aims to review current HRM education design and approaches, and offer approaches that will hopefully equip students for critical participation in the workplace.

This paper begins with the personal narrative of one of the authors (Shaun Ruggunan), who is currently lecturing in HRM at the School of Management, Information Technology and Public Governance, which is located in the College of Law and Management Studies of UKZN. The paper outlines the contextual drivers that prompted initial stocktaking of the teaching and learning space that he was occupying and in which he was inducting students into the profession of HRM. In particular, he was concerned that students were being prepared in ways that did not equip them to contest business and organisational norms and their attendant hierarchies and inequities. From this recognition, the research idea to evaluate the critical component of the teaching of HRM at UKZN evolved.

In the next stage of this paper, the authors locate themselves in relation to ideas from, and debates within the CMS literature. Informed by the educational theories of Freire, the authors articulate the criteria they will use to take stock of the current teaching of HRM at UKZN, and suggest alternatives. The paper concludes with a
preliminary framework for a curriculum, together with teaching and learning approaches, that, it is contended, aligns with the development of social awareness, and equips students to become critically engaged and socially responsible practitioners. The authors argue that the learning space, and the place that teachers and learners occupy within it, needs radical transformation in order to meet the challenges of HRM practice in the space that is contemporary South Africa.

QUESTIONING THE LEARNING SPACE: SPECIFIC PROMPTS FOR THE STUDY

Personal challenges in the teaching of HRM

The research investigation began with a literal change of space for Shaun when he moved from teaching Labour Studies in the School of Sociology and Social Science to Human Resource Management in the School of Management. Serendipitously, Shaun was a participant in another research project in higher education, which Dorothy Spiller was undertaking at UKZN, and their interview discussion led Shaun to reflect on his teaching and the nature of the students’ learning. The interview provided a space for Shaun to verbalise what he did in his classroom, and to register a sense of loss in relation to his goals and approaches in his previous teaching. For example, this description of his current practice suggested how he had slipped into a production model of education that is analogous to the ‘banking’ model of education that Freire challenged (1970; 1993). He said:

*My relationship with students is governed by numbers. At honours level, I have 80 students in my class. I adopt an old-fashioned, traditional relationship, and base my teaching on the text-book* (interview with Dorothy Spiller, June 2012).

This comment immediately prompted a reflection on the contrast with his teaching in Labour Studies, which he described in dramatically different language: *When I taught industrial sociology, I wanted to transform students’ ideas of what work is* (interview with Dorothy Spiller, June 2012).

Shaun subsequently contacted Dorothy to explore this shift in his personal teacher thinking and behaviours, and the discussion then evolved into the idea of research into the way HRM was being taught at UKZN and the ideologies that these pedagogies implicitly or explicitly promoted. For Shaun, there were serious questions about the modifications to his teaching goals and behaviours and the potential implications for the education he was offering to students, and the messages that he might be sending to students about the role of HRM practitioners in contemporary South Africa.

Political and social context and the teaching of HRM

Shaun’s personal uneasiness about the shift in his aspirations and practices as an educator was reinforced by contemporaneous events in South Africa. The dynamics of the South African context were exemplified in the fatal shooting of 42 miners in August 2012, at Marikana. This incident reverberated throughout the country in both the popular media and in academic circles. The massacre was equated with the infamous June sixteenth massacre of 1976, when Apartheid was at its height in South Africa. What made Marikana unique is that it was the first post-Apartheid protest that resulted in such high fatalities. It also represented a showdown between employees (miners) and mining capital. The popular media’s discourse portrayed the miners as uncivilised, violent, and ungrateful for the employment offered to them by mining capital. Capital in South Africa was aggrieved, and was portrayed as the victim of this tragedy. No mention was made of the appalling living and working conditions of these miners; the historical role of mining companies in supporting the Apartheid state, or of the violations of basic health and safety regulations in the industry.
Observing this discourse play out in the media and subsequently in academia, particularly in commerce and business schools, Shaun was alarmed that the debate in management studies failed to question or to address the moral and ethical values that underpinned the prevailing discourses about the event. It led him to reflect on the absence of critical debate about underlying moral and ethical assumptions of HRM practice in the context of business studies. In stark contrast, colleagues in labour studies at UKZN were turning their classrooms into laboratories to investigate the political and moral economy of the mining industry in South Africa. It could be contended that such considerations are dealt with in courses about ethics; it is argued by the authors that such stand-alone courses on ethics cannot provide a sustained learning experience that embeds the development of critiquing and questioning competencies. The Marikana massacre gave Shaun the impetus to disrupt the existing curriculum for an industrial relations module that he was lecturing within the School of Management, and to trial the inquiry-based approach that the authors advocate as a key principle for the design of a revised curriculum. The original syllabus for that course was a checklist of the different types of labour legislation required to be known by HRM practitioners. For Shaun, given the context of Marikana, HRM practitioners needed to be able to assess the veracity of claims made by capital, state, and the media that situated business as the victim and the miners as irrational agents. With this in mind, Shaun decided to adopt a CMS perspective in presenting this particular issue (Marikana). This process sparked a curiosity in Shaun to examine the hidden curriculum, as well as the overt curriculum, of HRM within his department.

These catalysts and Shaun's classroom experimentation generated further dialogue between the authors, and led to the gradual formulation of a research study that would involve investigating and evaluating current HRM teaching at UKZN, and eventually formulating different teaching and learning paradigms and specific strategies to enhance criticality in the teaching of HRM.

THEORETICAL FRAMEWORK: CMS AND EMANCIPATORY EDUCATION

The CMS tradition

The idea of critical management studies (CMS) is not new, and the notion that management students need to be educated to question prevailing business and organisational norms has been well articulated by CMS scholars and advocates (Alvesson and Wilmott, 1992; Cunliffe, Forray, and Knights, 2002; Dehler, 2010; Fenwick, 2005; Fournier and Grey, 2000; Grey and Willmot, 2005). This push towards a values-based and informed study of management has been given further impetus by the United Nations' Principles for Responsible Management, which provides a framework for ethical behaviours in management (Forray and Leigh, 2010).

To date, CMS has remained dominated by the work of British and American researchers, and, as such, both the theorisation and empirical evidence are limited to these contexts. Lately, Scandinavian academics have contributed to CMS. Notably, there is a lack of contribution from academics from the developing world, or academics studying the development of CMS within developing world contexts. The exception to this is the work by Gazi Islam (2007; 2012ab; 2013ab), who has published work on CMS and critical industrial psychology within the context of emerging economies like Brazil. More recently, Pellisery (2013) argued for the application of CMS within a developing world context.

CMS does not advocate educating students in a particular morality, but advocates educational approaches that help to develop students’ capacity to interrogate the norms and values underlying prevailing economic discourses and business practices. CMS draws on a wide range of intellectual traditions such as Marxism, feminism, postmodernist thinking, and Freire’s ideas about emancipatory education. While the focus of CMS will vary according to the ideological underpinning, CMS scholars and teachers share a number of common values and approaches. People working under the CMS banner are committed to a form of management education that
critiques the normative and prioritises human well-being and social equity over profitability and performance. Educators in the CMS tradition hope to contribute to the development of practitioners who are committed to the questioning of prevailing power imbalances and work towards social justice. Fournier and Grey (2000) identified three key components of CMS that have been widely used as benchmarks by CMS educators. These indicators are anti-performativity, denaturalisation, and reflexivity.

Anti-performativity refers to a critique of a focus on production and outputs, denaturalisation invites the regular and deliberate interrogation of processes that appear to be normal and natural, while reflexivity requires scrutiny of practice and behaviours and the assumptions on which they are based. All of these elements involve deliberate deconstruction and critical evaluation of the norm. From the perspective of the authors of this paper, these key elements are a natural corollary of Freire’s belief in the importance of conscientization, in the course of which learners become aware of the power structures of society, and acquire tools to contribute to social transformation (1970; 1993).

Some opponents of CMS argue that an emphasis on critiquing poses the danger of it being a self-indulgent intellectual exercise that does not translate automatically into changes in behaviour. Indeed, even seasoned advocates of CMS such as Grey and Fournier recognise the potentially paralysing role of the non-performative stance of CMS practitioners. Grey and Fournier noted the preoccupation “with the grounds and righteousness of our critique which distracts us from engaging with organisational practices and participants” (2002:22). The present authors recognise that the current workplace in South Africa and the society it represents need critique that forces action and engagement, as opposed to intellectual carping from the side lines. As such, the authors argue that the refinement of CMS with the notion of critical performativity (Spicer, Alvesson, and Karreman, 2009) is a more useful conception that accommodates some of the realities of educational spaces and organisational contexts, and is more likely to bring about change. It is a conception that the authors have translated into their own term of critical participation.

Spicer et al. (2009) defined critical performativity as “active and subversive intervention into managerial discourses and practices. This is achieved through affirmation, care, pragmatism, engagement with potentialities and a normative orientation” (2009:538). Spicer et al. (2009) have particular problems with the anti-performative approach of CMS, and argued that the notion of performativity needs to be redefined to highlight active engagement. Essentially they argued for a change-from-within approach that includes engagement and dialogue with mainstream practitioners and theorists, and complements deconstruction with construction. In so
doing, practitioners and theorists will be acknowledging “the contexts and constraints of management. It needs to take seriously the life-worlds and struggles of those engaged with it” (Spicer et al. 2009:545). This model of constructive dialogue would also help to allay the concerns of those who question the practical possibility of implementing CMS in a traditional higher education setting (for example, Reynolds, 1999; Choo, 2007).

Critical management studies and human resources management

The three concepts of anti-performativity, denaturalisation and reflexivity are key to creating a more critical discipline of human resources management. For example, reflexivity on the part of the HRM academic is integral to constructing a HRM programme that is not presented as a ‘value-free’ science (Moosmayer, 2011). The overly positivist approach taken by HRM at UKZN is evidenced in the nature of articles published by academics in the discipline. Furthermore, the bulk of the theses produced at Master’s and doctoral level reflects national trends in the discipline towards positivist value-free approaches to measuring HRM concepts such as job satisfaction, work engagement, and motivation. The positivist approach places the academic as a value-free agent in the classroom. Moosmayer (2010:9) referred to this as a “paradox of value-free science and the need for value-orientated management studies.” The aim and function of management as a science is being increasingly called into question (Starkey and Madan, 2000, British Journal of Management, Vol. 12, Special Issue, 2001, Lukea-Bhiwajee, 2010). Contributors to the special issue, for example, suggested that management studies need to shift from an instrumentalist economic perspective that treats employers as resources to a Mode 3 form of management research “that is targeted toward society and the greater good” (Huff and Huff, 2001:51).

Much of the critique from academia was that positivism constructed the management sciences (of which HRM is a sub-discipline) as an “economic science [that] is value free” (Moosmayer, 2010:51). This scientific approach is guided by the principle of profit maximisation. As Moosmayer contended, this value-free approach has certainly been the dominant approach or paradigm informing management studies since its conception as a discipline. One only needs to think of Taylorism and scientific management to understand that the guiding paradigm of the management sciences has been one of utilitarianism and profit maximisation. In this sense, the management sciences are not value free, but have an implicit and explicit set of values that are based on a purely economic rationale and construct of the human being as a human resource who needs to be managed to achieve a profit-maximisation function. This was certainly the goal of Taylor, who is widely lauded in management studies literature as the ‘father of scientific management.’ How then can the management studies academic disrupt this notion of a value-free or economic rationalist approach to HRM? One approach, as suggested by Moosmayer (2010) and Lukea-Bhiwajee (2010), is to encourage greater introspection about the nature and purpose of the discipline amongst academics. This may encourage a shift towards a more social and critical perspective in the ways in which the discipline is taught and the research is generated. As human beings, it is impossible for us to be objective or value free, despite the contentions of positivism (Lukea-Bhiwajee, 2010). An honest and thorough conversation is needed by management studies academics about the purpose and values that they wish to impart to students of management and HRM. The present authors endorse the argument by Lukea-Bhiwajee (2010:235) that “the time has come for business schools to practice giving voices to their values through management education.” Academics need to be value agents, and being scientific does not imply being value free.

Emancipatory education

It is also vital that a critical approach to the teaching of management is complemented by an appropriate curriculum and teaching, learning, and assessment approaches. The work of Freire (1970, 1993) set the direction for the character of the learning that is more likely to foster the development of learners who will question the order of society and be equipped to bring about change. The planning and implementation of learning should aspire to be ‘problem posing,’ and be built on dialogue, focus on relationships, context, and process. An emancipatory education approach aims to construct a teaching and learning experience that encourages the questioning of
society and its norms and values. The curriculum and the teaching, learning, and assessment need to be built around Freire's principle of problem posing within a learning environment in which teachers and learners are partners in the learning process (1970:19). For Freire, the process of conscientisation cannot happen within the standard 'banking' model of education, which tends to involve the handing over of a product from teacher to students. These courses tend to be arranged in a linear model, often around a series of topics or even text book chapters. These traditional processes send strong messages about the nature of knowledge as incontestable, and do not encourage the unsettling of assumptions or the questioning of values. Instead, these pedagogical approaches continue to endorse the model of "obedience to authority and accepting of dominator-based hierarchy" (Hooks, 2003:19-20). It is the principles of Freire that, for the present authors, provide the touchstone for reviewing and redesigning HRM curricula that can prepare students for critical participation in the South African workplace as HRM practitioners.

**Building a critical HRM programme**

In reviewing and redesigning HRM programmes to develop students' capacity to critique and question, a number of key components need to be considered. These are outlined in the next section of the discussion.

**Curriculum content and programme structure**

The curriculum needs to be built on a particular understanding of the purposes of university education and of the intellectual project of HRM. The vision that informs this paper is that the purpose of academia is more than the instrumental production of workers. The production of skills for employment must be complemented by the education of critical graduates whose purpose it is to question this instrumentality. Thus, we advocate HRM that draws on the characteristics of anti-performativity. Students need to learn the principles of HRM (such as selection, recruitment, performance management, HR information systems, diversity), and simultaneously critique the ways in which these practices occur or are conveyed. In order to nurture this capacity for critical participation in the workplace, HRM curricula and courses need to include a number of key elements.

There needs to be an inclusion and embedding of political economy and moral economy in HRM curricula, to foster recognition of and to disrupt the prevailing ideologies of HRM.

A critical curriculum for HRM in an emerging economy context needs to include education in political economy as a key learning outcome. Political economy provides both an historical and a social context for students trying to understand where, why and how the management of people in organisational contexts occurs. An argument could be made that these aspects of the syllabus or curriculum are best left to industrial sociologists, and that students can register for modules on the sociology of work. However, the reality at a multiple-site campus such as UKZN is that commerce faculties and curricula work in isolation from humanities and social science faculties. Management Sciences (including HRM) works very much in pedagogic and research isolation from colleagues in other faculties. This is exacerbated by the layout of the university, which means that the Commerce faculty and the Business School are located 15 kilometres away from the Social Science school of UKZN. Some consequences of this are that students cannot choose electives that may provide political economy context for their studies in HRM. Furthermore, even on single-campus universities, business and commerce schools work very much in isolation from their colleagues in sociology of work. More importantly, HRM as a discipline does not sufficiently allow for a critique of itself and its pedagogic practices. In contrast, business schools in the United Kingdom, the United States of America, and Scandinavia actively employ and recruit sociologists, psychologists, and a range of other social scientists to teach their HRM programmes (Thompson, 2010). This was, in part, due to the closing down of social science faculties at many universities in the United Kingdom, but it was also due to an emerging recognition that existing models of management, education, and commerce education in general are straining in terms of their relevance in the current context of global financial crises. There is a general sense amongst the
public and intellectuals that business schools have largely failed in their social responsibility projects.

HRM curricula need to be rooted in the context of moral economy. As Smyth and Pryke (2006) argued, management studies have tended to ignore the role of ethics and values in relationships in both research and practice. Sayer (2003:14) further contended that most “management and economic theory and practice either see profit and growth motives as their primary interests, thus subsuming and absorbing morality within these interests or perceive it as a purely personal matter”. Smyth and Pryke (2006:9) took issue with prevailing discourses in HRM that demarcate the moral as personal, and therefore not the domain of work, organisations, and HRM. They contend that “morality is central to economic functioning.” Morality is foundational, and underpins the market economy. Students need to be presented with multiple perspectives of the ways in which economies function, so as to promote a problem-solving approach in the classroom. Inevitably, students will experience the contradictions between in the imperatives of the moral economy and those of the market economy.

Correspondingly, the curriculum and course content should promote critical questioning of the morality and ethics of business practices. South African business school lecture halls are the perfect laboratory in which to experiment with teaching HRM within the context of moral economy. HRM, sociology, and industrial psychology were social sciences that, in many ways, reinforced Apartheid South Africa’s policies of racialised capitalism. This was done based on amoral pseudo-scientific positivist eugenic ideas that rationalised racialised capitalism; a post-Apartheid project requires educationalists to teach within the context of moral economy. This does not mean courses in business ethics, but rather having moral economy inform each HRM module being taught. Grey (2004) and Lukea-Bhiwajee (2010) demonstrated in their work that an integrated ethical component is mostly absent from the HRM- and management studies modules that they have surveyed.

Learning outcomes
Course learning outcomes need to include higher order verbs such as critique and evaluate, but the expectation that students will acquire the ability to engage critically must be matched with appropriate teaching and learning approaches. Specifically, teachers need to model and demonstrate critical inquiry, and students need coaching in and regular opportunities to practise the development of skills like detecting assumptions and values; recognising multiple perspectives, and scrutinising language. The capacity to be critical is difficult for students. Academics have a responsibility to teach students how to do this, lest the desire for HRM students to question the ethics of their practices remains empty rhetoric.

Incorporating interdisciplinary perspectives
HRM is a social science and there is a need to incorporate social science perspectives in the teaching of HRM. This is an important recognition because at UKZN, as at all South African universities, HRM is housed within a commerce faculty and not within the social sciences faculty. The spatial dynamics of a multi-site campus like UKZN means that all commerce-related disciplines (for example HRM, marketing, supply chain management, economics, and accounting) are housed on the Westville Campus, and all social science disciplines (for example, sociology, psychology, and labour studies) are housed 15kms away, at the Howard College campus. The implication of this, from a practical and curriculum perspective, is that students registered for a BCom (HRM) degree are unlikely to major in a social science subject like psychology or labour studies that may provide them with alternate perspectives on workplaces. Students who wish to combine an HRM and a labour studies major would need to travel between campuses on a daily basis, at their own expense. Timetabling difficulties compound the challenge of attending classes at two campuses. Social science electives for BCom students, whilst theoretically possible, are rarely registered for, given the logistical issues of a multiple-site campus. A pedagogical implication is that, for most BCom (HRM) students, their curricula are exclusively commerce-based, with no interventions from disciplines such as sociology, psychology, or labour studies. The workplace for HRM students is therefore constructed solely as an
organisation, and workers as organisational citizens, rather than workers as social citizens first, and organisational citizens second. If students are not able to access social science modules like labour studies due to logistical reasons, then the onus is on HRM academics to provide a more critical and socially orientated and contextualised HRM curriculum that draws on a social science paradigm. This curriculum should be aimed at producing more than an organisational citizen or ‘good employee,’ but rather a social and critical citizen and ‘bad employee’ who questions the social, economic, and organisational status quo.

**Context-specific and context-sensitive study materials**

If students are to become critical HRM practitioners in South Africa, they will need to be alert to the socially constructed values and assumptions that underpin behaviours and thinking in organisations and which frequently bolster inequitable power relationships. Text books and resource materials that are developed in other contexts reinforce a perception of employment relations concerns as context-neutral, and determined and resolved by the implementation and application of universally valid rules and procedures. If Freire’s goal of conscientisation is to be attainable, South African problems, cases, and organisations need to constitute the material that students are invited to examine critically. Students need to be assessing the strengths and limitations of standard HRM tools within the complexities of South African realities, as well as recognising the power imbalances that these tools may support.

**Research paradigm**

There needs to be a move away from theoretical, orthodox, positivist research methodologies to mixed methodologies and qualitative methodologies of research in the discipline. As argued earlier in the paper, science is not value free, and positivism and associated quantitative approaches to research in HRM must not be represented as value free approaches. Positivism itself is a cultural development in the sciences and, as such, cannot be value free, and quantitative measurement may not always be able to capture all aspects of what is being measured. In particular, values, experiences, and emotions are constructed in language, and language needs to be deconstructed in order to identify and evaluate prevailing power relations. The present authors do not dispute that quantitative approaches have enormous value for the discipline, but the philosophy of research that underpins it needs to be made more explicit, and it is argued that methodological pluralism in the classroom and in HRM research approaches is more appropriate. Such pluralism is more likely to give learners the ability to access multiple perspectives, in particular, the voice of workers in HRM research and classroom learning.

**Pedagogical models to promote criticality**

The inquiry-based model of learning provides a potential pedagogical framework for repositioning the students’ role in the learning process and for moving from ‘banking’ to ‘problem-posing’ (Freire, 1970; 1993). The inquiry-based model of teaching and learning is designed to help students to develop research-minded dispositions such as critical evaluation and questioning (Healey, 2005; Land and Gordon, 2008). The curriculum is designed around problems, questions, or points of inquiry, and teachers and learners collaborate to use course materials to investigate the problems. In this model, the students are positioned as co-inquirers, rather than passive recipients of information. In terms of citizenship and social participation, this approach helps students to develop a sense of themselves as engaged and questioning agents in the workforce and the community. Alongside this co-inquiry model, the positioning of students and teachers as partners in a dialogical process is important (Baxter Magolda, 2004; Freire, 1970; 1973). The framework of inquiry-based learning sits well with the educational philosophy of learning partnerships developed by Baxter Magolda (2004; 2009), which is underpinned by her 20-year longitudinal study of (American) students’ epistemological beliefs. One common pattern was her finding that college students relied extensively on external authorities in their learning process. There was a corresponding recognition of how poorly equipped this left students to deal with the complexities of contemporary society or,
as Barnett sees it, “supercomplexity.” Barnett describes supercomplexity as follows:

Supercomplexity denotes a fragile world but it is a fragility brought on not merely by social technological change; it is a fragility in the way in which we understand ourselves and in the ways in which we feel secure about acting in the world (2006:6).

Baxter Magolda’s extensive research demonstrated a chasm between the way many students saw knowledge as absolute and located in an external authority, and the unprecedented level of uncertainty in contemporary society. (It is possible to suggest that, in the period of immense social transformation that characterises contemporary South Africa, the need for intellectual flexibility and moral vigilance is even greater). In response to the finding of student dependence on authority, Magolda developed the concept of learning partnerships. Her model was informed by the interviewees’ stories of the factors that helped them to develop autonomy in various spheres of life after college. In Baxter Magolda’s Learning Partnerships Model, a transition to autonomy is enabled by “merging three supportive components with three challenges in the learning environment” (2009:150). In this model, the support components are described as “validating learners’ ability to know, situating learning in learners’ experience, and defining learning as mutually constructing meaning” (Baxter Magolda, 2009:150). The challenge components that can encourage learner autonomy are the recognition that “knowledge is complex and socially constructed, self is central to knowledge construction, and authority and expertise are shared among knowledgeable peers” (Baxter Magolda, 2009:150). In the context of the present study, these components align well with the need to educate students to become active agents in their society, and whose education informs their engagement with economic, political, and social environments. Furthermore, these students will be better equipped to face their working contexts, armed with vigilance and critical questioning. They will be well-versed in the recognition that the nature of reality is slippery and continually being formed and reformed, depending on the agendas of those involved.

Examples of teaching, learning, and assessment practices to promote critical questioning

While many management educators may endorse some of the aspirations for their students that are advocated in this study, they can remain locked into teaching, learning, and assessment behaviours that are counterproductive. In order for students to develop a voice in the learning process, they need to be engaged in ways that challenge and disturb their thinking from the beginning of their studies, and be given authentic opportunities to contribute to the design, content, and assessment of their learning. Bearing in mind the key principle of the Learning Partnerships Model, these shifts in the structure of the learning experience need to be introduced with plenty of support and coaching, so that students can grow in confidence and capacity, and move gradually to learner autonomy and trust in the legitimacy and value of their own voice. Furthermore, this process needs to be embedded throughout a degree or programme, or the reliance on an external authority cannot be altered fundamentally and for the long term. Two broad shifts in the way teaching and learning are conducted can assist in this process. These shifts involve a reconceptualisation of the role of the lecturer in the learning process, and approaching the learning materials through cases, problems, or points of inquiry; these two elements will be outlined in the following section.

The role of the lecturer

In order for students to develop a voice in the learning process, changes to the teaching and learning process cannot be piecemeal, but need to be built on a reconceptualisation of the lecturer’s role and a reconfiguration of learning spaces and the relationship between them.

Typically, university academics work within a fairly linear model, in which lectures, small group teaching, readings, assessment, and on-line activities (when used) may be quite bounded and distinctive learning spaces.
It is argued that it is more helpful to see these activities as inter-linked learning sites, all of which can be brought directly or indirectly into the learning space.

Within this paradigm, the lecturer’s role also needs rethinking. McWilliam (2008:263-265) offered an evocative conception of the lecturer as “meddler-in-the-middle,” a positioning that sees teacher and students as “mutually involved in assembling and dis-assembling cultural products.” The teacher is conceptualised as “being a usefully ignorant co-worker in the thick of the action.” The idea of teacher as “meddler in the middle” fits comfortably with the pedagogy of inquiry-based learning, in which students are co-inquirers in the learning process (Healey, 2005; Land, 2008).

What could this look like in practice? In HRM, a key case that requires the students to identify and apply core HRM practices and raises issues of power inequities and ethical debates could be the point of inquiry around which the teaching and learning are built. Instead of framing the large class as a sequence of topics related to HRM competencies, the course is built around a key case that requires the application of a number of core competencies, but also invites students to investigate issue of social control, power, and morality. As suggested in the diagram, the learning could occur in a number of inter-linked sites. For example, students could be allocated to groups, and assessment could require groups to make electronic submissions around a case that requires them to identify the required competencies and explain how they would apply these.

Teaching and assessment need to open up new lines of inquiry, as opposed to focussing on procedures and the application of rules. Just as research has demonstrated that assessment is the primary determinant of the quality of student learning, it is important that the assessment promotes sustainable and relevant learning.
critical management education must consider not only the formats of assessment, but also the power inequities in the assessment and evaluation processes. Partnership cannot be restricted to teaching and learning spaces: instead, student participation needs to be extended to dialogue around assessment, including criteria and incorporating self- and peer assessment. As Reynolds and Trehan (2000) have argued, academics cannot hold all the power in assessment, if the context of learning asks students to challenge and question social hierarchies and the unequal distribution of power.

An experiment in building teaching and learning around a case study

As has been argued, developing students’ critical capacities requires an entire curriculum- and pedagogical overhaul. The following example is presented simply to give a more specific impression of what inquiry-based learning can look like in practice. However, it must be emphasised that the value and long-term impact of teaching and learning in this way is severely limited if it is an isolated activity that is not matched by the structure and teaching and learning approaches in the rest of the course and the HRM programme as a whole.

The case study of Marikana illustrates how a particular event, problem, or scenario can be a focal point for both learning course content and examining the discourses that converge around the content. In the context of a 14-week labour legislation module offered by UKZN in 2012, it was useful to juxtapose the public and private personalities of organisations such as Lonmin (the ground zero of the Marikana massacre). Students were provided with information from Lonmin’s official webpage, annual report, and corporate social responsibility report. Students then had to read the Benchmarks Foundation’s report on the ways in which mining companies like Lonmin failed to live up to their corporate social responsibilities to miners. Given that the news of the industrial dispute was unfolding in the South African media on a daily basis, students were encouraged to bring newspapers, trade magazines, as well as video clips of how the media represented the views of Lonmin and of the miners. Students had to become active agents in reading and challenging the discourses of business, organised labour, and the state of the Lonmin issue. They were forced to engage with the complexity of a situation that, in essence, was the collapse of an industrial relations system. Students were guided to act like detectives in wading through the various sources. It was important that they had access to various sources, since the trade unions and workers who were killed were being vilified by the popular press (Alexander, 2013).

Students needed to recognise that being an HR practitioner is not only about being an organisational citizen, but also about reading complex social situations, and understanding political economy, moral economy, and being critical social citizens. The assessment was designed to correspond to the learning approach. In their class essay and examinations students, were asked to provide an interpretation of what, according to their understanding, accounted for the situation at Lonmin. Whilst some provided very managerial accounts (lazy and ungrateful workers, ill-disciplined trade unions), the bulk of students responses demonstrated that they engaged deeply with a complex situation, and gave some surprisingly insightful answers. They were able to identify the following as components of the events of the massacre:

- Massive economic inequalities in South African society;
- A low-wage culture in the mining industry;
- Mining capital’s dominance of the South African economy and capital outflows of profits generated from industry to investors abroad;
- The politics of race and racism in the mining sector;
- An appalling occupational health and safety record of Lonmin and the mining industry in general in South Africa;
- Failure of Lonmin to live up to its public promises and corporate social responsibilities; and
- A recalcitrant government, reluctant to interfere with mining capital’s privilege.
That the students were able to identify the themes above in a labour legislation HRM module was encouraging. Such insights are only possible, however, with a specific type of pedagogy – one that encourages complexity, dissonance, and an attention to local context. It can occur through choosing locally relevant case studies that are morally and socially complex, and to which there are no ‘model’ answers. Ultimately, however, the full impact of working in this way can only be experienced when the approaches are embedded in an entire programme.

CONCLUSION

The authors intend to use this paper as a starting point for a critical evaluation of the current content of the HRM programme at UKZN, its underpinning research paradigm, and the related teaching, learning and assessment practices. It is hoped that this will aid the construction of a programme that does not simply prepare HRM practitioners, but instead enables them to negotiate the complex tension between critique and performance in HRM practice, and not simply become agents of those with economic power. It is hoped that the anticipated research journey will help to transform the way in which HRM students are educated, and assist them to not simply reproduce or regulate relations in the work place, but to evaluate them, and contribute to justice and social equity.

REFERENCES


Chapter 2

Creative Pedagogy Using Simulations and Software
MSD¹:
A simulation to understand social complexity

*Shamim Bodhanya and Cecile Gerwel Proches*

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**ABSTRACT**

This paper expands on the use of simulation in a higher education postgraduate teaching setting that focuses on the management and leadership education of upcoming executives and leaders. The paper highlights practice, drawing on lessons learnt and reflections on running a specific simulation that corresponds with the experiential learning approach. This allows for an understanding of the precise role that simulations play as learning tools in postgraduate teaching and learning in higher education. The attributes that are required from educators who utilise such tools are also explored, as well as how the simulation impacts learners.

**Keywords:** Simulations, postgraduate teaching, learning, management education, higher education

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**INTRODUCTION**

This paper addresses the role that interactive simulations play in facilitating learning for postgraduates at the Leadership Centre, University of KwaZulu-Natal, South Africa, where the focus is on educating current and upcoming executives and leaders. The purpose of the paper is to describe the experiences of running a specific simulation, entitled MSD, in a postgraduate setting aimed at educating management students. We have used this simulation twenty times over the past seven years in various contexts involving management education. The simulation was considered ideal to engage the students, particularly considering that they were Executives and potential leaders, hence necessitating an alternate approach to more traditional classroom teaching and activities. The paper includes a focus on the shift from teacher-centered to learner-centered education and from teaching to facilitation. Such shifts are in line with experiential learning and are applicable to adult learners, thus strengthening the argument for simulation use in the postgraduate setting. The emphasis is on the interplay between the field of management, the educator, and student characteristics. A contribution to experiential learning theory is made through such interrogation of this interplay.

**Contextual background**

Our teaching and learning practice is focused on management and leadership education at postgraduate level. Our aim is to provide a theoretical grounding in business studies that utilises a complexity theory (Leigh and Herbert, 2012) and systems thinking lens (Russell, 2012). The modules, ranging from leadership and learning, and strategy, to change and organisational development, are all centered on the notions of non-linearity, adaptivity, self-organisation and emergence, whilst understanding the recognition of the whole and how the parts interact.

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¹ The acronym MSD stands for Mass Slogan Definitions, a fictitious company.
Most of the students arrive at the class with working experience and originate from diverse disciplines and backgrounds, due to leadership skills being desired in practically all fields. The student clientele consists of those in management positions, or those desiring to enter such positions. The student makeup, for example, ranges from engineers and teachers, to managers in the private sector, but most often officials from the public sector. A small percentage of the students are full-time and have no work experience. The approach used in teaching and learning therefore becomes of utmost relevance in capturing and maintaining their interest.

Management education

Management education has been the subject of criticism for often neglecting the ‘softer’ aspects of organisational life, including personal awareness. Illes (2003:214) argues that “most of the training received by business students is directed towards enhancing logical and analytical skills... most management courses currently have little or no room for expressing feelings and personal views... “.

Business schools need to focus on facilitating the development of students as present or future leaders, particularly in gaining an understanding of themselves and others, but also in assessing their abilities to lead in the real world (Scott, 2007). Referring to Master of Business Administration (MBA) students, Scott (2007) states that there are very few opportunities for students to learn about themselves, other people, and what is required for effective leadership. Scott’s argument is also of relevance to other postgraduate management studies. Hubbard (2006:2) makes a similar point in stating that “the real value of a business education is its impact years later, training future leaders how to unlock one set of problems after another”.

As educators at postgraduate level, specifically in the management field, it becomes critical to focus curriculum development on that which is theoretically plausible, yet also practical. It is necessary to challenge and expand the views that students hold regarding management, because the organisational landscape in which they will operate is subject to high levels of turbulence and uncertainty. Brown (2004:36), in citing the work of Schon (1983, 1988) mentions the concept of the reflective practitioner, and the need for professionals to “frame and reframe the complex and ambiguous problems that they face and then interpret and modify their practice as a result”.

Traditional management thinking tends to be focused on the core business of planning, coordination, and control. Inherent in these are simplistic assumptions governing human behavior and organisations, particularly around processes being perceived as linear, and that outcomes can be predicted. The philosophy used to guide the teaching of postgraduate students in our setting challenges such approaches. It acknowledges that because people hold divergent views, multiple realities should be acknowledged and utilised to allow for change to emerge. It is critical to integrate teaching methods that embrace such philosophies and to incorporate class activities that are conducive to producing multiple perspectives and dialogue.

Theory

Teaching and learning in Higher Education

Higher Education (HE) approaches the educational process as being a result of teaching, where this act of teaching is sufficient for educating the student. However, this approach does not consider the problems of learning, and that learning may not be a natural result of the kind of teaching that is delivered in the HE context. In short this suggests that teaching does not equate to learning.

There has been a shift in HE, whereby educators essentially become facilitators of learning, and abandon the expert-like approach. Learning in HE should be viewed in a manner whereby the focus is on the process, rather than just on the outcomes (Kolb & Kolb, 2005). Le Roux and Steyn (2007) indicate that it is critical for facilitators to
employ approaches which engage loose learning processes, as opposed to traditional teaching approaches. Such approaches are in line with experiential learning.

It is useful to briefly focus on the history of experiential learning, as highlighted in Sheilds, Aaron and Wall (2001). Dewey (1938), as cited in Shields et al. (2001), emphasised a move away from traditional education, which involved teacher-driven methods, to learner-centred approaches. Lewin (1951), as cited in Shields et al. (2001), developed a model focused on experiential learning which highlighted having a concrete experience, reflecting on it, and then developing abstract concepts and consequently applying these to new situations. Piaget’s (1951, 1970) work as cited in Shields et al. (2001) focused on how intelligence was affected by experience and how our knowledge progresses in stages. Kolb (1984), as cited in Shields et al. (2001), relied on Dewey, Lewin and Piaget to formulate his model, which emphasised a learning cycle where the learner engages in a concrete experience, which is then followed by reflective observation, abstract conceptualisation, and active experimentation thereafter.

Experiential learning as defined by Feinstein et al. (2002) is a learning technique which engages various faculties of an individual, and which essentially immerses learners in an active environment. Employing experiential methods in education has many benefits, such as increased motivation, which is expressed by students being interested and participative in activities, especially when they are exposed to situations that they will face in their working environments (Feinstein et al. 2002). Experiential learning as a form of problem-based learning is considered critical in management education, especially where it is difficult to imitate actual work conditions (Le Roux & Steyn, 2007).

Experiential learning also has synergies with adult learning, known as andragogy, by emphasising the importance of the student’s experience, self-directed learning and active engagement, and internal motivation (Brown, 2004). Cretchley and Castle (2001) make reference to Knowles’s (1970, 1978, 1980, 1984) views on adult education, and argue that adults require an understanding of why it is that they are learning a particular thing, and are motivated when they feel it to be useful in their lives. Furthermore, adult learners respond better to tasks or problems, as opposed to subject-centered matter, and are generally internally motivated and capable of directing themselves. As a result, educators should allow for such self-directed learning, and acknowledge the experience that adults have.

Lean et al. (2006) argue that experiential learning encompasses simulation as a method. Such learning has arisen along with the increased variety in teaching and learning methods that accompanied the increase in HE provision. Simulation as an experiential method corresponds well with the requirements of HE, which according to Le Roux and Steyn (2007) should encompass the development of critical analytical skills in considering a problem. Kolb and Kolb (2005) argue that the beliefs and thoughts of students should be challenged, and the acknowledgement of conflict and differences is critical to learning, all of which are key features in simulations.

**Simulation**

One of the techniques employed to facilitate learning is that of simulations and games. For the purposes of this paper, reference is made to interactive simulations, whereby participants are engaged in activities through which they make decisions and experience the outcomes in a safe environment.

This therefore aligns with Kolb’s learning cycle of concrete experiences leading to reflection and eventually a fundamental difference in behavior (Kolb 1984 as cited in Shields et al. 2001). It becomes visible to students that while they have an espoused theory, it only becomes ‘theory-in-use’ when immersed in the simulation environment. This has an impact on how students view management and how they consequently conduct themselves in their working environments. Keys et al. (1996) argue that simulations can facilitate reflection on strategic thinking through joint discussions, due to the similarities to organisational realities, and can result in
transformed views and behaviours. They highlight that simulations can illustrate mental models, stimulate joint discussions, and present a platform to play around with ideas, particularly if various individuals from different backgrounds are involved.

Dentico (1999) argues that simulations engage participants in double-loop learning. This refers to the fundamental assumptions of participants being challenged, thereby allowing participants to do things differently. The actions of participants and what they believe can be challenged in a simulation, which is useful in HE. Classroom-based simulations are more advantageous than case studies. This is because they enable students to consider the consequences of their actions, and how they can change their behaviour. This also allows for meaningful teaching practice, whereby educators influence the ‘moral’ psyche of the student.

Simulations are key in transferring learning to reality (Lane, 1995). Simulations offer self-discovered content as opposed to teacher-directed learning. A rich experience is provided by way of having participants progress through the five levels of Bloom’s taxonomy (knowledge, comprehension, application, analysis, synthesis). Participants can engage in learning as a result of feedback on their actions and behaviours in the simulation.

Simulations offer the potential to facilitate group learning, whereby students jointly as a class can reflect on their learning; simulations add meaning to assessments by allowing students to critically engage with and reflect on what it is that they have been taught. In simulations students also have an opportunity to engage in problem-solving. A particularly useful aspect is that various dimensions of the problems are viewed holistically (Geurts et al. 2007; Lane 1995).

Simulations are, in essence, a form of technology for teaching and learning, and are powerful in ensuring that the classroom becomes a ‘lab’ whereby life, work and education infuse to produce learning. They make a meaningful contribution to the teaching practice of educators who are tasked with adding knowledge in a way proven to translate into learning.

These characteristics of simulations are particularly beneficial for students engaged in management and leadership studies in providing a conduit for them to become reflective practitioners. When students are immersed in the simulation world they are provided with an opportunity to experience the theory in practice. This is particularly relevant in management education, where the use of a laboratory or fieldwork to enable students to experience what has been presented, is uncommon. In addition, simulations have a fun element, which as Leigh (2004) argues, is critical, because it engages learners.

A further important role of simulations is their place in skills development. Blasco and Tercero (2008), referring to marketing education, suggest that simulations can develop the analytical, decision-making, problem-solving and interpersonal skills of students. Similarly, Pittaway and Cope (2007), in referring to a course for learning about entrepreneurship, highlight that with simulations less emphasis is placed on actual teaching and more on allowing students to experience learning in a safe environment. Geurts et al. (2007) indicate how simulations promote communication, encourage creativity, and assist participants in better handling complex situations.

**The MSD Simulation**

The specific simulation which is the focus of this paper is a simplification and adaptation of the Manufacturing Power simulation (Kern, 2000 citing Oshry, 1995; Bolman & Deal, 1979; Nadler et al. 1982). Our adaptation is called MSD (Mass Slogan Definitions). It simulates a manufacturing firm comprised of senior, middle and lower level employees and consists of set-up, planning and manufacturing phases.

When participants arrive at class they are asked to self-select into triads, and to spend 20 to 30 minutes preparing a poster on ‘what makes effective leadership’. The poster is to be part of an exhibition and must be
self-explanatory; there are no presentations required. At the conclusion of this phase, the triads are given five minutes to select a group leader, along the lines of ‘the person in whom you are most prepared to invest your fate’ with no further instructions. Thereafter a sheet representing the Employee Handbook is handed out and read. The handbook describes the company, its policies, the management structures, privileges, and the task that is to be performed, namely to manufacture ‘slogan cards’. At this point, participants become aware of the strictly hierarchical formal structure of the firm, the exceptional privileges given to senior management and the relative lack of resources and power available to workers. The team leaders are then given a competitive task which determines their rank within the company. This sets up the social field for potential conflict and disagreement. This start-up phase culminates in allocating the three levels of senior and middle managers, and workers to their respective workspaces.

The ensuing planning phase is designed for the participants to identify and exchange resources and to plan for the manufacturing phase. Although resources – comprising index cards, a stapler, coloured pens and a dictionary – are available, they are not explicitly given to the participants. It is for the participants to request raw materials and resources. A computerised customer list representing orders from customers is available. During the manufacturing phase the firm is to manufacture 200 slogan cards according to the instructions provided during the set-up phase and as identified in the Employee Handbook.

The facilitator(s) are active during the set-up phase. Then, during the planning and manufacturing phases, they primarily observe what is occurring and only intervene in terms of clarifying participants’ questions and to ensure that none of the rules of the simulation are broken. This unintrusive role of the facilitators in the initial stages ensures that the outcomes of the simulation emerge chiefly as a result of the interactions between participants.

Following the initial set up stage, one of the facilitators assumes the role of the Director of the firm. This enables injection of exogenous shocks into the system from time to time and also to act as an outlet valve when emotions run high. For example, senior managers are occasionally unsure of their power and mandate and seek to check this with higher authority. The role of Director serves this function. It is also used to set the pace and timing. For example, if the firm is not producing sufficient products then a memo (from the Board of Directors) is sent to inform senior management about customer frustrations or cancellation of orders. In order to inject shocks into the system management may be asked to effect retrenchments. The involvement of the Director and the use of memos was one of several adaptations to the original simulation as we learnt from previous runs.

We have run the simulation twenty times over a period of seven years. We have used it in our postgraduate classes and in middle and executive management courses in a variety of contexts including commercial, public sector and civil society organisations. The MSD simulation has also been used in a number of postgraduate course variations including inter alia:

- Leading in Turbulent Environments.
- Organisational Development.
- Conflict Management.
- Systems Theories & Practices.

We have found it exceptionally useful in the first postgraduate course which is centred on complexity theory. Here MSD enables participants to experience key concepts of Complex Adaptive Systems (CAS) such as emergence, self-organisation, and fitness landscapes. These are theoretically abstract notions and students have indicated that these CAS concepts are brought alive through the simulation in a way that has practical meaning for them.

While the outcomes of each run of the simulation are different, there are some patterns that do repeat. For example, in most there is a level of dysfunctionality in the firm. It is quite rare that participants ask for crucial
information related to customers, orders, and specifics around raw materials. As a result, in most cases there are little or no completed products by a quarter of the way through the manufacturing season. The senior managers are then warned via a memo about the dire condition that the firm is in, and about production backlogs. This injects a sense of urgency as senior managers attempt to take corrective action.

However, by this time the middle managers and workers are usually in delicate negotiations around wages, employee incentives and benefits. Such negotiations are quite adversarial, which is not helped by decrees or edicts from senior management to increase production. This leads to some kind of discontinuity e.g. workers go on strike, or attempt to comply with instructions half-heartedly and find other ways to subvert the instruction. By this time, there is a lot of confusion and mis-communication. When such actions add to further backlogs and production problems, a second memo is sent instructing senior managers to retrench two workers in order to cut costs. In each of the iterations of MSD this has led to interesting dynamics. As the worker relations are now usually quite poor, and negotiations are ongoing, senior managers risk being seen as negotiating in bad faith. As a result they procrastinate on taking action. Or, alternatively, they attempt to find creative solutions to the dilemma. When, after some time, the retrenchments are not implemented the Director calls in the CEO for dismissal for failing to carry out a direct instruction of the Board.

An Acting CEO is then appointed and asked to communicate to the rest of the organisation (without going into detail) that the CEO has been fired. This causes anxiety and uncertainty in the organisation which further compounds the production problems. The Acting CEO is reminded to carry out the retrenchments as instructed by the Board. Given the fate of the previous CEO, the acting CEO quite often takes a very hard-nosed approach, and attempts to initiate worker retrenchments. However, there are no objective criteria on who to retrench, and in some cases management resort to allow the ‘troublemakers’ or union representatives to go. It is usually around this time that the duration of the manufacturing session comes to an end, and participants are asked to come out of simulation mode, and to re-assemble in the teaching venue for the debrief.

While the above describes a typical run of the simulation there are also many other variations. It is impossible to predict the outcomes of the simulation in advance and as facilitators we are often surprised at what emerges.

**Debriefing**

During the debriefing there is usually a vibrant discussion about what occurred. Although the debriefing differs, depending on the specific module content for which we run the simulation, there are some common elements.

There is a focus on what participants experienced cognitively and emotionally. Participants frequently report that what they experienced in the simulation felt real, and evoked real emotions. This is most starkly demonstrated if the CEO is fired. This evokes mixed emotions among participants who may report feeling that they had lost their real jobs. Consequently, there are a number of ethical issues which arise in relation to the participants’ experience of the simulation. In particular, these include provoking anxiety, creating vulnerability, or exposing perceived weaknesses of participants. Facilitators are required to constantly monitor the participants for sensitive, emotional reactions and take care to provide a special debrief in such situations. Such debriefs occur firstly, with the participant concerned in private, and secondly, in the public setting where there is reflection on how all participants, including the Director (facilitator), in the simulation (system) are responsible for the outcomes (a core systems and complexity concept). Participants realise in the debrief session that the simulation gives rise to the emergence of a complex social system and start to reflect on how reality may be socially constructed.

An interesting aspect of the debrief session is that participants are requested to consider how they acted in relation to what they presented in their poster exhibition prior to the simulation. The posters reflect their espoused theories, while their experience in the simulation reflects their theories-in-use. The debrief session includes a discussion around single-loop and double-loop learning. The difference between the espoused theory and
theories-in-use causes some dissonance which is a catalyst for the participants to reconsider their fundamental assumptions and thereby a form of double-loop learning occurs. Another outcome of the simulation experience is that participants consider how the context in which they find themselves conditions and determines their behaviour. These considerations generally lead to discussion of the fundamental attribution error, that is, when behavior is attributed more to the individual traits of people rather than the context and the situational factors that determine their actions. A recent innovation is that we establish a link to a TED Talk by Philip Zimbardo on the Lucifer effect: (http://www.ted.com/talks/philip_zimbardo_on_the_psychology_of_evil.html).

**DISCUSSION**

The outcomes of the simulation are unpredictable and often surprising, requiring flexibility. HE lecturers usually have control over a lecture, case studies etc. whereas a simulation by its nature transforms the session from instruction-based teaching to experiential-based learning. This means that the facilitator has to relinquish strict control over the processes of learning and introduction of new information and events in the classroom, yet find ways to link proceedings with the learning objectives.

Considerations for educators include being aware of how they influence students’ views, being wary of the element of control, and instead embracing flexibility (Pivec et al. 2003; Rosser & Leigh, 2008; Le Roux & Steyn, 2007). Educators should have a clear understanding of what facilitation entails and should develop an ability to know when to ‘teach’ and when to allow things to unravel. As a result, complete adherence to a strict course outline may not be possible.

It is worthwhile questioning the degree to which learning from a simulation can truly be applied to new situations in the workplace. The demands of management and the actual conduct required in the workplace may detract participants from fully applying the learning as they may deem that is relevant to ‘idealistic’ situations only. The student could be faced with cognitive dissonance, despite having developed additional managerial and leadership skills. A student may very well walk away with a feeling of why can they not experience the simulation. This further entrenches the divide between those with the power who manage, and those who are managed. The key question is how to ensure that a change in mindset results in a change in actions in the real world, and that the simulation experience is not confined to the classroom.

There has to be tolerance by facilitators for uncertainty, ambiguity and anxiety. The MSD simulation described here inherently creates such anxiety and uncertainty. It may be argued that even where simulations are less polarised than in MSD, they always give rise to a complex social system with its concomitant group and social dynamics that may be anxiety provoking. If participants are subjected to this, then facilitators must also be prepared to experience anxiety and uncertainty. Therefore they also have to be empathetic to what participants may be experiencing. Furthermore, facilitators need to be aware of unconscious group processes which can lead to regression into infantile mechanisms, projection, flight or fight responses, dependency and pairing (Stacey, 2007). Facilitators need to realise that they or other simulation participants may be the target of such unconscious group processes, and be able to tolerate and help participants work through these barriers. It also becomes critical for the facilitator to effectively handle defensive or overtly emotional situations in the debriefing. Some students may attribute their behaviour to the ‘system’ or perhaps even apportion blame to other participants.

As simulations in one way or another give rise to a complex social system, they tend to reflect a complex lived reality and the lebewenswelt quite well. Therefore they lend themselves to inter-disciplinary and trans-disciplinary perspectives (Klein, 2004), which are appropriate for HE. Simulations are multi-dimensional and involve the whole person and relate to cognitive, psychological, emotional, affective, kinesthetic, tactile and spiritual aspects. While a particular simulation may be designed to focus on only one of these dimensions, all of the others are
always lurking in the background. Educators need to be aware of them, and be prepared to help participants deal with them where necessary. Crookall and Thorngate (2009) argue that it is challenging for a facilitator to induce learning by bringing together knowledge and action on the one hand, and theory and practice on the other.

One of the most powerful lessons derived from application of the MSD simulation is that in the context of HE, the same simulation may be used to cover a variety of topics and content areas. In relation to the MSD simulation, as an example, the theory of change management can be presented including a focus on a diverse range of stakeholders in the conceptualisation and implementation of change. In order to accommodate unintended consequences the need for flexibility in planning and accommodating can be emphasised. In this way students can be engaged in the simulation. The simulation can also be used to illustrate strategic management concepts. While this may require minor modifications to the simulation itself, in many cases a careful design of the debrief phase is sufficient to apply it for different content areas.

All simulations have the potential to give rise to ethical dilemmas. This was highlighted in our earlier discussion. Another example from MSD demonstrates this: in one of the runs a participant made an allegation of sexual harassment against a ‘senior manager’. Should a facilitator intervene in such a situation? If he or she does, then it affects the verisimilitude of the experience, but if not, then it could cause potential harm to the targeted individual.

There may be paradigmatic tensions when educators deploy simulations in teaching and learning. A simulation may be used by an educator as a novel learning tool, but in a philosophically unreflexive way. One example may be a simulation in a marketing class that considers promotions and advertising between firms and consumers. It is possible for an educator to adopt an objectivist, positivist stance without realising it. However, the very nature of a simulation implies a constructed reality based on constructivist and social constructionist tendencies, and hence paradigmatic tensions. Facilitators need to be aware that there is the potential for the ‘simulation reality’ to bleed into the ‘ordinary reality’ as both are partially socially constructed.

It may be ideal for educators to see students become more reflexive about their practice. However, such change may have unintended consequences for students. Shaw (2010:93) discusses work-based learning in relation to the individual identities of students, and examines “self and self-change of people in the role of practitioner-learner”. Shaw points to the accountability that educators hold in terms of considering how academic activities related to the development of critical reflection, self-knowledge and awareness translate in the workplace.

In some cases students, after experiencing the simulation, may develop the ability to ask questions related to their personality and competencies in their specific positions. Others, who have experienced a desire to transform their practice as a result of learning, may be constrained by the political and social environment of their workplaces, which ultimately prevents them from fully translating their learning into practice. The ‘this is how we do things around here’ of organisational culture can inhibit students from fully engaging.

Some students who have experienced double-loop learning may develop the ability to adapt to new situations at work, whereas others may receive negative feedback in the workplace, with resulting damage to their status.

Although simulations afford students the opportunity to participate, irrespective of work status and background, the assumption is that they are immersed in a safe, learning environment. There is, however, a certain vulnerability that is bound to be exposed in the simulation. For example, students who have no management experience may struggle if they were to find themselves in such a role. Those who have management experience, perhaps imposing an authoritarian style, may come under heavy criticism in the debriefing for exercising such a leadership style. Simulations are an excellent way of facilitating team cohesion. However, the onus is on the facilitator to manage situations that may derail such cohesion.
CONCLUSION

This paper has examined the use of simulation in a postgraduate setting aimed at management education. The results show that simulations are particularly valuable as an experiential learning method, suited to adult learners.

As highlighted by other research, simulations can assist with double-loop learning and skills development. The role of the facilitator has been emphasised and key questions posed concerning the transfer of learning to the real world, particularly in a management environment. Simulations are very effective in facilitating reflection and self-awareness, and developing skills, and are clearly a useful tool for teaching and learning. Hardy (2004), in addition, argues that reflection is critical to deep learning. If a particular student gains a new perspective on a certain aspect relating to their work, then that is evidence of their learning. What is of further interest, however, is the post-simulation, back-to-work experience, particularly of management students. A key question, therefore, is how simulations truly impact on adult learners in management studies by way of the emergence of reflective practitioners who are, in reality, immersed in their own work contexts. This may entail a certain act, or persona, as it were, that may be incongruent with the outcomes of the simulation.

In terms of feedback, the MSD simulation was experienced by many participants to be engaging, but also challenging because it induced some discomfort. The simulation, however, still remains a versatile and powerful tool that can be used in different contexts and with diverse groups. We have used it with groups ranging in size from 11 to 28. A group of 25 is manageable, and anything beyond 30 becomes tricky to facilitate. The simulation can be used for various management courses in HE, as well as with consultancy work, due to the ease of transferability.

There are a variety of meanings for the word ‘simulations’. One conjures up images of feigning, insincerity, and pretences, which participants may very well need to resort to if they are unable to articulate their learning in practice. Another relates to playing out the essence of a real world experience in a way that challenges our worldviews and deep-seated assumptions to reconstruct how we make meaning of the world, our lives and our place in it. We believe that MSD achieves the latter.
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A Pedagogical Intervention Based on Agile Software Development Methodology

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ABSTRACT

In recent times, the activity of software development has been labelled as being embroiled in a crisis, because of the inability of software developers to deliver quality software. In response, the software engineering (SE) community has opted to discard the traditional processes that underpin software development in preference for a set of processes called “agile methodologies”. The underlying philosophy of the agile approach is that the software development process should enhance the possibility of constant interaction with the customer as well as accommodating changing customer requirements. In this paper, we examine the pedagogical implications of using the agile approach as part of an academic programme. We also report on students’ acceptance of the agile approach as a methodological framework for the development of an information system - a component of their capstone major project course. A purposive sampling strategy was employed to conduct a survey with final year Information Systems & Technology students at the Pietermaritzburg and Westville campuses of the University of KwaZulu-Natal. A 71% response rate was achieved. A combined academic framework consisting of behavioural science and design science theory was used to operationalise the acceptance of agile methodology. The results from each of the criteria used to quantify acceptance of agile methodology indicate a high level of acceptance within the IS student community.

Keywords: Software development, information systems, agile methodology, behavioural science, design science, constructivism, connectivism

INTRODUCTION

The broad discipline of information technology (IT) is anchored around the core activity of software development which in turn, is historically grounded within computer science (Shackelford et al. 2006). The focus in computer science is on the delivery of functional software underpinned by a strong mathematical component that ensures optimum usage of the processing capacity of a computer (Glass 1994). In an overview report on academic curricula in computing disciplines, released by the Association for Computing Machinery (ACM) (Shackelford et al. 2006), a post-modernistic view of software development is adopted. The recommended strategy for disciplines such as software engineering (SE) and information systems (IS) is that these disciplines should focus on the non-functional aspects of software development. As a consequence, software systems began to incorporate a social dimension where usability started to assume as much attention as functionality. The software development process models have also begun to adopt a “business-like” demeanour where the imperative is that quality software should be developed on time, within budget and to satisfy requirements that have been stipulated by the customer.

Recently, the activity of software development has been tagged as being embroiled in a crisis, because of
the inability of software developers to deliver quality software that is usable and in accordance with customer's expectations of the system (Parnas 1994; Glass 1994; Schach 2008; Pressman 2010). In response to this dilemma, the software engineering community has opted to discard the traditional processes underpinning software development in preference for a set of processes that have been termed “agile methodologies”. The underlying philosophy of the agile approach is that the software development process should enhance the possibility of constant interaction with the customer, with a view to efficiently accommodating changing customer requirements.

Data recently released in the “State of Agile Development” survey (VersionOne 2011), indicate a global acceptance of the agile approach as the current de facto software process model of choice. It is reported in Cohn (2012) that according to the Standish Group 2011 report, software applications developed through the agile process have three times the success rate of the traditional waterfall method, so the agile process could be viewed as a possible solution to the problem of failed software projects.

In order to align the undergraduate curriculum offered by the Discipline of Information Systems & Technology at the University of KwaZulu-Natal (UKZN) with the latest trends in industry, the capstone project module offered at third year level has been re-designed in accordance with the dictates of Extreme Programming (XP), a popular agile methodology. The choice of XP is informed by claims made by Bergin, et al. (2004) that XP has a positive influence on the learning of computer programming and facilitates the use of constructivism as a pedagogical strategy.

In this paper, we examine the pedagogical implications of using the agile approach as part of an academic programme. We also report on the students’ acceptance of the agile approach towards the building of an information system, as part of their capstone project course.

The Research Questions

The following research questions have been used to underpin the current study.

- What does the Agile Methodology for software development entail?
- What are the pedagogical challenges of implementing Agile Methodology as part of a capstone module?
- What is the students’ level of acceptance of Agile Methodology?
- How well did the students comply with the requirements of XP?

The Academic Dilemma

There is a growing body of opinion that suggests that research within the disciplines of management studies, as well as information systems, is severely lacking in relevance (Davenport & Markus 1999; de Villiers et al. 2007; Holcombe & Thomson 2007), so much so that research produced at universities will have minimal, or no impact, on the practitioner community. Despite the acknowledgement by some members of the academic community of the lack of relevance of academic research in the above mentioned disciplines, there is still an exclusive focus on academic rigour, with very little consideration being given to the relevance of the research effort (de Villiers et al. 2007; Worrall et al. 2007). This has resulted in a steady decline in the amount of funding that academics are generating from business, because the research produced is lacking in “real world” relevance. There seems to be a strong preference within parts of the IS academic community to engage with the “social dimensions of phenomena” (Pinch 2008), and to relegate the technology to a “black box” status. As a consequence, “… the richness of important and interesting IS research questions has been lost or severely limited” (Niederman & March 2012). A further issue that compromises the relevancy and currency of IS research is that of the time delay, as identified in Knight et al. (2008), between the problem inception and the publication of the results of an
attempted solution in an academic journal. The academic community seems to wait for emerging trends in the practitioner sector before any research in that area is conducted and eventually published. Hence, it is actually the academic community that is always playing “catch-up”, thereby trivialising the value of academic research to the practitioner community (van Loggerenberg 2007).

An ideal resolution to this dilemma of keeping abreast of technology change, as well as bridging the gap between the world of practitioners and the world of academics, is to incorporate the technologies and methodologies that are current, from a practitioner perspective, into research and development projects that drive academic curricula of universities. This strategy would entail a revisit to the relevance versus rigour debate, because it would entail a resurrection of the importance of producing IS research that is current and relevant (widely discussed in the Alternation Journal, titled Themes in Management Studies (2007)). This solution strategy has been extensively deliberated upon and endorsed by Rosemann & Vessey (2008); van Loggerenberg (2007); Jami & Shaikh (2005); Fällman & Grönland (2002); Benbasat & Zmud (2003); Davenport & Markus (1999) and Lee (1999). As a consequence of the imperative to produce relevant IS research, Hevner et al. (2004) made reference to the two main domains of IS research. The first domain is behavioural science, where theories exist to explain the usage of IT artefacts in an organisational context. The dominant theories in this domain focus on the usage, perceived usefulness or intended usage of IT artefacts (referred to as the Technology Acceptance Model (TAM) proposed in Davis (1985)) or the utility value and information quality delivered by an IT artefact (referred to as the Information System Success Model proposed by Delone and Mclean (2004)). The second domain of IS research is design science, where the focus is on the development of an IT artefact, encompassing an evaluation of the feasibility of the development process. In order to enhance the relevance of IS research, the design science domain needs to be given just as much prominence as the behavioural science domain (Hevner et al. 2004; Niederman & March 2012; Kuechler & Vaishnavi 2011; Wieringa & Morali 2012). This approach of delving into the “black box” whereby IS researchers view behavioural and design science as interdependent (Niederman & March 2012), can only serve to add an element of “richness” and to broaden the impact of IS research.

In accordance with these sentiments, the current study incorporates elements of the technological and social science realms to investigate the applicability of the agile approach towards software development in an educational context. From a technological perspective, the XP process was subjected to an inquiry regarding its effectiveness as a software process model to develop an information system. From a social science perspective, the effectiveness of the strategies adopted to teach the essence of XP as part of a capstone module was analysed.

Software Process Models

The development of software is underpinned by software process models that are adaptations of the generic software life-cycle model referred to as the Waterfall model, which was proposed by Royce (1970). Many of these adaptations have been given extensive coverage in software engineering texts written by Schach (2008), Pressman (2010) and Sommerville (2007). The main theme emanating from these texts is that the Waterfall model of software development is characterised by a linear or sequential approach, consisting of various stages of development. From an overview perspective, these development stages consist of requirements, analysis, design, implementation, testing and maintenance. The Waterfall process is quite rigidly structured and does not easily handle changing software requirements; which entails the developer going back to the requirements stage (the analogy used here is that it is not natural to flow up a waterfall). The Waterfall model is a process oriented model where the process of development is given priority over the possibility of entertaining changing user requirements. In its purest form, the Waterfall model has been subjected to severe criticism from the SE community. These criticisms, which have been summarised in Parnas & Clements (1985), include the following:

- A system’s users seldom know exactly what they want and cannot articulate all they know.
- Even if the system’s users could state all requirements, there are many details that they can only discover once they are well into implementation.
• Even if the system’s users knew all these details, as humans we can master only so much complexity.
• Even if the system’s users could master all this complexity, external forces lead to changes in requirements, some of which may invalidate earlier decisions.

These factors prompted the SE community to look at other process models. A possible contender was the iterative process model that began to receive attention after a proposal by Basili & Turner (1975) that software development should follow an “iterative enhancement” technique. The idea here is that the software process model has to accommodate changing user requirements as well as deliver functionality to the user incrementally, rather than as a complete finished product. This endorsement of iterative software development by the SE community prompted a group of software engineers to formalise the set of iterative development models as the Agile Methodology for software development. This is informed by a set of core principles and values that is documented by Beck et al. (2001) in what is referred to as the Agile Manifesto. The essence of the manifesto is that software development should prioritise:

• Individuals and interactions over processes and tools
• Working software over comprehensive documentation
• Customer collaboration over contract negotiation
• Responding to change over following a plan

The Agile Methodology comprises a set of methods that subscribes to the core principles of the Agile Manifesto. A detailed analysis of these agile methods are provided in Dybå & Dingsøyr (2008). It is reported in van Valkenhoef et al. (2011), Dybå & Dingsøyr (2008) as well as Vijayasarathy & Turk (2008), that one of the more popular agile methods is Extreme Programming (XP). An overview of the XP process model is provided in Beck (1999), and some of the significant aspects of XP include the following:

• System development is driven by user stories. A user story is essentially communication between the customer (person who commissioned the development of the system) and the system developers. A user story is a brief, concise description of the functionality required by the customer.
• A set of user stories are developed and released for customer review. This is referred to as one of many iterations of the system until it is fully developed.
• The customer must be available for consultation with the development team, thereby entrenching the idea of greater customer interaction.
• A customer provides test criteria that will determine whether a user story has been developed to the customer’s preference.
• All production code is written by two people using a single computer. This strategy is referred to as pair programming, an agile computer programming strategy that is given extensive coverage in Hulkko and Abrahamsson (2005) and Vanhanen and Korpi (2007).
• There is no overall, architectural design. The system design evolves with the development. There is constant re-factoring of the system design as the system evolves.

The XP method of software development was introduced as part of the learning experience for students registered for the Major Project capstone module offered by the Discipline of Information Systems and Technology (IS&T) at UKZN. In this paper, we report on the pedagogical challenges of incorporating an agile approach such as XP into a Major Project capstone module as well as the effectiveness of the XP process in developing an information system, from a student perspective.

The Essence of the Major Project

The Major Project is a reference to a set of final year modules where IS&T students are required to work in groups of 4 or 5 and build an information system for an organisation (typically, a local business) that is prepared to
serve as a client. The ultimate purpose of the system is to provide organisational decision making support where
business reports are accessible on a front-end or Web-based platform. In order to achieve this objective, the
system would have to initially capture and process as much data as possible from core business transactions so
that the data can be analysed from many different perspectives.

The Major Project provides an ideal opportunity to allow academics as well as students to bridge the
divide between the practitioner and academic worlds. It is reported in Holcombe & Thomson (2007) that at the
University of Sheffield, a similar strategy was used to provide students with a large scale project and real client,
thus motivating the students as well as providing academic staff with a viable opportunity to engage in current,
“cutting edge” research. The value inherent in the Major Project from a student perspective is well documented
undertaken at academic institutions in the United Kingdom, South Africa and Australia. They reported that in all
three countries, the Major Project was highly endorsed by academics as “…it recognises the need for industrial
experience and learning of applied skills, and therefore make these projects a compulsory part of the curriculum".
The group work aspect of the Major Project was also endorsed by Mahnič (2008). The paper asserts that the
Major Project exercise is not just about technical skills, but also provides a platform for the acquisition of skills
such as teamwork, leadership, planning as well as the production of formal documentation and an opportunity
for students to obtain the experience of doing a project presentation to a formally instituted panel consisting of
academics as well as industry representatives.

The Pedagogical Challenge of the Major Project

In order to report on students’ acceptance of the agile approach towards systems development, it became
imperative to ensure that the student cohort chosen for the current study subscribed to the principles of
agile methodology. However, getting the student cohort to abide by the dictates of the XP process model in
developing the Major Project system presented itself as a pedagogical challenge. The XP approach of attaching
less significance to documentation could possibly result in a “cowboy” development style (Ferreira & Cohen
2008), where there is complete disregard for any formal aspects of software development such as requirements-
gathering, design, planned development, testing and continuous consultation with the system stakeholders.
Wellington (2005) warned that the most significant challenge in employing XP in a Major Project course is to
ensure that every student abides by the principles of agility and XP and respects these development models as
process-driven. The temptation to “dive into coding” (Sewchurran 2007) under the banner of being agile needs
to be guarded against. The pedagogical challenges of conducting a Major Project exercise as part of a capstone
module are well documented by Sewchurran et al. (2006) from their experiences at the University of Cape Town
(UCT). A significant aspect of these challenges, however, was the problem experienced in trying to get students
to “internalise” the essence of the agile approach and to engage with the methodology in a conventional manner,
thereby ensuring the development of a system that conforms to the customer’s requirements and expectations.
As part of the agenda for the current study, a brief report is provided on the strategy used in overcoming the
pedagogical challenge of incorporating the agile software process model as part of the Major Project capstone
module.

The Pedagogical Strategy Used to Incorporate Agility

From a theoretical perspective, the educational theories of constructivism and connectivism were deemed to be
most appropriate as descriptors of the strategy adopted to present the Major Project course. The learning theory
of Constructivism (emanating from contributions by the likes of Piaget, Vygotsky, Bruner and Dewey) allude to
the activity of constructing one’s own knowledge from personal experiences rather than becoming dependant
on an intake of passive knowledge (Applefield et al. 2000). Development of a fully functional business information
system is quite an undertaking, something that you would not expect many students to have experienced. From
a constructivist perspective, this could be seen as a significant disadvantage to the students. In order to minimise this disadvantage, we adopted a strategy of simulating this experience by focusing lectures and practical sessions on the development of a generic point of sales system, a strategy also used quite successfully by Demuth et al. (2002) for a similar teaching agenda. This exercise provided students with the opportunity to “construct” the appropriate cognitive structures that would facilitate an awareness of the requirements for the development of the actual Major Project system.

In an attempt to get the students to internalise and identify with the principles of XP, in response to the concerns raised by Sewchurran (2007) and Wellington (2005), we adopted a connectivist approach. The introduction to agile methodology and XP was conducted via a series of lecture presentations. It was quite evident during these lecture sessions that the terminology and methodological explanations used in these lecture sessions only served to increase the abstractionism inherent in the whole concept of agility. Hence, there was certainly a need for a formal pedagogical intervention.

From an educational theory perspective, we decided to use connectivism as our underpinning theoretical model so that the process of knowledge construction regarding XP could be facilitated. However, this knowledge construction had to be guided or “cajoled”. The basic tenet of connectivism (Siemens 2005) is that learning takes place when individuals establish “connections” between elements in the learning domain in order to construct new knowledge. Hence, we needed to present the elements that underpin XP to students within a problem-solving context so that they could create their own knowledge regarding XP (within the parameters of the Agile Methodology). An opportunity presented itself, courtesy of the sentiments expressed in Beck (2008), that in order for the agile approach to be successful, there has to be adequate software support (referred to as a software tool) to underpin the software process model. In response to this opinion, Microsoft (2012) released Windows Team Foundation Server (WTFS), a software tool that is designed to support the entire agile process model. After having conducted an inspection of the trial version of WTFS, the authors realised that using WTFS as a software project management tool would ensure that an XP approach would be enforced in the building of the software artefact. This conclusion was based on the support for aspects of agile development and XP that formed the core functionality of WTFS. These included aspects such as user stories, test cases, release dates, main and navigator programmer (a reference to pair programming). Acquisition of WTFS would incur a significant cost, time and effort overhead to the IS&T division and there was no guarantee that students would use it to underpin their Major Project effort.

In order to resolve this dilemma, we decided to use the practical sessions to get the students to build a scaled down version of WTFS which we referred to as the User Story Application (USA). This strategy served the dual purpose of ensuring that each Major Project group had their own customised software project management tool as well as sufficient knowledge of the components that were used in the building of that tool. In this way, the entire agile approach comprising of aspects such as user stories, test cases and pair programming became an integral part of the vocabulary used by students in the Major Project course. The concept of XP and agile development now seems to have gained widespread acceptance by the Major Project student cohort, thereby achieving the objective of reducing the abstractionism inherent in these concepts.

**Academic Framework Underpinning the Acceptance of Agile Methodology**

It is reported in Chan and Thong (2009) that the constructs of TAM, perceived ease of use (PEOU) and perceived usefulness (PU), are generic enough to be readily used for examining the acceptability of software development methodology (SDM). The current study leveraged off the adaptable nature of these constructs to provide a guiding framework to investigate the acceptability of the core activities that underpin the agile methodology for software development. From an IS research perspective, this approach falls within the ambit of behavioural science research. However, the current study also involves an incursion into the actual software development
process and as such, hovers on the periphery of design science research as well. Design science research is anchored around the basic tenet that an innovative IT artefact is developed and becomes the source of inquiry from a research perspective (Wieringa & Morali 2012; Kuechler & Vaishnavi 2011; Kautz 2011; Niederman & March 2012). However, this interpretation of design science research is still very technically oriented and does little to bridge the gap between technical and social aspects of IS research (Niederman & March 2012).

In order to address this situation, Niederman & March (2012) propose a second dimension to design research where the software design and construction process itself may be viewed as the artefact of inquiry. By doing so the IS research community would be making a practical and relevant contribution to the software design and development process. In accordance with this assertion, the current study adopts a similar stance by viewing the agile software development process model, as embodied by XP, as the source of inquiry. From an IS research paradigm perspective, this kind of approach can be classified as an amalgamation of the behavioural and design science domains. The overriding academic framework comprising of TAM may be classified as part of behavioural science, whilst the exploration of specific aspects of agile methodology can be classified as part of the design science framework.

The academic framework for the current study is underpinned by the dimensions of TAM that are operationalised via references to specific aspects of the agile software process model. This overriding framework was used to inform the design of the research instrument that comprises a questionnaire. Table 1 illustrates the relevance of the academic framework to the design of the questionnaire.

| TABLE 1: CONSTRUCTS OF AGILE METHODOLOGY CLASSIFIED ACCORDING TO AN IS RESEARCH FRAMEWORK. |
|---|---|
| **Behavioural Science** | **Perceived Usefulness (PU)** | **Perceived Ease of Use (PEOU)** |
| User Stories are effective in capturing user requirements. | Compiling a set of user stories is easy to do. |
| Test Cases are effective in ensuring that the system works correctly. | Test cases are easy to construct and implement. |
| The time allocated to the analysis phase was sufficient. | Refactoring the database is easily accommodated. |
| An evolving system design is effective in directing the development process. | There is no need for a specific design phase. |
| The ‘quick route’ to system implementation improves the prospect of refining user requirements. | The ‘quick route’ to system implementation makes the system easier to develop. |

**Collection & Analysis**

A purposive sampling strategy was adopted in order to obtain responses from final year IS&T students. The data collection instrument was a questionnaire that was designed to elicit students’ perceptions on aspects of agile methodology. The questionnaire was designed so that perceptions on aspects of agile methodology (alluded to in Table 1) could be quantified on a 5 point Likert Scale ranging from “strongly agree” (coded as 1) to “strongly disagree” (coded as 5). The questions were phrased positively towards the constructs of agile methodology and were classified along the dimensions of PU and PEOU (in accordance with the acceptance framework of TAM). The population consisted of 135 students and there was a response rate of 71%.

It is reported in Sekaran & Bougie (2010) that several questions may be used to measure a single concept. In
order to obtain a measure of quantification, “... scores on the original question have to be combined into a single score” (Sekaran & Bougie 2010). In accordance with this suggestion, the analysis of the responses was conducted by collapsing the individual measures of the perception variables into 2 single dependent variables that represented the mean of the individual responses. The dependant variables represented PU and PEOU. An affirmation of the internal validity was obtained by conducting a Cronbach alpha test for these variables. According to Sekaran & Bougie (2010), a Cronbach alpha in excess of 0.6 indicates an acceptable level of cohesiveness with respect to the grouping of questions. A set of 5 questions was used to operationalise the PEOU variable. The Cronbach alpha value obtained was 0.64 and fell within the acceptable range alluded to by Sekaran & Bougie. The histogram representing the PEOU variable is shown in Figure 1.

![Histogram](image)

**FIGURE 1: FREQUENCY COUNT OF PEOU OF AGILE METHODOLOGY.**

The summary data from Figure 1 (mean = 2.52; median = 2.4; mode = 2.2) indicate a majority acceptance (75% of responses were below 3 and 50% of the responses were below 2.3) of the ease of using agile methodology. While these results are sufficient to indicate acceptance of the PEOU of agile methodology, the low Cronbach alpha value obtained for the PEOU variable became a source of concern as well as a catalyst for further inquiry. Upon closer scrutiny of the data, it becomes apparent that 2 questions did not seem to fit well with the remaining 3 questions. These 2 questions required responses to the following statements:

- There is no need for a specific design phase (a reference to the whole concept of not having a “big up front design” that is part of the agile strategy).

- Refactoring/changing the database design to accommodate changing user requirements is easy to achieve.

If these 2 questions are removed from the original set of questions, then the Cronbach alpha value increases to 0.78 which is indicative of much better cohesiveness with regards to the grouping of questions. A frequency count of the refined set of questions used to measure the PEOU variable is displayed in Figure 2.
The summary data from Figure 2 (mean = 2.09; mode = 2.0; median = 2.0) indicate a higher level of acceptance (88% of the responses were below 3 and 74% of the responses were below 2.3) of the ease of using agile methodology.

The PU variable was operationalised using a strategy similar to the one used for the operationalization of the PEOU variable. A set of 5 questions was used to derive a quantitative value for PU. The Cronbach alpha value obtained was 0.71 and fell within the acceptable range alluded to by Sekaran & Bougie. The histogram representing the PU variable is shown in Figure 3.

**FIGURE 2:** FREQUENCY COUNT OF PEOU OF AGILE METHODOLOGY USING A REDUCED VARIABLE SET.

**FIGURE 3:** FREQUENCY COUNT OF ACCEPTANCE OF THE PERCEIVED USEFULNESS OF AGILE METHODOLOGY.
The summary data from Figure 3 (mean=1.99; mode=2.0; median=2.0) indicate a high level of endorsement (97% of the responses were below 3 and 82% of the responses were below 2.3) of the usability of agile methodology.

In order to operationalise the level of engagement with agile methodology, students were required to provide a response with respect to their participation in “agile activities”, more specifically elements that underpinned XP. This included aspects such as frequency of participation in group meetings, frequency of involvement with identification and development of user stories, frequency of meetings with the system client/business owner as well as the frequency of participation in pair programming. These frequency values were summed and expressed as percentage values (illustrated in Figure 4) reflecting the students’ level of engagement with XP concepts.

The median value of 77%, as well as the negatively skewed distribution illustrated in Figure 4, are indicative of a high level of engagement with the elements of XP.

![Figure 4: Level of Engagement with Agile Methodology](image)

**DISCUSSION AND CONCLUSION**

In this paper, we have contextualised the objectives of this study by providing a justification for the research topic. It is envisaged that IS researchers will make an effort to leverage off the wider range of IS research topics that will become available as a consequence of the strategy of integrating the two distinct IS research paradigms of behavioural and design science. Whilst the current research agenda has a dominantly explorative demeanour, the empirical evidence provided suggests that the outcome of such research efforts can be beneficial to the IS academic and practitioner community.

The literature review as well as the data collection and analysis efforts have jointly contributed towards the provision of a solution, within the framework of this study, to the research problems that were identified at the outset. This assertion is corroborated by the summary provided in Table 2.
### TABLE 1: SUMMARY OF RESEARCH PROBLEMS AND OUTCOMES.

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Research Method</th>
<th>Research Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does the agile methodology entail?</td>
<td>Literature Review.</td>
<td>A definition and listing of main characteristics of the agile methodology.</td>
</tr>
<tr>
<td>What are the pedagogical challenges of implementing the agile methodology?</td>
<td>Literature Review.</td>
<td>A strategy is required to discourage “cowboy style coding” (Wellington, 2005); A strategy is required to facilitate the internalisation of agile processes (Sewchurran, 2007).</td>
</tr>
<tr>
<td>What is the students’ level of acceptance of Agile Methodology?</td>
<td>Quantitative data collection and analysis.</td>
<td>A high level of acceptance of agile methodology is reported on the basis of the data analysis (74% acceptance of PEOU and 82% acceptance of PUI).</td>
</tr>
<tr>
<td>How well did the students comply with the requirements of XP?</td>
<td>Quantitative data collection and analysis.</td>
<td>A high level of compliance is reported (An average engagement level of 75% is reported).</td>
</tr>
</tbody>
</table>

Table 2 provides an overview of the outcome of this study as well as an indicator that agile methodology will be endorsed as a successful process model for software development. However, the areas of concern, as highlighted by inconsistent data responses, are that of not adopting a “big design up front” (BDUF) as well as constant database re-factoring in order to accommodate customer requirements that may have changed during the system development process. With regards to the BDUF issue, a possible source of rationalisation lies in the approach that is adopted in teaching the systems development process at IS undergraduate level. The traditional “offering” consists of systems analysis and design that is delivered as part of the Systems Development Life Cycle (SDLC) through prescribed texts such as those written by Satzinger, Jackson & Burd as well as Bentley & Whitten. After having been accustomed to the routine of having a BDUF for an entire year, the notion of not starting with comprehensive design models for the system will create a “disorienting moment” (Hughes 2008), thereby resulting in a response that may be inconsistent with the other responses provided. The second inconsistent response emanates from the concern that any re-factoring of a software system will generate regression errors (Schach 2008; Sommerville 2007; Mens & Tourwé 2004) that may be difficult to resolve. The .Net framework also implements a “disconnected” data architecture that creates a memory resident “snapshot” of the database. Any change to the database structure will require re-generation of the memory resident copy of the database as well as re-coding of data structures designed to facilitate database processing. Hence, the strategy of database re-factoring will invariably receive mixed responses from the student cohort. The anomalous responses regarding the strategy of adopting an evolutionary modelling style as opposed to implementing a BDUF strategy as well as the whole issue of constant database re-factoring and the impact it has on system success is a viable area for future research concerning agile methodology.

From an overview perspective, the biggest challenge of implementing an agile approach towards systems development lies in the behavioural realm. The “lightweight” and flexible nature of the agile approach could be perceived as an opportunity to trivialise the methodological component of agile methodology in favour of development practice that is not “plan-driven” (such as “cowboy” style coding) under the “banner” of agile methodology. Whilst these remarks have been made on the basis of the literature review and the empirical evidence that was reviewed as part of the current study, they have also been endorsed in an interview that the researchers conducted with IBM Research Fellow, Grady Booch (Skype interview, June 11th 2012), where he emphasised the “socio-technical” nature of agile methodology. The term “socio-technical” is a reference to the recognition/incorporation of the behavioural traits of the software development team towards the technical aspects of agile methodology as a critical success factor in determining the success of an IS project developed using an agile approach. Hence, while many research efforts may attempt to quantify the success of the agile approach towards software development, it is equally important to ascertain whether the software development team adhered to the principles of agile methodology before the methodology itself is evaluated.
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Chapter 3

Teaching, Learning and Assessment
The experience of using the ‘newsflash approach’ to democratise teaching, learning and assessment at a South African university

Betty Mubangizi and Frances O’Brien

Abstract

This paper considers the use of print media in university curricula to assist in theorizing practice in higher education in South Africa and elsewhere. The potential contribution of such media to the kind of education to which we aspire is interrogated. Our reflections are based on an assessment of the use of different media (hard copy or web-based content of newspaper articles) in a third-year community development module at a large contact university in South Africa over a five-year period. The module focused not on academic literacies per se, but on disciplinary content, work-related skills, and the development of critical thinkers and citizens. In order to structure our reflection, we consider Bloom’s (1956, amended) taxonomy of learning objectives and activity theory. We conclude that the use of popular media can indeed add value to the class learning experience, although there are notable concomitant challenges, which are discussed.

Keywords: Universities, academic literacies, print media, critical thinkers and citizens, higher education pedagogies

Introduction

Since the advent of democracy in 1994, it has become increasingly obvious that vibrant participation and equitable access need to be features of the South African higher education environment. Dewey, the renowned American philosopher on education who passionately promoted the value of education and of community for democracy, considered that education was morally obliged to develop individual capacities; to engage citizens in association with one another; and to promote humane conditions. Such principles suggest that ‘good undergraduate university education’ should:

- Integrate personal experience with academic learning;
- Involve structured opportunities for reflection;
- Be inquiry-based, through the use of real issues;
- Facilitate face-to-face interaction, building a community of learners on campus and within the classroom; and
- Have connections to the community (Hatcher 1997).

These characteristics are compatible with the rationale for the promotion of higher education in Africa (see e.g. Association of African Universities 2005), and it behoves us to look critically at our pedagogical choices. With this in mind, we reflect qualitatively on the experience of using print literacies in the curriculum of a South African university. Highlighting popular/mass print media as one of the print literacies, we interrogate its potential
contribution to the kind of education to which we aspire. We use Bloom's (1956, amended) taxonomy of learning objectives, and activity theory, to structure our reflection and to aid us in theorising our practice in higher education.

**DIVERSE LITERACIES**

We understand literacy to be a characteristic way of creating meaning, interacting with and representing knowledge (Paul 2006). Academic literacy prioritises linguistic knowledge in its printed or written form, as opposed to oral forms. Textbooks and discipline or professionally oriented journals have been, and continue to be, one of the main sources of knowledge for university academics and students. The benefits of using such sources are numerous: they provide organised units of work and an orderly and sequential arrangement of information, and the information they contain has been peer reviewed and can be considered to be academically authentic. Journal articles are particularly useful, in that they provide relatively more up-to-date information and are appropriately focused around a specific academic discourse.

The weakness of textbook or journal articles lies in the boundary they may pose for the ‘new immigrant’ to academia. The boundary becomes more impenetrable as the distance between the student’s current identity or ways of knowing and doing things, and those constituting the academic identity, increases (McKenna 2004). Traditional academic texts pre-suppose a familiarity on the part of the student with academic conventions. Furthermore, as Richardson (2004, 518) reminds us, textbooks, by their nature represent authoritative, received knowledge that students are expected to learn, rather than challenge. An additional drawback is that the time-lag between writing and publishing, makes the information in the text less than current.

In the light of rapidly changing societal realities, however, other sources of knowledge have become increasingly crucial sources of up-to-date and more practical information. Popular or mass media, such as newspapers, are one such source of information. Newspaper articles contain contemporary and up-to-date information; and they are usually well researched, credible and accessible. Viney (2008) observes that popular media are an important part of the public sphere in a democracy. Through such media, citizens and institutions can not only learn about and communicate with each other, but each is afforded recognition of its existence and identity. Ideally, popular media serve democracy by:

- Informing the public of events and facts. Over a lifetime, much of a person’s exposure to happenings in society occurs outside lecture rooms through the media, be it electronic or print. The media, therefore, provide up-to-date information on critical issues in society;
- Correlating information via explanations and interpretations;
- Cultural transmission, as it expresses dominant ways of life and exposes subcultures and changing cultural developments;
- Entertaining, so as to relax and divert readers;
- Surveillance, by bringing issues forward for public scrutiny and comment (Viney 2008).

These characteristics suggest a place for popular media in academic curricula. Such media comprise a different genre of information, with different knowledge rules from the traditional text book. In academic writing, one common genre is the argument, through which the writer makes a central claim which is supported – using empirical evidence or authority – by a specific discipline and philosophical framework. The genre in a newspaper, on the other hand, is informative in an emotive way, and is designed to capture the attention of a wide spectrum of readers. It is thus written for a specific purpose and time-frame, and attempts to get the most important views in a short paragraph, so as to cater for a readership with a short attention span. Both genres, we believe, are useful in providing one with an information base in order to function and become responsible members of society. If
adequately linked, textbooks and newspapers may enable university students to bridge the gap between theory and practice. Indeed, Thomson (2005) records the use of newspaper articles as a means of introducing students to academic texts in a ‘graded approach’. Starting with newspaper reports and stories – a genre with which most students are familiar – the course facilitators in this instance explained to the students the ways in which such text was organised, and the vocabulary that was used. These literacy strategies were then contrasted with those used in newspaper editorials, which shared some linguistic features with both newspaper stories and with academic texts.

In this article, we recount the use of the different media discussed above, in an academic module. The module focused not on academic literacies per se, but on disciplinary content, work-related skills, and the development of critical thinkers and citizens.

THE ‘NEWSFLASH APPROACH’

The primary author used popular media with students of community development at a large South African contact university, over a five-year period. These students were taking a third level 32 credit module, focusing on developmental local government. Each year, the module was taught over five 45-minute lectures per week, for a semester of 16 weeks. During the first five weeks, students were exposed to the key concepts of the module, the theoretical framework, and relevant policies and legislation in local government. From around the sixth week, popular media were drawn upon. The ‘newsflash approach’, as it was called, took on three stages, namely: preparation, presentation and post-presentation.

In the preparation stage, students were advised to select a news item from a newspaper, which could either be hard copy or web-based. They then prepared a presentation in which they displayed their knowledge, understanding and application of the module in relation to community development and public administration practice. As part of the preparatory stage, students discussed with the lecturer their news article and the salient features of their class presentation, and were offered tips and advice, which helped them to fine-tune their presentations.

At the presentation stage, students were allowed about 15 minutes to make their presentations and to respond to comments from their classmates and lecturer. Use of various presentation aids was encouraged, and overhead slides, PowerPoint presentations, pictures, charts and posters were frequently used. A particular student’s presentation was followed by questions and comments from the rest of the class. The approach varied from student to student. In general, however, the presentations included the following:

• A discussion of the key issues in the news article, their causes and their impact on community development;
• An analysis of the message that the writer was trying to portray, and the arguments the writer presented;
• An explicit indication of where in the debate the student fell, and why;
• An exploration of the theoretical knowledge the student drew upon in this debate;
• A reference to the policy and/or legislation that might be drawn upon to respond to the issues raised in the article;
• Identification of the stakeholders and role-players, if clear problems were raised in the article;
• A projection of possible responses by a range of stakeholders, to the issues in the article.

After the class presentation, students incorporated comments from their classmates into a written assignment, in which they reflected on key issues and lessons of the ‘newsflash’ presentation. The following assessment criteria were used at each of the three stages referred to above:
• The selected article’s relevance to community development;
• The student’s confidence in using prescribed readings and other sources, as well as in incorporating such sources into the discussion;
• The level of objectivity in the student’s analysis of the article, and a justification of points made and positions taken during the discussion;
• A demonstration of critical thinking and insight into the underlying issues of the news article;
• The student’s ability to reflect on the historical origins of the issue, and to make future projections based on a theoretical understanding of issues;
• The student’s ability to engage the class in the discussion;
• The extent of team-work in the entire exercise.

Assessing students at each of the three stages added another positive aspect to the newsflash and the use of the print media. It added a multi-dimensional aspect to the assessment process – a matter to which we now turn.

MULTI-DIMENSIONAL ASSESSMENT

Multi-dimensional assessment gathers information from a broad spectrum of abilities and skills. Howard Gardener’s theory of multi-intelligence (Armstrong 1999) reminds us of the multi-dimensional nature of capabilities. This theory points out the usefulness of assessing students from many dimensions and levels, other than the traditional testing of recall knowledge through tests and written examinations.

The newsflash exercise, with its three-stage assessment, lends itself well to the theory of multi-intelligence. At the representation stage, students are assessed on how they source knowledge from the newspapers, the critical reading of the news item, and its interpretation in relation to the curriculum’s content. At the presentation stage, assessment is made of their ability to express their point of view and their confidence. The final stage is when students incorporate all the ideas of the first two stages and write an assignment that incorporates a reflection, not only on the content, but also on the entire exercise.

Assessment in higher education should establish not only what students know, but also what students are able to do as a result of their education. There is currently heavy reliance on the essay as a means of continuous assessment and in a build-up to the formative assessment of the test or written examination. The written essay is increasingly open to plagiarism, and recently universities have invested heavily in anti-plagiarism software. Mindful of the multicultural nature of higher education classes in South Africa, students whose conceptual framework is limited by historical background, culture and aptitude, may – according to Sowden (2005) – find it difficult to write originally about certain unfamiliar concepts, and such students may resort to plagiarism. To address this problem, Sowden suggests that parallel assessment procedures be introduced, both as an alternate to written assignments, or as an alternative step in the process of producing as assessed piece of writing (Sowden 2005, 232). The ‘newsflash’ was found to be useful in this respect, as it uses assessment at three levels which go beyond the regular test, examination or written essay.

THE CONTEXT OF THE FOUR DOMAINS OF LEARNING

In designing curricula, pedagogical choices are informed by the outcomes which students are expected to achieve. These outcomes can be viewed in relation to Bloom’s (1956) educational taxonomy. We now discuss aspects of this taxonomy, as we explore the appropriateness of including popular media in the curriculum under consideration.
Bloom’s (ibid.) original taxonomy differentiated three domains or areas of learning – the cognitive, affective and psychomotor – with each domain comprising objectives at various levels in complexity. A brief look at these domains and learning processes and levels lends substantial theoretical justification for the use of different media genres in our curricula.

**The cognitive domain**

This domain prioritises mental skills through which the student comes to know and comprehend, apply and analyse knowledge in a new situation, and to evaluate the relevance of ideas and phenomena. Synthesis, imagination and creativity are the higher-level cognitive skills aspired to.

In our context, students showed development in this area of learning when they were able to define or describe various policy issues, and could distinguish between aspects of local government legislation, or compare and contrast aspects of local government practices in various municipalities, in their presentations. The newsflash approach broadened students' knowledge on the spatial locations of municipalities across the country. Through the discussions, students learned about circumstances in far-flung municipalities, how citizens expressed their concerns, and the various possible solutions that different municipalities displayed in resolving community issues.

**The affective domain**

This domain of learning, on the other hand, has self-understanding as its goal, via the enhancement of feelings and emotions that enable the student to receive and respond, to value, organise and internalise ideas – in a manner that helps the learner wonder and aspire (Dettmer 2006). The empathy that some of our students developed from knowing the effect of corruption in municipalities on public resources generally, and on the poor in particular, is an aspect of the affective domain of learning. The immediacy of newspaper reports and the personal details they often contain may bring students’ emotions to the fore, which then propel them to more complex levels of knowing and doing. Students showed development in this area of learning if in their presentations for instance, they proposed strategies for social improvement, when they took part in discussions, and when they showed tolerance and sensitivity to people different to themselves.

**The sensorimotor domain**

This domain of learning recognises the importance of people's five senses as gatekeepers for incoming information. In addition, the domain promotes physical movement and the development of fine and gross motor skills as valued ways of learning, generally through the performance of certain activities. The development of this domain of learning was evidenced when students showed that they could coordinate a sequence of actions harmoniously and consistently. This happened when they:

- Prepared and used overhead slides appropriately;
- Made use of computer programs to create PowerPoint presentations and made use of the data projector;
- Designed presentation posters to portray their ideas.

**The social domain**

The social domain has been added to Bloom's original three domain model. Its inclusion is not surprising, given the recognition by numerous renowned scholars of the centrality of social factors in education and learning. Piaget, for example, attributed children's development as much to social factors as to cognitive ones (DeVries 1997), while Vygotsky’s Zone of Proximal Development was inhabited not by the learner alone, but also by adult
and peer guides who could help learners move from a current understanding to more advanced insights (Dettmer 2006). Learning in this domain begins through relating and communication, and then proceeds to the skills of participation, negotiation and adjudication.

It was clear that students in our module grew in confidence and collegiality as the module progressed, and as more group presentations were made. What would start off as a quiet class, with little interaction, usually ended up as a cohesive close-knit one. This is important, because ultimately students need to be able to collaborate, initiate and convert skills that are valued in work-places.

In summary, our module used the social or public place (the popular media) to awaken students’ learning in the cognitive, affective and sensorimotor domains. The higher levels of social learning were then promoted by the provision of opportunities for participation in class discussions, allowing not only academic integration, but also social integration – both of which are important in developing students as functional members of society.

MEDIATING ARTEFACTS

Having used Bloom’s (1956) expanded taxonomy to highlight the intended learning outcomes and processes of the university module under review, we now attend more specifically to how popular media operate as pedagogical strategies.

It appears to us that such media can be conceptualised as ‘mediating artefacts’ (Hardman 2008) or ‘boundary objects’ (McMillan 2008; Wenger 1998) in an activity system such as that conceptualised in activity theory. At its basic level of conceptualisation, what is known as ‘First generation activity theory’ is attributed to Vygotsky (Hardman 2008). An activity system comprises a ‘subject’ acting on an ‘object’ by means of some kind of tool/s. The subject comprises those people involved in the activity, who in our case were the students and the lecturer. The object is the focus of their interest, namely, the module of study, and a problem area comprising the learning to be undertaken. Mediating artefacts help the subject act on the object. It is the ‘tool mediated object oriented activity’ (Hardman 2008, 67) that promotes human understanding.

Conceiving of the module discussed in the current article as an activity system, academic texts and popular media are just two of a number of learning and assessment resources. Each may be valued differently by those that offer and use them. This basic system is depicted as a triangle in Figure 1.

![FIGURE 1: FIRST GENERATION ACTIVITY SYSTEM (ADAPTED FROM HARDMAN 2008, 68).](image)

Further to this, the ‘second generation activity system’ recognises that actors and their activities exist within an environment of factors which impact on them (Engeström in McMillan 2008). Thus, the communities to which subject and object belong, the rules governing them, and the power relations which determine how and by
whom the activity is undertaken, i.e. the division of labour, are made explicit in an expanded conceptualisation of an activity system (see Figure 2).

![Second Generation Activity System Diagram](image)

**FIGURE 2**: SECOND GENERATION ACTIVITY SYSTEM (ADAPTED FROM MCMILLAN 2008, 66).

Rules are the first element in a system of activity and may be formal and explicit, or tacit. They serve to guide the interaction of subject and mediating tool on the object. This considered, and with regard to the subject matter of the article, students are subject to the explicit faculty rules which prescribe how they access the module, its broad purposes, pedagogies, learning outcomes and assessment strategies, and how many credits they will be awarded on successful completion.

More specific rules about the use of the media, and the details regarding the presentation and written assignment are contained in a written guide, and are communicated by the lecturer. Choice is purposefully integrated by leaving the selection of the news article to the students, although some scaffolding is available through the student/lecturer consultations. The timetable is one rule which most obviously impacts on pedagogical practices. For instance, the lecturer originally had students offering individual presentations of 20-minutes' duration. As the class numbers increased, however, group presentations became the norm. Increased student numbers also necessitated a reduction in the duration of the presentation. As numbers increase further, it will be necessary to involve tutors or assistant lecturers at the various stages of the exercise – a practice with (rule-bound) budgetary implications.

Students and educators are part of various communities (the second element of a system of activity, see Figure 2), and in addition form a community as they jointly participate in achieving the outcomes of the module or formal learning. The significance of the community on students’ activities is apparent from studies that have addressed issues of student progress and success in higher education. Tinto (1997) has shown that students’ involvement both in and out of class – and with other students and academic staff – has an impact on their persistence in their studies. Tinto (ibid.) further observes that, especially for those students who live off campus, ‘the classroom is the crossroads where the social and the academic meet. If academic and social involvement or integration is to occur, it must occur in the classroom’. The concept of community assumes importance too,

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1 There is also a ‘third generation’ activity theory which addresses the interaction between activity systems. In this article, we do not engage with this version of the theory, as we conceive the students, educator, media and module as constituting a single activity system.
with the realisation that it is this that gives a person his/her identity. When a person knows how to communicate, behave and look, for example, he/she may become a member of the community – an insider, so to speak. McKenna (2004) found that students’ academic progress was determined less by their motivation or intellect, than by their identity, and that students would deliberately align themselves with peers whom they believed had the attributes of an established member of the community to which they desired admission.

In the context of the university curriculum considered in the article, the opportunity to access material of a different genre to that traditionally found in academia, and to interact with peers and academic staff as other news articles were shared, increased students’ chances to participate in the formal learning community on which they depended to achieve their educational goals.

The third element (see Figure 2) in the larger context of an activity system, is the division of labour. This alludes to the roles and power differences that exist in joint activities. Mediating tools can impact on existing roles and power differences, as could be seen in the module under discussion in this article. At the micro-level, students in the module initially assumed a role as a knowledge consumer, when faced with the academic texts and lectures early in the module. However, as they sought and chose newspaper articles and then ‘processed’ their findings into ways that would be intelligible for their peers, students subsequently assumed the roles of knowledge finder and producer. They may have seen themselves as assuming the role of educator, at least in the short term. While such a role is a core in a community development worker’s repertoire, we would argue that in every occupation and profession there is a need to share knowledge with peers. Educators, too, will find their role altered as they expand their repertoire of pedagogic strategies. The first author found that her role as primary knowledge transmitter was modified. She started to work more as a consultant to students as they prepared for their presentations, and as a facilitator in the class discussions following each presentation.

CONCLUSION

The experiences in the classrooms, and the reflection in relation to the four domains of learning and to activity theory, confirm for us that popular media can add value to the class learning experience. We have learned that admitting artefacts from the public arena and doing this in ways which place the students in more active and collaborative roles than has been traditional educational practice, offers a number of benefits (Pillay 2010). Students can progress along a number of levels cognitively, affectively, physically and socially. Using media for teaching and learning can, too, promote a sense of community, and challenge the existing division of labour in our classrooms. It is a strategy that appears able to accommodate institutional prescriptions.

There are, predictably, some challenges. One of these is to avoid being biased by the usual negativity that the media often portrays. There tend to be more news articles on corruption and violent service delivery protests in community development studies, than articles where local government officials successfully deliver on their mandate. There is in this instance, thus, a danger of students becoming overtly negative and critical of circumstances in the working world, without an objective view of the broader context. The educator’s role in alerting students to this context, and in encouraging their critical thinking about the news content, is vital. So too, it is suggested, is the educator’s role in monitoring the newspapers purchased by the institution’s library. The library at our university subscribes to most of the regional newspapers which, in the main, report on provincial matters. In this regard, it would be useful to have access to newspapers from other provinces, as this would broaden the number of articles available to students. With their easier accessibility, web-based news articles offer easier accessibility, but the educator will need to guide students to read and analyse a range of news items.

We conclude our reflection on the use of popular media in a South African university with the wise counsel of Mitchell et al. (2007). In deliberating on the place in higher education of print media in this digital age, these
authors draw attention to the importance of sound educational principles and conducive social environments:

The inclusion of multi-media in learning materials to enhance learning should be informed by the educational theory, the pedagogic principles and the learning environment of individual institutions. Most importantly, all learning materials should be developed with the elements of good learning design ... (namely) interactive elements in the form of activities and feedback to enable students to discover and learn independently. Real-world problems and authentic texts that acknowledge the experiences of students and are presented in language that is easily understandable are vital to ensure that students do not feel alienated from the subject and the institution. In addition, collaborative tasks should be included to enable students to interact either with their peers or with the community (ibid., 702).

Systematic research on the use of print media, using other curricula and at other higher education institutions, is warranted. This should be in the context of South Africa’s unique political and cultural scenario, in order to provide a tool for democratising learning whilst also preparing South African students for their place in a global society.

REFERENCES


The use of different types of multiple-choice questions in electronic assessment

Upasana Singh and Ruth de Villiers

ABSTRACT

Open distance learning (ODL) is characterized by increasing numbers of students, who are geographically dispersed. Assessment (marking) can be complex: an efficient means of assessment is required that does not result in a corresponding loss of quality. Multiple-choice questions (MCQs) offer unbiased, objective assessment which can be administered and processed online through an e-assessment that provides immediate results. This paper introduces innovative types of questions of the MCQ genre, and describes a study which investigated the adoption by South African higher-education academics of e-assessment tools in formative and summative assessment. The research methods employed a questionnaire survey and interviews. Quantitative and qualitative data was obtained regarding the types of questions used; identifying those which participants believed could assess higher-order thinking skills effectively, which types were suitable for various levels of study; and the benefits of e-assessment. The findings of the study are not only generally applicable but are also highly relevant for distance educators.

Keywords: E-learning, e-assessment, types of multiple-choice questions, formative assessment, summative assessment, extended matching items, extended matching questions

INTRODUCTION

This research, mainly set in academic departments and schools at South African tertiary institutions, investigates the usage of online assessment tools in the multiple-choice question (MCQ) genre. In particular, it focuses on the application of novel MCQ formats, on types of MCQs that can assess higher-order thinking skills (HOTS), and on the levels of study for which the questions are suited.

The time-and-location-independent nature of Information and Communication Technology (ICT) can support educators and students alike. Electronic learning (E-learning) incorporates various electronic media including the Internet, intranets, Web-based learning, interactive tutorials, simulations, educational games and online courses (de Villiers 2005; Costagliola & Fuccella 2009). Furthermore, e-learning offers automated assessment, termed e-assessment, and it is used by universities internationally for some portion of their assessment. Tools and systems exist that create, deliver, score, report and analyse both summative and formative assessments, and provide customised online services (Khedo 2005). The objective nature of e-assessment, as well as its rapidity and ability to handle high numbers, holds advantages for open distance learning.
BACKGROUND

Study 1

In a baseline study in 2009, which could also be regarded as a pilot study, the researchers studied the extent and nature of usage of electronic assessment tools within Computing-related academic departments and schools at South African tertiary institutions, as well as users' satisfaction with the tools (Singh & de Villiers 2010). In its dual role as the baseline study to establish the status quo at the commencement of longitudinal research and as a form of pilot study, Study 1 helped to refine the actual research project and contribute to the design of the instruments for Study 2. Study 1 aimed to establish a general context for subsequent research by answering two research questions:

1. What is the current nature and extent of use of electronic assessment in Computing-related departments at South African universities?

The questionnaire was made available to Computing-related schools and departments. Responses were received from 36 academics at nine tertiary institutions. Usage appeared to be concentrated in six, namely: University of Cape Town (UCT), University of the Free State (UFS), University of South Africa (UNISA), University of Pretoria (UP), Cape Peninsula University of Technology (CPUT) and Monash University, with more users from Computer Science, where there was a tendency to adopt e-assessment earlier, than from Information Systems and Information Technology. In some cases, the tools and systems had been deployed for more than five years. Although the actual extent of usage was low, it was increasing. There were 36 respondents from 9 institutions, of whom 16 were regular users of e-assessment and 20 were potential users. The systems were used more for formative than for summative assessment. Most usage occurred in situations of high learner numbers, i.e. first-level classes with 100-5000 students. The question types most frequently used were Multiple Choice and True/false.

Deployment of tools is either limited, or supported by, institution-wide policies. Although some respondents used e-assessment in an ad-hoc way, certain institutions have official procedures, and established in-house systems. In such cases there are dedicated laboratories for computer-based testing and administrators to manage sessions. The results of tests and exams are recorded automatically on learners' academic records and class records.

Despite the small number of users, a variety of tools were adopted by respondents, including Sakai, Vula, CISCO, Blackboard, Moodle, and CompAssess, while others used custom-developed automated marking systems, such as UNISA’s self-assessment facility on the myUnisa platform; University of Pretoria’s (UP) custom-built Umfundi and Click-UP; and tests on various learning management systems (LMSs) at some other institutions (Singh & de Villiers 2010).

2. How satisfied are the academic users with their e-assessment tools?

To determine satisfaction, the questionnaire probed the 16 established users on their perceptions of benefits and disadvantages. The qualitative open-ended responses were mainly in line with the literature. Though few in number, these established users were convinced users. Eighty one percent of them believed that e-assessment is more effective than traditional forms only, and gave reasons. They pointed out advantages and disadvantages for both educators and learners (Singh & de Villiers 2010).
Study 2

MCQs were investigated further in Study 2 (the present study) through a questionnaire and interviews (face-to-face and telephonic), which aimed to establish:

1. *Which of the various types of questions in the multiple-choice genre, do South African academics use? (The various types are explained in the section called ‘TYPES OF E-ASSESSMENT QUESTIONS’)*

2. *What is the relevance of these types for assessing higher-order thinking skills?*

3. *For which levels of study are the types suited?*

4. *What benefits are associated with e-assessment?*

LIMITATIONS

The study was aimed primarily at academics in Computing Schools and Departments. However, due to low response levels, non-Computing participants who are active users of the MCQ-genre were also included. The Computing category incorporated the disciplines of Computer Science, Information Systems, Informatics, Information Technology, and Information Sciences. Non-computing users included Educational Technology, Psychology, Economics, Anatomy, Business Management, Mathematics, Family Medicine, and Therapeutic Sciences.

LITERATURE REVIEW

Overview and purpose of e-assessment

Multiple terminologies exist, and among others are: computer-aided assessment (Khare & Lam 2008) and online examinations (Khare & Lam 2008). Our term of preference is electronic assessment (Alton 2009), termed e-assessment (Fielding & Bingham 2003). Students are presented with sets of online questions, to which they respond, and which are marked electronically. Results are captured and stored in databases and, where appropriate, presented to students.

Well-designed e-assessment tools can enhance diagnostic, formative and summative assessment of learners. Diagnostic assessment ascertains the level of a learner’s knowledge before or after learning activities. The purpose of formative assessment is practice and assessment for learning gain. It does not contribute to the final mark (grade), but provides feedback to educators and learners during the course of a module. Summative assessment is formal and structured, used for official grading at specific points during or at the end of a learning programme (Khedo 2005; Khadi 2004; Mc Alpine 2002).

It requires skill, practice and time to write good MCQs and, in particular, MCQs that test higher-order thinking skills (HOTS) (Luckett & Sutherland 2000). The selection of plausible distracters is a major challenge (Mitkov & Karamanis 2006). Written badly, MCQs can be confusing and demotivating (Alton 2009). Furthermore, updating of question banks takes time and effort and may result in inconsistencies in style and quality when different academics contribute to the same bank (Pitenger & Lounsbery 2011).

Certain distinctive features emerged from the literature and can be categorized as benefits and drawbacks of e-assessment.
Benefits:

- MCQs offer efficient evaluation in contexts of high student numbers and limited resources (Bani-Ahmad & Audeh 2010).
- High numbers of tests can be corrected automatically (Costagliola & Fuccella 2009) in a short time period (Ventouras, Triantis, Tsiakas & Stergiopoulos 2010; Pitenger & Lounsbery 2011).
- Some tools provide immediate, detailed and individualized feedback. Timely feedback can help to reduce the gap between actual and desired performance levels (Walker, Topping & Rodrigues 2008).
- In formative assessment, students can repeat the material or progress at their own pace (Luckett 2000).
- MCQs are useful for revision. There are learning benefits when students practise to reinforce their understanding of concepts (Bani-Ahmad & Audeh 2010).
- Automated scoring/marking of assessments in MCQ format is objective and consistent (Ventouras et al. 2010), since judgement is free from bias or inconsistencies of the human marker (Costagliola & Fuccella 2009).
- MCQs, in whatever format, are an efficient tool for measuring learners’ achievement but are best used in combination with other assessment methods (Luckett & Sutherland 2000).

Drawbacks:

- MCQs limit the kind of questions that can be asked (Ventouras et al. 2010). They frequently measure lower-level cognitive skills, such as knowledge, memorisation and aptitudes. Concerns exist as to whether they can assess knowledge application and problem solving, or test HOTS, such as synthesis and evaluation (Chiheb, Faizi & Afa 2011).
- Learners are judged on the correctness of their answers and not on how they reached them. Moreover, the educator cannot determine whether a topic has been fully understood (Ventouras et al. 2010).
- MCQ approaches are criticized for not facilitating active learning, because they do not require learners to explain why they chose a particular option (Pitenger & Lounsbery 2011).
- Guessing allows test-takers to obtain certain scores without actually knowing the material. To counteract this, ‘mixed-scoring’ and ‘negative marking’ can be used, deducting marks for incorrect answers. However, this can deter learners from tackling questions on topics where they have intermediate knowledge (Ventouras et al. 2010).
- Data security is an issue if the test-taker’s identity cannot be verified (Khedo 2005).
- Facilities must be available where learners can take e-assessments, which is an issue for distance learners (Costagliola & Fuccella 2009). Furthermore, many tools have limited features for disabled users, so accessibility for the physically-challenged must be considered (Maurice & Day 2004).
- For extensive e-assessment, technical and administrative staff must be available to support the infrastructure and procedures (Khedo 2005; Mc Alpine 2002).
- When learners struggle to use a system, they are distracted from their responses. Programs should be user-friendly and have high usability (Walker et al. 2008). Furthermore, learners with poor IT skills or who dislike e-assessment, may be disadvantaged (Karl, Graef, Eitner, Wichmann, Holst & Beck 2011).
- Multiple-choice testing seldom allows test-takers to control the sequence and the duration for which questions are displayed (Karl et al. 2011; Walker et al. 2008).
- It takes time to develop valid test items (Chiheb et al. 2011). Skill, care and practice are required to avoid confusing learners with unanswerable questions or poor alternatives (Alton 2009).

Despite the constraints associated with the adoption of e-assessment tools, the benefits outweigh the drawbacks, particularly where educators grapple with increasing student numbers and limited or insufficient resources. Especially when used for self-assessment, e-assessment can provide instant and rich feedback to learners, allowing them to improve their learning, beyond the boundaries of the class or lecture room. Contrary to common belief, MCQs (which is the most common format of questions adopted in e-assessment) can be used also to test the higher cognitive levels in Bloom’s taxonomy. Ultimately e-assessment tools must be used in conjunction with other forms of ‘traditional’ assessment for the holistic assessment of a learner.
Types of e-assessment questions

Concerns exist regarding the credibility of e-assessment practices in higher education, particularly regarding its capacity to test higher-order learning. Various objective formats exist in the MCQ genre, some identified in the literature and others provided by participants. Examples are: (1) multiple choice; (2) multiple response; (3) true/false; (4) true/false with explanation; (5) matching; (6) extended matching; (7) ordering; (8) fill-in-the-blank; and (9) writing or correcting code or text (Costagliola & Fuccella 2009; Chiheb, Faizi & Afia 2011). Some offer enriched testing and can stimulate HOTS (Maurice & Day 2004; Fielding & Birmingham 2003; Khedo 2005; Costagliola & Fuccella 2009; Chiheb, Faizi & Afia 2011). Brief descriptions follow of various question types:

1. **Multiple-choice questions (MCQs)** and **Multiple Response (MRQs)** display lists of answers from which learners choose by selecting one option only for MCQs and multiple options for MRQs.

2. **In Extended Matching Items (EMIs)** the learner selects the best answer from a list of 10-20 options, which may be used once, more than once, or not at all. There is no need for plausible distracters (Fenderson 1997). EMIs have the benefit of presenting a series of test items on the same theme (Beullens 2002). They take the form of vignettes, where cases are briefly described. EMIs emphasise problem-solving skills and application of knowledge rather than simple recall. They are widely adopted in medical education (Beullens, 2002) where, for each item, the students must solve a problem, e.g. by choosing a diagnosis from a list of relevant options. In Matching List questions, learners must specify which items in a list correspond with items in another list. These lists may include text or graphics.

3. True/False questions require learners to decide between two alternatives. The possibility of guessing is a concern, since merely guessing can give an average of 50%, making it easier for all learners to pass. These questions are simpler to prepare and quicker to read and answer; so there can be a high number of questions representing the subject matter well. A richer form is True/False with Explanation, where options for the explanation are also provided.

4. **In Fill-in-the-Blank questions,** learners submit the missing word(s) in a sentence/paragraph or missing items in a table. Hotspot questions require selecting an object or area in a graphic by using the mouse.

5. **Drag and Drop Questions** test the ability to assign items to the correct category or to arrange parts of a system into a whole by moving icons, images, or textual labels to specific locations on the screen.

6. **Simulation Questions** present models of systems and require learners to perform a highly interactive task by manipulating values.

7. **Finally, in Short Answer questions,** learners type an answer to a question, typically textual answers, to very specific questions.

Methodology

According to Creswell (2009, pg. 3), there are three basic approaches within a research design. These are qualitative, quantitative and mixed methods research. Qualitative methods usually adopt open-ended questions for data collection, and use words for reporting the findings, while quantitative methods use closed-ended questions for data collection and present their findings in numeric terms. Mixed methods research, as the name suggests, include elements from both the qualitative and quantitative paradigms. (Creswell, 2009). This research has adopted a mixed methods research design, by administering a questionnaire survey, followed by an interview survey, which gathered quantitative and qualitative data respectively.
Questionnaire Participants

Questionnaire participants were a combination of Study 1 respondents and referrals, both local and international. Questionnaires were distributed via email to 132 potential participants, of whom 92 responded. Sixty four (64) participants were from South Africa, representing 15 institutions. The largest numbers, 13 each, were from UCT and UFS; followed by WITS with 11; UP 5; and UNISA 4. Eighteen (18) (19.6%) of the 92 questionnaires were excluded, because they did not provide data.

The research was initially aimed at Computing users, but due to high usage and earlier adoption of e-assessment tools, non-Computing users were incorporated. The analysis shows composite findings, as well as some results by user type. In the Computing group with 55 participants, 21.1% came from UCT and 18.4% from UFS, with UNISA and UP at 10.5%. Of the 37 non-Computing participants, 30.8% were from WITS, followed by UFS (23.1%) and UCT (19.2%). The Computing users were distributed over fourteen institutions, while non-Computing users came from eight. UCT and UFS, with the most respondents overall, had relatively high numbers in both groups.

Figure 1 depicts 11 faculties, with the greatest participation from Faculties of Science, Engineering and Technology (28.1%); Commerce and Economic Sciences (17.2%); and Higher Education (12.5%). Participation of Health Science and Natural and Agricultural Sciences was 10.9% each. Health-related departments have traditionally been early adopters of educational technology, due partly to practical work and less time in class situations.

Participants represented twelve schools/departments, with a high number from schools or departments of Computer Science (28.1%), Information Systems (14.1%) and Information Technology (9.4%). There was readiness in the education discipline to adopt technology from departments/schools of Educational Technology (9.4%). Mathematics (7.8%) and Family Medicine (6.3%) also had high participation.

Of the 74 participants whose questionnaires were used, 57.9% were senior lecturers or lecturers. Some participants (34.6% of non-Computing users) had support staff to administer assessments and tests, while certain Computing users – who were comfortable implementing technology, managed e-assessment personally.
Interview Participants

Sixty eight interviews – some personal and most telephonic – were conducted with South African academics through referrals from Studies 1 and 2. Twenty three had participated in the Study 2 questionnaire. Of the interviewees, just under half were Computing participants.

Participants represented eleven institutions (including two universities of technology), from eight provinces. Twenty five percent (25%) were from UCT and 18 % from UFS [Qwa Qwa and South campuses]; UP (10%); NWU (10%) [Vaal and Potchefstroom campuses], and WITS (9%). The primary researcher was also referred to four local e-assessment developers, who were interviewed for information on the design requirements of South African academics. Their contributions were particularly valuable in relation to benefits and problems of e-assessment software, as well as the mention of additional functionalities and features used or requested.

ANALYSIS AND DISCUSSION OF FINDINGS

Questionnaire

To understand usage of the various types of questions in the MCQ genre, we addressed the research questions under the subheading, Study 2, in the Background Section.

Sixteen types of questions in the MCQ genre were listed in the questionnaire. The participants were asked to indicate all the e-assessment types they had used over the years and across modules. The most common types adopted by 64 South African academics, Computing and non-Computing together, were Multiple Choice: single-response (40.90%) and Multiple Choice: multiple-response (17.44%), followed by True/false (14.45%), Simulations (10.44%), and the others below 10%. Text-input, short-answer had a 14.55% response, but in all instances, these were marked manually.

Participants were also asked to indicate adoption of the various question types in intervals: 0%, 1-29%, 30-69%, 70-99% and 100%, e.g. if a participant selects 30-69% for True/False, it indicates that the participant adopts True/False questions 30-69% of the time in their assessments. The adoption patterns of computing and non-computing users, according to this classification, are presented in Table 1.

<table>
<thead>
<tr>
<th>Question Types</th>
<th>Computing (%)</th>
<th>Non-computing (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple choice: single response</td>
<td>40.18</td>
<td>41.92</td>
</tr>
<tr>
<td>Multiple choice: multiple response</td>
<td>11.99</td>
<td>25.19</td>
</tr>
<tr>
<td>True/false</td>
<td>13.61</td>
<td>15.65</td>
</tr>
<tr>
<td>True/false with explanation</td>
<td>4.18</td>
<td>4.04</td>
</tr>
<tr>
<td>Fill-in-the-blanks/Completion</td>
<td>9.72</td>
<td>5.37</td>
</tr>
<tr>
<td>Simulation</td>
<td>14.68</td>
<td>4.42</td>
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<tr>
<td>Matching items</td>
<td>5.39</td>
<td>9.19</td>
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<tr>
<td>Extended-matching items</td>
<td>5.39</td>
<td>9.19</td>
</tr>
<tr>
<td>Selection/Drop down lists</td>
<td>2.84</td>
<td>4.04</td>
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<td>Ranking</td>
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<td>Diagram/Video Clips</td>
<td>7.14</td>
<td>5.37</td>
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<td>Drag-and-Drop</td>
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<td>2.48</td>
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<tr>
<td>Reordering/Rearrangements/Sequencing</td>
<td>1.62</td>
<td>1.15</td>
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<tr>
<td>Categorising</td>
<td>1.62</td>
<td>0.58</td>
</tr>
<tr>
<td>Hotspots</td>
<td>1.22</td>
<td>6.71</td>
</tr>
<tr>
<td>Text Input (short answer)</td>
<td>15.05</td>
<td>6.09</td>
</tr>
</tbody>
</table>
Chi-square goodness-of-fit tests were performed on this data to see whether, for each question type, there was significant selection of a specific usage%. Despite the indication in Table 1 that computing users seem more willing to adopt a variety of types, there were also significantly more respondents than expected who indicated a 0% usage of the non-standard question types, i.e. no use of types outside direct multiple choice and true/false.

Various cross tabulations were done, one of which, Usage/Faculty indicated a significant relationship, in that significantly more than expected respondents from Management Sciences (p=.024) were using Ranking questions in up to 30% of their assessments.

The second question investigated usefulness of different question types in assessing HOTS. Bloom’s taxonomy (Bloom et al. 1956) presents a progression in levels of thinking, starting at the concrete lowest-order Level 1 with facts. Thereafter, learners comprehend meanings and implications of the facts (Level 2). On Level 3 they apply their learning, which helps them to solve problems and transfer knowledge to related situations. In analysis (Level 4), learners can classify, categorize, discriminate and detect information, as well as compare and contrast concepts. Synthesis (Level 5) involves combining ideas, planning, forming solutions, and creating new information. Evaluation on Level 6 requires taking decisions, ranking concepts and making judgments regarding information and situations (Bloom, Mesia & Krathwohl, 1964; Passey, 2010).

Participants were asked to rate the types in terms of relevancy to HOTS, in four categories: <Not useful>, <Undecided>, <Useful>, <NA/unfamiliar>. Computing and non-Computing users evidenced very similar patterns.

Chi-square goodness-of-fit analysis was done to ascertain which responses were selected significantly more often than the others. Significance is taken for any p-value less than 0.05, indicating 95% confidence. The lower the p-value, the more significant is the result.

- <Useful> was chosen by significantly more respondents than expected for Extended-Matching Items; True/false with explanation; Diagram/Video Clips; Simulation; Multiple Choice: single response; and Multiple Choice: multiple response. For these six types, significance was p < .0005.

  Ranking with p=.001; Reordering/Rearrangement/Sequencing (p=.001); and Categorizing (p=.002) were significant to levels indicating high usefulness for assessing HOTS.

- <Not useful> was chosen significantly more often for True/false (p<.0005); Matching Items (p=.002); and Drag-and-drop (p=.017).

Selection for the response options was not even across options. Multiple choice: single response was the only question type with which all respondents were familiar.

The third question investigated which question types the interviewees felt were useful for the four levels of study. The findings are consolidated in Table 2.

Table 2 shows that for first-year level, there was broad use of types, but particularly MCQ (single response) and

<table>
<thead>
<tr>
<th>Question Types</th>
<th>Year 1 % of Interviewees Comp</th>
<th>Year 1 % of Interviewees Non-Comp</th>
<th>Year 2 % of Interviewees Comp</th>
<th>Year 2 % of Interviewees Non-Comp</th>
<th>Year 3 % of Interviewees Comp</th>
<th>Year 3 % of Interviewees Non-Comp</th>
<th>Year 4 % of Interviewees Comp</th>
<th>Year 4 % of Interviewees Non-Comp</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCQ: Single response</td>
<td>92.1</td>
<td>96.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>True and false</td>
<td>76.3</td>
<td>80.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMI</td>
<td>73.7</td>
<td>57.7</td>
<td>-</td>
<td></td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection/Drop down lists</td>
<td>73.7</td>
<td>69.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCQ: Multiple response</td>
<td>81.6</td>
<td>69.2</td>
<td>63.2</td>
<td>69.2</td>
<td>-</td>
<td>57.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fill-in-the-blank/Completion</td>
<td>78.9</td>
<td>69.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotspots</td>
<td>52.6</td>
<td>-</td>
<td>52.6</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question Types | Year 1 % of Interviewees | Year 2 % of Interviewees | Year 3 % of Interviewees | Year 4 % of Interviewees
---|---|---|---|---
Matching items | 52.6 - | 52.6 - | | 
Drag-and-drop | 68.4 - | | | 
True and false with explanation | 60.5 - | 65.8 73.1 | - | 50.0 - 
Diagram/Video clips | 60.5 - | 57.9 65.4 | 63.2 65.4 | 52.6 - 
Simulation | 68.4 - | 65.8 - | 63.2 61.4 | 50.0 61.5 
Ranking | 68.4 - | | | 
Reordering/Rearrangement/Sequencing | 68.4 - | | | 
Categorizing | 57.9 - | 57.9 - | | 

True/False. Computing academics explored every type, especially MCQ multiple response, Fill-in-the blank and EMI questions. On second level, users were selective and made greater use of the more advanced types, while at third level, usage was concentrated on Diagram/Video Clips and Simulation. There was a similar tendency at honours, adoption was greatest on Diagram/Video Clips and MCQ (multiple response).

**Interview Study**

The interview study supplemented the questionnaires by providing further insights into adoption patterns of e-assessment. Of the 68 participants, 52.94% are recent adopters of e-assessment, having had one to two years experience with it. Only 17.64% had used it for more than five years. According to Costagliola & Fuccella (2009), most online testing modules are part of general purpose learning management systems (LMSs). This was also found to be true in South Africa, with 73.5% of the interviewees using the tool built into their university’s LMS.

The study investigated whether participants used a single tool consistently, whether they used different tools for different purposes, or whether they changed their preference. It emerged that 85% (57) of participants had used the same tool for the previous three years. Of the 15% (11) who changed tools, 6 did so due to institutional changes, while the other 5 adopted a different tool due to personal dissatisfaction and interest in exploring other options and question types not supported by the tool.

11.8% of the participants indicated that their institutions have a fixed, university-wide policy on adoption of e-assessment. Academics must conform to the policy and design assessments around it. The other 88.2% were free to use e-assessment as they wished. None of the interviewees was restricted by any School/Department-wide policy. All the interviewees had the full support of management in their department/school for adopting e-assessment.

As depicted in Figure 2, e-assessment was used by 70.6% of the academics for formative assessment (which did not contribute to the final mark), while 29.4% used it for summative purposes and 28.6% for both. Marks for these assessments are released immediately by 86.7% of academics, while 13.2% delay release for checking and to prevent copying.
Table 3 summarises adoption at the various levels. The highest adoption of electronic questions from the MCQ genre occurs at first and second levels (NQF levels 5 and 6), with large numbers of students. Eight academics also use e-assessment for postgraduate students, with relatively small numbers (5-25). The final column indicates the percentage of participants who use e-assessment at those levels, with the percentage being the number who use it at that level over the number of interviewees, namely 68. The percentages total to more than 100% because some used e-assessment at more than one level.

<table>
<thead>
<tr>
<th>Level of study</th>
<th>Number of students in cohorts</th>
<th>Adoption rate (number of interviewees who use at that level)</th>
<th>Percentage of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>&gt;250</td>
<td>44</td>
<td>67</td>
</tr>
<tr>
<td>Second year</td>
<td>200 – 500</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Third year</td>
<td>40 – 120</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Postgraduates</td>
<td>5 – 25</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

Only 11.7% use e-assessment for all the assessments in a module, while 29.6% use it for three to five assessments per cohort, some of them formative. In 45.1% cases of modules investigated, the contribution of e-assessments to final marks, was 11–40%, while 11.7% of e-assessments contributed over 80% to final marks.

51.5% of academics did not require any formal training on the tool adopted, but were self-taught. The other 48.5% attended some form of training or orientation. Most departments provide no technical support for academics who adopt e-assessment, and 36.8% of participants solved problems by troubleshooting the issues themselves. University support was given to 29.4% of academics, while in 25% of cases, developers provided support. With regard to administering assessments, 47.1% of the academic interviewees did it themselves, while 52.9% had assistance from administrators or invigilators.

The interviews gleaned qualitative data about interviewees’ perceptions of the benefits of e-assessment. The researcher studied the interview transcripts to identify themes and patterns, some of which corresponded with findings from the literature, while others were novel. They fall into seven categories and are supported by anonymised quotations.

1. **Feedback to students**

   Fast turnaround time is a prime advantage. Detailed constructive feedback can be provided in formative assessments. The correct answer is given, possibly supplemented by information such as page references, hyperlinks to relevant resources, and diagrams. Some interviewees offered cautions regarding this enrichment feedback. It should be accessible to the student both in the assessment venue and in a portable form, such as a printout or download to a USB. Moreover, the feedback should be equitably provided to all test-takers, including those who got answers right.

2. **Consistency**

   In automated assessment, there is no subjectivity, bias or impact of a human assessor’s emotional or physical state. Nor do different markers assess the same test. In contrast, the responses are judged impartially and objectively by a computer program.

3. **Reduced uncertainty**

   Students are not left to wonder for days or weeks about their mark, because results are available rapidly. A
A quotation from Respondent 34 relates to Points 2 and 3:

R34: ‘To get proper turnaround and mark papers/assignments quickly and efficiently and return them to students is very difficult. Also, it is often not fair, because we used to hire a variety of tutors to mark. Online assessment helps to achieve consistency.’

4. **Assessment frequency**

E-assessment allows more frequent assessments without additional marking. However, there is a great deal of work and pilot testing when the initial question bank is created. This work continues over successive years, as questions are improved and added. Where enriching feedback is created and included, there is more time-consuming work for the academic.

R28: ‘The main motivation for using it, is so I can do continuous assessment on a very regular basis with large numbers of students, without the additional burden of marking.’

5. **Question sharing and re-use**

Questions banks can be created and questions can be re-used over time. Where more than one higher-education institution offers a course with similar subject matter, questions can be shared.

R8: ‘… not reinventing the wheel – sharing of questions and collaboration with peers; question banks.’

6. **Accessibility**

There can be time-and-location independence. Assessments and practice can run on the Web with 24/7 flexibility and in a location of the learner’s choice. This is termed ‘anytime-anywhere-access’.

R26: ‘Students can attempt the quizzes anywhere because it is linked to the LMS which is accessible through the Internet’.

R14: ‘Class tests can be taken from anywhere’.

Where assessment is true formative assessment that does not contribute to marks, it can be done by the student in any place – a computer laboratory or kiosk, his/her home, or at a workplace. Where it does contribute, caution must be exercised in allowing test-takers to do assessments anytime-anywhere, because there is no assurance it is their own unaided work. One way of countering this is by timed pauses. Questions remain on the screen for a fixed time, which is insufficient to search for the answer in a book. However, it does not prevent the situation where the student has someone on hand to help answer questions. Assessment that contributes towards the mark should be done in official, monitored venues, with students doing it simultaneously or in sessions to manage large numbers of students.

7. **Student engagement**

This overlaps with accessibility, because it relates to students answering questions for practice or to improve their learning. One interviewee mentioned ‘challenge questions,’ which stimulate students to engage beforehand with the upcoming course material.
CONCLUSION

This study has established that the usage by South African academics of the various types of multiple-choice questions is concentrated on Multiple-Choice: single and multiple response, True/False and Fill-in-the Blank questions. The more novel question types such as Extended-Matching Items; True/False with explanation; Diagram/Video Clips; Simulation; and Multiple Choice: single and multiple response, were found to be relevant for assessing higher-order thinking skills.

For first-year, adoption is concentrated on MCQ (single response) and True/False, while at second, third and honors levels, Diagram/Video Clips and Simulation are the most used.

Benefits associated with e-assessment include automated feedback, consistency, rapid scoring, reduced uncertainty, assessment frequency, question sharing and re-use, and student engagement; all of which can support assessment practices in open distance learning, where large numbers of students are widely dispersed. Despite disadvantages mentioned in the literature and articulated by certain users and non-users of e-assessment, the benefits outweigh the drawbacks, particularly in a milieu of rapidly increasing student numbers. Furthermore, educators’ workloads can be reduced due to the use of automated assessment in place of some of the manual marking. From the learner’s perspective, the use of e-assessment as formative self-assessment can provide opportunities for practice of skills and consolidation learning in personal time and space. Finally, the authors acknowledge that e-assessment tools must be used in appropriate contexts and in conjunction with other forms of traditional assessment for the holistic assessment of a learner’s performance and knowledge.

This portrayal of the current status of usage of questions from the multiple-choice genre among South African academics serves a double purpose. Not only does it provide useful data, but it has identified a community of users, based on the participants in the two studies. Future research aims at establishing a framework of requirements for, and evaluation of, online assessment systems and tools.
REFERENCES


Chapter 4

Enhancing Student Access and Throughput
Critical Reflections on Management Studies’ Access Initiative

Jabulani Zikhali and Koye Gerry Bokana

ABSTRACT

The Bachelor of Commerce (BCom4) – Extended Curriculum, in the Faculty of Management Studies (FMS) at the University of KwaZulu-Natal (UKZN), runs alongside mainstream courses. It responds to those students who exhibit a lower level of academic ability, as measured by their performance in the Senior Certificate examination. Many are from socio-economically disadvantaged communities and schools. The outcomes of the BCom4 initiatives have been encouraging: in some cases, progression and throughput rates have superseded those of mainstream students, despite their lower entry level scores. The programme has undergone a number of changes as a result of its self-reflexive and critical approach. It has evolved from a bridging to an augmented and extended programme, necessitating curriculum reviews and realignments. The programme fulfils an important role in the provision of education to previously disadvantaged students: opportunities have been offered to students who would otherwise not have been able to study at university. The type of support, monitoring, teaching and tutoring that takes place in the BCom4 Extended Curriculum programme can be a lesson for mainstream teaching and learning. When an appropriate support and teaching strategy is applied, students tend to respond positively, as evidenced by a reduction in dropout rates and an improvement in the performance of students, despite the challenging situations that many of them face.

Keywords: Bachelor of Commerce Extended Curriculum programme, access, academic monitoring and support, progression, throughput, dropout, Higher Education, University of KwaZulu-Natal

INTRODUCTION

The Bachelor of Commerce (BCom4) – Extended Curriculum, in the Faculty of Management Studies (FMS) at the University of KwaZulu-Natal (UKZN) runs alongside mainstream courses responding to students who exhibit a lower level of academic ability as measured by their performance in the Senior Certificate examination, and who are from socio-economically disadvantaged communities and schools. Through a range of interventions, students in BCom4 are offered scaffolded academic and non-academic support to help them navigate their studies and university life. Mainstream modules are augmented by extension tutorials. These tutorials are coordinated between various modules to support and complement each other. The outcomes of the BCom4 initiatives have been encouraging, with progression and throughput rates in some cases superseding those of mainstream students, despite their lower entry level scores. The support and interventions offered in the BCom4 have proved to be crucial building blocks in strengthening the programme at UKZN. Using a range of instruments, the programme is constantly reviewed and assessed to identify areas requiring modification, realignment and adjustments to respond to the changing environment and student needs. This self reflexive and critical approach has seen the BCom4 Extended Curriculum programme undergo a number of changes, evolving from a bridging
This programme was introduced in the late 1970s when the pre-merged University of Natal (UN), introduced a wide range of support and development programmes in the Faculty of Commerce for black students in an attempt to overcome constraints of the pernicious and destructive effects of apartheid in general and Bantu education in particular (Moulder, 1991; Walker and Basha, 1993; Volbrecht, 1999; Edwards, 2000). The University of Natal’s bridging Access programme required students to complete the required modules offered to receive certification. In the late 1990s, a new Regional Access Programme (RAP), a fully fledged foundation programme, was launched, where students who did not meet admission requirements to mainstream commerce studies had first to complete prescribed modules in the RAP; although these students did not form part of the mainstream student body of UN. Students in the RAP could enrol for some of the mainstream lectures and receive credits for successfully completing those modules.

In comparison with the earlier access programme where admission was determined mainly by financial affordability for students, RAP was more structured, vigorously marketed and had dedicated staff that travelled through the province to recruit students. However, both programmes still did not have a clearly-defined target group or clear policy on why the programme existed. It appears the programmes were primarily income generators, as there is no evidence that students from either programme were actively encouraged to proceed to mainstream studies. A follow-up study tracking these students to shed some light on what happened to them is in progress and will be reported separately when completed.

Prior to the merger, anecdotal evidence suggests that the former University of Natal was running the Access programme more as a bridging than an extended programme, in as far as students who successfully completed modules offered in the programme could choose to exit and not further their studies. Indeed, they were not encouraged to continue, because of the lack of funding.

After 1994, there was an imperative for South Africa to transform the university curriculum to become more equitable, inclusive, and just (Rollnick et al. 2008; Edwards, 2000; DoE, 1997). In 2004, the University of KwaZulu-Natal (UKZN) was the product of the merger of the former University of Natal (UN) and the University of Durban-Westville (UDW). One of the new university’s founding principles, in response to the White Paper on Higher Education (1997), was access and redress to students who were disadvantaged in their earlier schooling. Specifically, the UKZN policy advocates that ‘resources for access programmes will be especially directed towards degrees or qualifications that are consistent with current national needs.’

This re-affirmation implicitly brought with it three key challenges for UKZN: (1) a sustaining responsive and engaged knowledge institution which is fit for the purpose of transformation and development in South Africa and in particular responsive to regional social and economic needs, (2) increasing access to and articulation within post-school education and training, particularly to the poor, and (3) mitigating the poor conditions under which many students learn and live.

**STRUCTURE OF THE BCOM4 EXTENDED CURRICULUM**

The degree is categorised as an extended curriculum, because the study duration is extended by one academic year to accommodate the provision of foundation and augmented modules. Foundation and augmentation are intended to strengthen students’ conceptual understanding, critical thinking and literacy skills in their first year of study. The model follows the one advocated by Lubben et al. (2010) and Morrow’s (2003) epistemological access, which is aimed at preparing students to gain deeper academic engagement with their modules so they can do better in their subsequent and more advanced modules. The augmented modules supplement the mainstream modules offered to all students in the faculty and carry 32 credit points, twice the number carried by mainstream
modules. A typical first and second year approved curriculum structure for the BCom4 is shown in the following Table 1.

### TABLE 1: CURRICULUM STRUCTURE FOR THE FIRST TWO YEARS OF THE BCOM4 EXTENDED CURRICULUM, CLMS, 2010

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Second semester modules</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First semester modules</strong></td>
<td><strong>Second semester modules</strong></td>
</tr>
<tr>
<td>Augmented Economics 101 (ECON105) [32 credit points](^1)</td>
<td>Augmented Economics (ECON106) [32 credit points](^1)</td>
</tr>
<tr>
<td>Augmented Mathematics 134 (MATH105) [32 credit points](^1)</td>
<td>Specialised Statistics 171 [16 credit points]</td>
</tr>
<tr>
<td>English Language Development (ELDV1C1) No credit points(^2)</td>
<td>English Language Development (ELDV1C1) [16 credit points](^2)</td>
</tr>
<tr>
<td>End User Computing (ISTN100) [16 credit points]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First semester modules</strong></td>
<td><strong>Second semester modules</strong></td>
</tr>
<tr>
<td>Augmented Economics 202 (ECON205) [32 credit points](^1)</td>
<td>Augmented Economics (ECON 204) [32 credit points](^1)</td>
</tr>
<tr>
<td>Information Systems &amp; Technology (ISTN 101) [16 credit points]</td>
<td>Information Systems &amp; Technology (ISTN 102) [16 credit points]</td>
</tr>
<tr>
<td>Commercial Law [16 credit points]</td>
<td>Elective (any faculty approved level 100 module) [16 credit points]</td>
</tr>
<tr>
<td>Elective (any faculty approved level 200 module) [16 credit points]</td>
<td>Elective (any faculty approved level 200 module) [16 credit points]</td>
</tr>
</tbody>
</table>

Notes:
1. Augmented modules are mainstream modules offered to both the Access programme and mainstream students.
2. Foundation modules are offered to BCom4 students only.

Module augmentation is intended to help students develop their understanding of economics and mathematics discourses through student engagement and deep learning with intensive structuring and mock assessments. This is done to create opportunities for students to engage with one another more meaningfully and for tutors and lecturers to interact with students more intensely and provide detailed formative assessment. This approach is a marked departure from mainstream approach which is the traditional lecturer-focused and information-transmission with little student engagement. In such conditions, students are unwittingly not encouraged to be interactive. Instead, they are passive participants with sometimes an inadequate understanding of the teaching taking place. This results in poor and surface learning.

A developed progression path for BCom4 is provided in that students attend the regular lectures with other mainstream students in different disciplines in the CLMS. Additionally, selected courses are ‘extended’ by small group tutorials and/or lectures in addition to and separate from the mainstream courses, such as economics first and second year modules. Students in the BCom4 attend same lectures as traditional mainstream BCom students, but they also have to attend extension tutorials. It is these extension tutorials that augment mainstream modules, hence augmented modules in economics and mathematics. The progression path for BCom4 is illustrated by Figure 1 that follows.

FIGURE 1: INTEGRATION OF THE ACCESS PROGRAMME IN THE MAINSTREAM DISCIPLINES IN THE COLLEGE OF LAW AND MANAGEMENT STUDIES, UKZN.
FOCUS AREAS OF THE BCOM4 EXTENDED CURRICULUM

The degree has three main focus areas: (1) access, (2) retention, and (3) throughput. These three focus areas are discussed below more in-depth to highlight how the BCom4 differs from other Access programmes offered in different colleges and faculties of UKZN and other universities in South Africa.

Access

The programme recruits a pool of applicants meeting lowered minimum requirements for the mainstream disciplines in the Bachelor of Commerce (BCom4) in Accountancy and BCom General. The degree structure presented in the following Table 2 focuses particularly on applicants from quintiles one to three schools as per DoE ranking (www.doe.gov.za), with quintile 1 denoting the highest score and quintile 5 denoting the lowest scores. The BCom4 therefore gives alternative access to students from disadvantaged schools who do not qualify for admission to the CLMS on the grounds of their matriculation results (Handbook, 2010).

<table>
<thead>
<tr>
<th>Senior Certificate subject score</th>
<th>Mainstream</th>
<th>BCom4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>Level 5</td>
<td>Level 3</td>
</tr>
<tr>
<td>English</td>
<td>Level 4</td>
<td>Level 4</td>
</tr>
<tr>
<td>Life Orientation</td>
<td>Level 4</td>
<td>Level 4</td>
</tr>
<tr>
<td>Matric total points</td>
<td>32</td>
<td>28</td>
</tr>
</tbody>
</table>

The school classification into quintiles is used as a proxy for ‘disadvantaged schools’. This classification is determined by socio-economic measures of the poverty index whose data were gathered from the 2002 Household Expenditure Survey of the school’s catchment areas. The more of these resources and facilities the school has, the higher up the quintile ladder the school is placed. Schools classified and placed on a low quintile are regarded as ‘disadvantaged’. This is not to say that there are no poor students in schools placed in higher quintiles, but this category is difficult to identify systematically as it is probably not yet incorporated in any of the official databases.

Suffice it to say that areas considered when determining the school’s quintile ranking include the resources and facilities available in the school, as well as the socio-economic area where the school is situated. Examples of facilities and resources include toilets/ablutions, water, library, computers, laboratories, and other requisite resources. The assumption behind the quintile ranking exercise is that schools with good facilities have an enabling environment conducive to learning.

Progression and Retention

Students on the extended curriculum are not assessed separately from mainstream students. They write the same tests and examinations taken by mainstream students. UKZN has a clearly defined uniform progression rule which has built-in early warning indicators to identify students who may be struggling with their studies. Students in the BCom4, having chosen the BCom in accountancy as a major, are expected to complete their degree within five years from the year of first registration. Should they progress slowly or have academic problems during their study, a maximum of seven years (or 14 semesters) is allowed before being excluded for not meeting the progression rules. The ones who have chosen the BCom General degree are expected to complete their degree within four years. These students have a maximum of six years (or 12 semesters) before being excluded for failure to meet the progression rules (Handbook, 2010).
Through the monitoring of students in the BCom4, academic staff members and administrators are able to intervene in most cases and assist students. Interventions take different forms but will invariably include counselling either by academic staff or student counsellors in the Student Wellness Centre.

During the first semester of their first year at the university, BCom4 Extended Curriculum students are required to complete a set of questionnaires conducted by the Student Wellness Centre. The questionnaires have a battery of questions that seek to proactively identify potential problem areas that any particular student may face during his or her studies, especially during the first year. The questions asked cover socio-economic, health and academic areas. The students’ responses are kept confidential between the student concerned and the staff from Student Wellness Centre. The students’ responses are then analysed and discussed with respondents on an individual, one-on-one basis so that corrective action can be taken pre-emptively. Depending on the nature of the problem/s identified from the assessment and analysis of responses, an appropriate intervention is then devised. In other cases, the interventions are applied over a group if the problem is the same, such as problems with study skills, examination techniques, time management or needs for additional tutorials. If there are areas that are found to warrant further or additional attention, these are taken to the relevant department or individual with the concerned student’s consent. Through this kind of support, a number of situations have been resolved, in some cases students have been prevented from dropping out. Others have been prevented from committing suicide, or referred to the health clinic to receive medical attention and have continued with their studies without these students’ problems becoming known to their peers. Such an initiative ensures that students’ dignity and privacy are protected and respected, while the students also receive proper assistance with their problems as well as professional support.

There is a strong collaboration between academic and non-academic structures of the university to ensure that BCom4 Extended Curriculum students receive all the support necessary to meaningfully engage in their studies.

The BCom4 Extended Curriculum Programme also uses student support systems as a vehicle to develop students’ meta-learning skills and life skills. Anecdotal testimonies from the BCom4 alumni are that the stock of knowledge and learning techniques developed in the BCom4 are multipurpose in facilitating learning throughout the students’ university degree and beyond in their professional careers (Authors’ own communication).

Some of the benefits mentioned by both former and current students include the usefulness of the needs assessment questionnaire conducted by Student Wellness Centre.

Students have found these skills useful not only in their academic environment, but throughout their lives. Some of the support skills they have acquired have been utilised by them in their social and family situations with great success. For example, one of the students narrated how she used the skills she acquired from group sessions to help her family deal with the problem of HIV/AIDS in the family. Another student participated in time management and study skills workshops. He used the skills acquired from these workshops to help high school learners in his village during holidays manage their studies better.

**Throughput**

Table 3 below shows interesting data from which a number of observations can be made taking into account that cohorts of students differ markedly from one another. For example, the 2005 cohort of students has shown excellent performance both in terms of throughput. Of the 46 students registered, 35% graduated within the minimum four year period for the degree. Of the remaining 30 students (65%), 15 graduated within five years, bringing the total throughput rate to 67% (31 students in total).
Of the remaining 15 (33%), 6 are still in the system and only 9 (20%) dropped out. An investigation into the causes for dropping out revealed that of the 9 students who dropped out, 4 did not return in subsequent years and 5 changed their studies and registered with other faculties. This means only 4 students (9%) actually dropped out of the university system, a retention rate of 91% and throughput rate of 67%. As at the beginning of 2010, four of the 2005 cohort had registered for postgraduate studies in the CLMS. This is pleasing as it shows that some of the BCom4 Extended curriculum students may be developing their academic knowledge further instead of joining the labour market, in spite of their socio-economic conditions and background.

The 2006 cohort is also showing pleasing results, with 8 students (16%) having completed their studies at the end of 2009, and 29 (or 59%) still in the university system. So far, only 14 students (29%) have dropped out of the BCom4. Of the 14 who dropped out, 4 (or 8%) were excluded for academic performance, 3 (or 6%) changed to other faculties and 7 (or 14%) did not return to university. The 2006 cohort has a 76% retention and throughput rate. Both the 2005 and 2006 figures compare favourably with the university’s performance in terms of both the throughput and retention rates.

### MODE OF DELIVERY

The Access Initiative in the CLMS is a fully fledged extended BCom degree programme. The programme is structured in such a manner that it has foundational, augmented and mainstream modules. Mainstream modules have certain assumptions built into them that expect students to have acquired knowledge up to certain levels.

Extant studies have generally found modules of economics, English and mathematics to be strongly associated with students’ performance (Raimondo et al. 1990; Edwards, 2000). These three modules, based on their importance in the CLMS, have been identified in the BCom4 Extended Curriculum as key modules in which students need to have additional assistance. From Figure 1, of the eight modules students enrol for in their first year, they enrol for four in the first semester. Of these, two are augmented and bear 32 credit points each: economics and mathematics, one (end user computing) is a mainstream module and bears only 16 credit points, and the fourth (English Language Development) is a foundation, language literacy module and bears no credit points. In the second semester of the first year, English Language Development is a foundational, language literacy module that also bears 16 credit points. Economics is augmented and bears 32 credit points. Business Studies Management is an academic literacy module and also bears 16 credit points. Only statistics is a traditional mainstream module and bears 16 credit points.

Building from the above, additional assistance in economics and mathematics is in the form of augmentation. Economics is one of the modules with the highest failure rates in the faculty. However, economics has four core modules starting from the first year up to the second year for all students in Management Studies. Those majoring or specialising in the discipline study third year level modules, which are more advanced and highly technical.

The Foundation English module attempts to fill those gaps created by poor primary and secondary schooling.
It is widely recognised that the language of management studies represents a discourse very different from that encountered elsewhere by students. Research has shown that second language students experience particular difficulty in this area (Lubben et al. 2010) and so special attention is paid to developing the students’ grasp of the vocabulary and discourse of management studies. This function is fulfilled through the English Development Language modules that are offered in the first and second semester of the first year. These modules serve as building blocks for management studies modules such as economics and accounting. This is done through collaboration between economics tutors and English lecturers so that economics concepts and terminology are introduced and dealt with in a language literacy setting before students encounter them in the context of the particular discipline.

The same approach is applied in Augmented Mathematics. Collaboration between economics and mathematics tutors allows quantitative sections in economics to be dealt with first in Augmented Mathematics so that when they come up in economics; students have dealt with the module’s core mathematical concepts and techniques. For example, one of the most problematic areas in economics is graphs. Students experience difficulty with the construction, reading and interpretation of graphs. To help students deal with this problem, Augmented Mathematics tutorials have been arranged to include topics that also appear in economics but are more mathematical in nature than economic. Examples of economics topics that require quantitative aptitude include the elasticity of demand and supply, and construction of the demand and supply curves. Students need calculus skills as these problems are solved through derivative techniques, which are mathematical, yet the topics are encountered in the economics discipline.

**Tutorial group sizes and organisation**

Extant studies suggest that students who are taught in small groups tend to do better in economics examinations than those who are not (Edwards, 2000; Raimondo et al. 1990; Lopus, 1990). Mathematics is a terminal module but a prerequisite for subsequent modules in the CLMS. It is on the basis of these observations that augmented and foundation modules are taught in small groups ranging from 15 to a maximum of 25 students. This is done to afford each student in the group maximum attention and opportunity to engage and participate in the learning activities. These small group tutorials also enable lecturers and tutors to apply a variety of teaching methods to accommodate students’ different learning styles. Such an approach is markedly different from mainstream teaching, where lectures are large and students are unable to engage lecturers in a more direct manner.

The tutorials require students to be prepared beforehand so they can maximise their understanding of the module contents and lectures. As such, the tutorials in the management studies access programme are very different to tutorials usually encountered by mainstream students at university, which often merely involve a tutor going through a number of ‘tutorial questions’. BCom4 Extended Curriculum tutorials are largely designed for small group discussions, activities, and interaction between students and their tutor. Specifically, tutorials do not simply repeat the content transfer that characterises lectures. Students are expected to take an active role in knowledge production as tutorials are both exponential and act out learning. Tutorials are student-centred and as such, enable students to engage with one another as well as with the tutor. This approach provides students with an opportunity and atmosphere that allows them to build their confidence about their ability to cope with the module, identify their weaknesses in their understanding of it, and at the same time, think critically so they can interrogate and question issues. Tutorials promote and instill deep learning, so students have a good understanding of the issues involved in the discipline instead of just reading with the objective of answering the examination questions correctly.

Tutorial attendance is monitored through a tutorial attendance register. This serves many purposes, one being to provide information about the usefulness/effectiveness of the tutorials to students. This is assessed through tutorial evaluation which is done at the end of the semester. One of the questions students are required
to answer concerns the number of tutorials the student missed during the semester preceding the completion of the evaluation form. Although these evaluations are done by students anonymously, a reconciliation between average tutorial attendance based on how students answered the question about the number of missed tutorials and how they answered other questions in the evaluation form is done. For example, a student’s negative answer about the effectiveness of the tutorials carries less weight if that student indicated that he or she missed a number of tutorials, or did not bring to the attention of the tutor concerned that she or he was not benefiting from the tutorial.

The second purpose of the tutorial attendance register is to serve as a basis to monitor the correlation between the tutorial attendance and the students’ academic performance. When a student is underperforming or requests additional tutorial support, the tutorial attendance register is consulted to establish if the student attends tutorials. This is done to avoid wasting the limited resources available to the BCom4 on students who are not using them and cannot advance reasonable explanations why they are not doing so.

The third purpose of the tutorial attendance register is that it is used to compare student academic performance and tutorial attendance. In particular, each student’s performance is compared to that student’s tutorial attendance. This is done to establish if there is any positive correlation between tutorial attendance and examination performance by students. Also, this comparison is done across the tutorial groups to compare tutorial attendance between tutors, and group pass rates.

It is evident from the above that tutorial evaluations by students are very important. Tutors also have their input in evaluations by students. This is done by discussing the students’ tutor and tutorial evaluation with each tutor. This is done to collect as much data as possible about the tutorial, the tutor and the students in a particular group. On the tutors’ side, the evaluation by students serves as formative feedback to identify areas requiring improvement and those that are effective. Senior members of staff and/or co-ordinators discuss the students’ tutorial and tutor evaluation with each tutor in routine tutorial preparation meetings. Hence, these completed tutor and tutorial evaluation questionnaires serve as valuable monitoring and evaluation tools needed to update the modules, tutorials and identify staff development needs.

An integrated and holistic approach

In small groups, a holistic and integrated approach to teaching is adopted to enable students to draw on their own experiences. The BCom4 tutoring approach is student-centred, as this approach encourages deep learning. It is more effective than the conventional tutoring approach as students gain an in-depth understanding of the material, and this understanding improves their self-esteem (Gelisli, 2009). Students are organised in small tutorial groups with each tutor being a facilitator. In these tutorial groups, students are encouraged and expected to be the main role players through discussions, debates and presentations. This helps them improve their understanding of the material taught in the mainstream lectures and to build communication and presentation skills, all of which encourages permanent learning. Tutorials are offered in a manner that allows students to understand the relationship between different modules, for example, how does economics (laws of demand and supply) link with accounting (capturing and proper recording of entries). Moreover, as the tutorials encourage students to be engaged and involved in their own learning, they benefit from identifying their strengths and weaknesses. The process further encourages them to consolidate their strengths and improve in their areas of weakness.

The student-centred tutoring approach is complemented by engaging students in study skills and time management workshops organised and run in conjunction with the Student Counselling Services and Wellness Centre. These workshops are coupled with student academic performance and tutorial attendance monitoring to identify areas that may be of concern. This is an indication that the BCom4 enhances students’ skills that can be used in other courses. The development of skills also highlights the major difference between BCom4 Extended Curriculum and the mainstream. This kind of development is vital, as students in this programme come from
schools where there is no career guidance and academic support structures. The overwhelming majority of them are first generation university students in their families. These students are therefore navigating unchartered waters. Thus to be effective and relevant, the programme must embrace these and other factors that undoubtedly influence the students' success.

Student Counselling Services and Wellness also run a student assessment exercise aimed at identifying key and critical areas that have the potential to develop into problems for students. Once these areas are identified, a programme of action is developed in consultation with the affected student and the problem addressed. Through this approach, a number of problems have been identified – in some cases life-threatening (for example suicidal students and students not coping with their academic work). This is followed by corrective action. In some cases, problems may be addressed in group settings. Issues that get addressed in this manner include concerns about time management and study skills, personal development, personal financial management, personal relationships handling, and career guidance. Some of these issues result from difficult family backgrounds, others from poor schooling.

The importance of adopting an holistic approach to student teaching in the BCom4 is that it provides an enabling environment for students to realise their academic potential. Also, students at this stage are still forming their identities (Torres et al. 2009) and assisting them in negotiating this crucial and critical aspect of their life is vital if the programme is to produce well grounded and rounded graduates.

**DISCIPLINE-SPECIFIC MODULES**

In the BCom4 Extended Curriculum programme, students enrol in discipline-specific modules that either bear credits towards the students’ qualification or prepare the student for the mainstream modules. Modules that prepare students for mainstream modules are offered at a lower, introductory level than those in the mainstream. These introductory-level modules are constructed with the specific objective of exposing students to the mainstream discourse. This enables them to understand issues they can expect to encounter in the more advanced, mainstream modules. This approach has been found to be beneficial to students. It helps them build and enhance their knowledge to compete with their mainstream colleagues.

**Comparison of access and mainstream performance and throughput rate**

The main question is whether those coming from poorer schools perform as well as those coming from better schools once they get support, despite the fact that they exhibit a lower level of academic ability as measured by their performance in the Senior Certificate examination. The synopsis below tackles this question by looking at the performance of ‘disadvantaged’ students admitted in the BCom4 in the CLMS at UKZN. The aim is to undertake a comparative analysis of achievements in examination results between the BCom4 and other degree programmes in the CLMS. This analysis will shed more light and add to the above retention and throughput statistics.

For example, in 2007 and 2008, the overall comparison between the students coming from the low quintile schools enrolled in the BCom4 (hypothesized to be of low abilities) and those from high quintile schools enrolled in the mainstream (hypothesized to be of high abilities) illustrated in Table 4 indicates that the performances of mainstream students were not significantly different from those of Access Initiative students.
This trend is confirmed in 2009 with an examination averages difference of about 3% lower than mainstream students, but with a large standard deviation that suggests there were more students at the extremes, either passing well or failing badly.

In summary, in comparison to the ECON101 cohort, ECON104 Access Initiative students in their first year of study tend to do particularly badly. However, it is significant that the comparison also reveals that when Access Initiative students take Economics 101 for the second time (i.e. in their second year at university), they do very well, and outperform the mainstream students. There are several explanations for these mixed achievements in examination results. One of these explanations is that the cohort of students accepted in 2009 was of a lower academic standard than in previous years. That particular year, students who should be admitted to the BCom4, had been admitted to the mainstream study through the Dean’s Discretion system. This system allows the College to admit students to mainstream, even though they may not be meeting the minimum admission requirements.

Students in the Bachelor of Administration (BAdmin) have the same admission requirements as those in BCom4 in mathematics (level 3) and matriculation points (28 points), respectively. However, some of these students come from well resourced schools and better socio-economic backgrounds than students in the BCom4. Students in the BCom General degree have higher maths admission requirements than BCom; and BCom in Accountancy and Bachelor of Business Science have much higher admission requirements, with mathematics level 5 for Accounting and 6 for Business science, respectively.

The net result was that students admitted in the BCom4 were on the lower end of the minimum requirements. Given these students’ lower total matriculation points, coupled with their being from disadvantaged backgrounds, it is not surprising that those with low expectations of this cohort compared them unfavourably with the achievements of their peers from mainstream economics. However, when BCom4 students have progressed to the intermediary macroeconomics referred to as Economics 201, they have performed particularly well, with test averages above mainstream students in two out of the three class tests. This is an indication that the Access Initiative is working in educationally empowering the BCom4 students in their second year. Clearly, these students have adjusted to university life and studies and have become more aware of the demand of university studies. However, the above results also lead to the issue of the ‘organisation’ or the ‘when’ of the augmented curriculum. Organisation refers to the strategic planning of tutorial materials, while the ‘when’ refers to the sequencing of the offering of modules (augmented, foundational and mainstream disciplines). More importantly, foundational content should precede and not be taught concurrently or after the mainstream modules. There is currently an initiative focused on curriculum rearrangement and this is dealt with in more detail in one of the sections on lessons learned and challenges.
The overall failure rate in BCom4, while not as disappointing in some modules as the mainstream, can be explained by four reasons: (1) late registration (often after an appeal process that runs till late in the semester), resulting in students not knowing whether they will be part of the programme or not. This invariably costs them their first test, which knocks the students’ confidence and minimises their chances of their best marks going for the duly performed (DP) mark to enhance their success; (2) absenteeism or sporadic attendance at tutorials, which is caused mainly by (1) above and lack of accommodation on campus or near campus; (3) lack of prescribed textbooks, and (4) lack of financial resources, as all of the students in the programme come from difficult socio-economic communities, with the majority of them being supported through the government grants of one kind or another.

These performances are not particularly surprising, however, since they are comparable to many mainstream disciplines in the faculty. The graduation rates in the throughput statistics shown in Table 4 above are actually better than the national average as shown in recent statistics by the National Department of Education (www.DoE.gov.za) and CHE (2010).

The above performances have to be commended in spite of several critics regarding students accepted in BCom4 as being of a lower academic standard than others. Given the backdrop of having lower point scores in Senior Certificate, disadvantaged socio-economic and schooling backgrounds, and their mostly being first generation university students in their family, BCom4 students may be expected to have poor success rates in their university study. However, their performance outlined above suggest that given the opportunity, their background and current conditions notwithstanding, BCom4 students will perform at the same level and in some instances better than mainstream students.

LESSONS LEARNED AND CHALLENGES

The past three years have provided valuable lessons for the future in terms of understanding the changing complexity and needs of our students, the programme and the logistics required to run the Access Initiative successfully, efficiently and effectively. Some of these lessons are discussed below.

Staff development

While secondary schooling plays a major role in enhancing a student’s chances of success at university, teaching approaches and support at university play an equally important role (CHE, 2010). A synopsis of tutor evaluations by students shows that academic staff need assistance in developing and improving their teaching skills, approaches and methods. This is due partly to the fact that tutors and academics are discipline specialists and not pedagogically trained.

To alleviate this problem, staff development workshops are being run for academic staff in BCom4. Academic staff members are also encouraged to attend the higher education practice (HEP) and other modules offered by the Centre for Higher Education (CHES) at UKZN, aimed at developing and improving academics’ facilitation of teaching and learning skills and approaches. Support staff members also attend university-run staff development and training programmes. To date, support staff members have attended modules/workshops dealing with information technology, finance, student management and others. These training opportunities empower staff to be more effective and efficient in their tasks when dealing with students. As such, students become more positive when they are attended to satisfactorily, thus improving their opportunities to do well, as they improve their positive view and feelings about the institution (CHE 2010).

However, staff development attempts are hampered by the high staff turnover, as almost all teaching staff in
the BCom4 are on contract employment or are postgraduate students who leave the university upon completion of their studies. However, the BCom4 is fortunate that one permanent post has been extended to it. Economics is the key focus area for this appointment. This appointment goes a long way in providing stability and continuity in the programme.

Curriculum rearrangement

From an amalgamation of students’ input based on feedback received from students’ tutorial evaluation forms and tutors’ inputs, it becomes clear that one of the major problems facing students in the BCom4 is the congestion of the first year curriculum. While on paper this appears as four modules, students effectively study six modules, as the two augmented ones have twice the number of credit points as the mainstream. These augmented modules have almost twice the number of notional hours as the mainstream modules.

The proposed rearranged curriculum will see the merging of some of the first-year modules and the streamlining of the economics modules. The current curriculum has a one year gap for economics in third year. This is problematic for students majoring in economics, as they are expected to pick up a third-year level economics module after a year of not engaging in the discipline. To solve this anomaly, introductory economics modules will be introduced in the first year. The current first-year economics modules will be moved to second year, thus requiring the current second year economics to be taught to third year students. These changes are also necessitated by the low pass rates in economics, which have been attributed to the high level at which economics is taught and to students finding the discourse of the discipline complex. By exposing students to more introductory economics, and accompanying these with more English language modules that contain economic discourse, it is hoped and expected that students will be able to engage with and understand the issues involved in economics better without compromising the four-year nature of the Access Initiative in the CLMS. Indeed, this will strengthen the initiative and better serve the students’ needs through streamlined tuition.

The above response to the current curriculum arrangement shows one of the results and outcomes of the continuous and constant self-critique, monitoring and review of the programme to ensure it remains appropriate and relevant to students’ needs. Student evaluation affords students the chance to express independent and critical views about the nature, structure and form of tuition and support they receive. However, more important is the usefulness of the information received from the student evaluations. The BCom 4 Extended Curriculum needs students to be critics of the programme, because they are the biggest stakeholders. An example of the usefulness of student critique and evaluation was made clear in 2010, when students pointed out the difficulty caused by the two year gap between Augmented Mathematics and Statistics. By the time students enrolled for Statistics, they had forgotten much of what they had learnt in Augmented Mathematics, which is a prerequisite for Statistics. This situation was resolved by moving Statistics to first year, second semester, because there were only three modules in that semester. 2010 saw a high pass rate for Statistics which, although no specific research has been done into this, is an interesting coincidence. Again, by being self critical and listening to others, the BCom4 Extended Curriculum programme has been able to identify areas that needed improvement, so that students can be better served.

Financial aid packages

The current system of allocating limited packages of financial aid to students defeats the whole objective of Access Initiatives. As these students are needy by virtue of coming from poorly resourced schools, many of them being no-fee schools, students in the BCom4 cite funding as one of their biggest stumbling blocks to accessing university education. A system of ring-fenced funding for these students, which may be tied to some additional conditions to remove the element of free riding and low commitment, should be found. This will go a long way to improving student numbers in the Access Initiatives.
For example, the majority of students in the BCom4 are unable to purchase prescribed books due to lack of financial resources. Faced by this challenge, the programme has embarked on purchasing and stocking these books and lending them to students on a rotation and need basis. The bulk of these students allegedly have no parents, or their parents are unemployed. This initiative has yielded positive results by assisting students to access learning materials they otherwise would not have. Students who have previously shown unsatisfactory academic performance and have cited lack of access to learning materials have shown marked improvement in their performance after the implementation of the text book supply initiative.

CONCLUSION

The BCom4 Extended Curriculum programme fulfils an important role in the provision of education to previously disadvantaged students. Through this programme, opportunities have been offered to students who otherwise would not have studied at university.

The type of support, monitoring, teaching and tutoring taking place in the BCom4 Extended Curriculum programme can be a lesson for mainstream teaching and learning. When an appropriate support and teaching strategy is applied, students respond positively. Changes that have taken place in the BCom4 Extended Curriculum have shown this by reducing dropout rates and improving student performance, even though these students face some of the most challenging situations.

By being committed to helping students, and being willing to learn from the experiences gained, the BCom4 Extended Curriculum has managed to continually effect necessary changes to address new challenges. Constant reflection on practice and process has enabled the programme to keep evolving to meet changing needs. Changing the curriculum to make it more streamlined, eliminating duplication in modules, and offering loan text books to students are some of these lessons and responses to changing student needs and challenges. Improvements in performance monitoring, being able to respond proactively to students’ and programme needs remain a challenge for which a solution will continue to be sought. Creating a voice for the BCom4 Extended Curriculum within the CLMS will be constantly and continually pursued.

However, the last conclusion to be drawn so far is the need for collaboration between Access Initiatives at UKZN to share experiences, learn from each others’ best practices, and allow students to mix, so that they can build their own discourse communities.
REFERENCES


Enhancing student access and throughput
Chapter 5

Social Regeneration through Practitioner Research and Public Leadership
LED Postgraduate Education and Mindful Research: Deepening the Practitioner Research Paradigm

Kriben Pillay

ABSTRACT

Historically, practitioner research grew out of the self-study movement initiated by British teacher educators who saw the need to interrogate their own teaching practices in order to deepen the practices of their learner teachers (Loughran 2004). Parallel to this was the reaction by teachers to the authority of academic educationists making pronouncements on what should happen in the classroom. The movement of self-study, then, was essentially a research initiative where practitioners researched their own practice in order to bring about change in the classroom. In the last two decades, a considerable body of research material has emerged (Loughran 2004), which has in turn developed into the field now called “practitioner research”. This extends beyond teaching into many forms of professional practice, especially areas where change of some kind is required. This paper draws a distinction between self-study as a cognitive strategy (where meta-critical thinking is employed in the development of professional practice) and self-study as mindful self-observation (which is a form of meta-cognition), where the latter can be regarded as an ontological condition prior to the thinking process, and which makes for more mindful rather than mindless living and learning. The implications for research in general will be considered and particular attention will be paid to the context of developing Local Economic Development (LED) practitioner researchers who are engaged in postgraduate study.

Keywords: Practitioner research, self-study, mindful self-observation, Local Economic Development

INTRODUCTION

This paper argues for the inclusion of mindfulness as a necessary next stage in the way we do practitioner research, developing the thesis that mindfulness is crucial – as an active expression of non-conceptual awareness that deconstructs the chronic sense of separation felt by most human beings, with its primary modes of fear and self-centred activity – to any action research project that is focused on social change.

First, a brief background is given to both the philosophical context of mindfulness, particularly its neglect in Western thought, and to the new developments in neuroscience and Western nonduality that are bringing the concept and the experiential practice of mindfulness into greater prominence. In this paper, LED practitioner research within a postgraduate programme is considered as a practical example for deepening research practice through mindfulness. While this is not the only educational context in which mindfulness has a role to play, the LED practitioner research context, intersecting as it does with so many rich strands of the sciences and social sciences – technology, environmental sciences, agriculture, development economics, sociology, etc. – allows the rationale for mindfulness in research to be explored more fully. Lastly, mindfulness in practitioner research, as a form of action research, is explored through the social change model ‘Theory U’, the latter being proposed as a
model that is highly appropriate for interdisciplinary action research towards tapping into the deepest potential of mindful practice.

There is an obvious limitation to this exploration, and that is we using one way of knowing – the conceptual realm – to point to another, which is its polar opposite by virtue of it being non-conceptual. The latter can only be meaningfully engaged with through experiential practice in order to test its truth claims.

MINDFULNESS: A BRIEF OVERVIEW OF THE PHILOSOPHICAL AND SCIENTIFIC CONTEXTS

Mindfulness, as an experiential practice of non-conceptual contemplative inquiry, has its philosophical home in nondual Buddhism where the intent – of being mindful of body, feelings, mind and phenomena – is essentially a deconstructive one so that ‘we have a clearer notion of how reality is constructed’ (Wallace and Hodel 2008:217). However, the term ‘contemplative inquiry’ can be misleading if not preceded by the qualifying term ‘non-conceptual’, because it can then suggest an activity of thinking, which it is not, rather than an interior non-grasping choiceless awareness (Krishnamurti 1992).

Furthermore, while mindfulness is regarded as a type of meditation, it is not a meditative practice that is centred on stilling the mind, pursuing altered states of consciousness, or is in any way goal-oriented. Mindful practice, ontologically, is simply about recognising that there exists, prior to thinking, the fact of being aware (Corrigan 2006), and thereby loosening the hold that thinking has as a medium through which we view reality, with all its attendant distortions; the primary one being that there is a separate self-existing self. For this reason seeing rather than meditation is the preferred term to describe mindful practice, because it avoids the accumulated cultural baggage that comes with the latter.

Kingsley (2003) explores the possibility that in the beginnings of Western philosophy, especially in the work of Parmenides, the ancient Greeks practiced a form of mindfulness called ‘Mêtis … It meant a particular kind of awareness that always manages to stay focused on the whole … ’ (2003:90). But it is also Kingsley’s contention that later philosophers, like Plato and Aristotle, reinterpreted Parmenides’ teaching to be one of utter rationality in the service of logical thinking. While it may be tempting to ascribe to this re-interpretation the very different course of philosophical development that took place in the West as compared to the East, it may be more meaningful to see the attitude to mindful practice as a psychological expression of the thinking process itself; that is, thought with its constructed sense of self is threatened by any process where it is not the dominant mode of being. And given the historical development of intellectual traditions in the West, with their strong emphasis on a rational, positivist approach to uncovering reality, it is not surprising that even with the rise of phenomenology and the focused interest in human experience, there was still no inquiry into non-conceptual awareness. Varela et al. comment that the inquiry was ‘in a purely theoretical way’ (1991:19).

Goode’s (2007) survey of nondualism in Western philosophy also reveals no tradition with a specific gesture towards mindfulness (although there may have been similar but non-theorised forms in certain contemplative traditions), and it is arguable that perhaps the concept only took serious hold with the teachings of Krishnamurti (1992) and the introduction of Buddhism to the West, and the impact that these had on Western psychologists (Epstein 1995; Almaas 1986; Crook 2009) and integral philosophers like Wilber (1995, 1997, 2004). These were reinforced by the English nondual teacher and writer, Douglas Harding (1979, 1986, 1997) with his highly innovative seeing experiments. And at present, the rising phenomenon of neo-nondual teachers in the West has significantly contributed to the greater popular practice of mindfulness. But as yet in Western academic disciplines, there is very little interest by the social sciences (except transpersonal psychology (Davis 1998), and perhaps within certain approaches to cognitive therapy, where the interest is mainly therapeutic). There are two notable exceptions with the publication of the books Presence (2004) and Theory U (2007) by academics at MIT,
where the focus is on social change rooted in a non-positivist ontology rather than on therapy.

Within a scholarly exploration of the Eastern philosophical expressions of nonduality, Loy’s (1988) study, *Nonduality*, is definitive, while he has also presented a compelling treatise on Buddhist social theory showing that mindlessness, both ontologically and epistemologically, has created a world driven by ‘the three poisons: ... greed; ... ill will; ... delusion’ (Loy 2003:28)

However, there is one discipline in the West where mindfulness is seriously researched, and this is in the cognitive neurosciences. The fairly recent publication of Siegel's *The Mindful Brain* (2007) outlines the current neuroscientific research validating the importance of mindful practice:

*The role of mindful awareness is to enable the mind to “discern” the nature of the mind itself, awakening the person to the insights that preconceived ideas, and emotional reactions are embedded in thinking and reflexive responses that create internal distress. With such disidentification of thoughts and emotions, by realizing that these mental activities are not the same as “self,” nor are they permanent, the individual can then enable them to arise and burst like bubbles in a pot of boiling water.* (Siegel 2007:77)

This excerpt captures one of the primary interests of neuroscientists in the field, that is, how the practice of mindfulness creates psychological well-being, which is the research into mapping the neural correlates of states of consciousness. And with the recent founding of the NeuroLeadership Institute in the United States, with its own academic journal, a slowly emerging pattern connecting mindfulness and interdisciplinary studies can be observed, where the scientifically validated outcomes of mindfulness are being extrapolated to areas of social action such as leadership and action research for social change.

In the 2008 and 2009 issues of the NeuroLeadership Journal, four articles specifically focused on mindfulness (Tang and Posner 2008; Hassed 2008; Love and Maloney 2009; Siegel and McCall 2009), where these ranged from discussing the value of mindfulness on well-being and performance to drawing the connections with enhancing the capacities of leadership. Siegel and McCall’s article is of particular importance to this paper with its emphasis on the ‘interdisciplinary inclusiveness’ (2009:23) of the inquiry into mindfulness, which Siegel terms ‘mindsight’.

However, it is noteworthy that the current work on mindfulness from a neuroscience perspective does not touch on the core quality of this nonconceptual awareness, which is the collapse of the subject-object duality and the apperception that there is no separation between observer and the observed. This insight goes beyond even the conceptual terrain of systems thinking, which has yet to shake off completely its origins in reductionistic positivism and objectivism, although the developments in soft systems thinking hold promise for a more rigorous interrogation of consciousness and other ways of knowing that meets what has already been accomplished in the philosophy of nonduality. But a materialist world-view is – overtly or covertly, consciously or unconsciously – at the heart of most academic disciplines. Readers are alerted to Wilber’s (1995) critique, especially the false knowledge claims of scientific positivism, and like Wilber, I would add that post-modernism, for all its advances in erecting meta-critical platforms for investigating all kinds of truth claims and providing alternative conceptual lenses, is nevertheless still a theoretical enterprise and not an experiential one. From a nondual point of view, all thinking is essentially about objectifying experience, that is, making conceptual objects or conceptual things, which are often mistaken for self-existing realities. The German word for think, *denken*, shares the same etymological root as the word *thing*. Mindfulness reveals that all our thinking is prone to this illusion; once we make something into a thing we create the illusion of standing apart from it.

However, this must not be seen as a rejection of the scientific method, but understanding, as Harding (1997) shows, that there are two rigorous ways of knowing, which are essentially contained in two kinds of science: the science of the third person (our current science of the objective world), and the science of the first person, where
‘the next stage will be about the reconnecting and integrating the rigor of scientific method with the richness of direct experience [mindfulness] to produce a science that will serve to connect us to one another, ourselves, and the world’ (Senge et al. 2004:218).

Perhaps the concluding remark that captures the primary thesis of not just this section but the entire paper, should come from a cognitive scientist who is also a practitioner of mindfulness: ‘In mindful, alert awareness the differences between self and other, and the mind and its contents disappear. This is known as nonduality.’ (Blackmore 2003:389).

The above discussion is at best a cursory sketch. Readers are alerted to the highly technical nuances and subtleties of difference in the various nondual philosophical traditions pertaining to how mindfulness is articulated. For the purposes of this paper, I have opted for a core generic perspective contained within all the nondual traditions, both past and present, which is: mindfulness as the recognition of nonconceptual awareness, where this awareness is prior to the fragmenting activities of thought, and which restructures the way we perceive ourselves and the world. A succinct practical guide to mindfulness as described here is to be found in Goode’s book *Standing as Awareness* (2009).

**THE LED RESEARCH CONTEXT AND MINDFULNESS**

The inspiration to introduce mindfulness into practitioner research arose when I was planning to teach the research methodology module for a cohort of LED practitioners from KwaZulu-Natal municipalities, who are pursuing a master’s programme in leadership and LED. It was agreed that the most meaningful research projects for this cohort was some form of practitioner research, where their formal research projects could feed into enhancing their professional contexts. The intention to bring about an awareness of mindfulness in practitioner research is based on the view that the imperatives of the LED movement will be stunted by the historical forces at play; that is, we are bound to add more mess to a messy situation, especially in the light of our world-wide recession, because we hold a perspective of the world and ourselves that is inadequate to meet our complex systemic challenges. Our dominant worldview is not only a materialistic one, but is one that treats the world as made up of discrete objects that need to be subjugated and exploited, especially as the felt experience for most of us is one of separateness. And with separateness comes fear and the need to protect oneself against the other. The Buddhist three poisons referred to earlier – greed, ill will and delusion – are the mindless expressions of this condition (Loy 2003:28).

Our world history is a testament to this fact, and our current ecological and social crises signal the effects of this perspective. We not only need change, we need radical change, and I am proposing that this change, first and foremost, is located within a change of ontological perspective, that is, how we fundamentally experience and know ourselves and the world. In this nondual perspective, ontology and epistemology are collapsed into one movement of Being-Knowing.

This paper, hopefully, will reflect the quality of the change needed by its very construction. The accepted academic model of research is itself located in the worldview described above; an insistent reductionism that is characterised by ever closer scrutiny of the part with a view to understanding the whole. In our social sciences tradition, these parts are largely the conclusions of others based in turn on philosophical inquiry or empirical research (or both), but are almost always research into the part and never the whole. This has its uses, but only in certain domains of knowledge, for example, technology (Wilber 1995); and useful where the findings of others present the original utterances of those with deep insight.

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1 Susan Blackmore’s *Ten Zen Questions* is particularly illuminating about the process of engaging with mindfulness from a cognitive scientist’s point of view.
With this in mind, I am writing this paper not only as a theoretical description of a research perspective for LED students, but the actual writing is the outcome of my own on-going self-study (Pillay 2009).

The writing is an outcome of seeing and not just thinking. In fact, thinking, as we normally experience it, plays a very small part in this current construction; there is flow and hardly any intellectual effort; the part (this writing) is subservient to the whole (which cannot be defined because it is not conceptual, but which can be pointed to). And the enigmatic character of these statements will hopefully become clearer as the writing unfolds. However, one aspect of orientating oneself to seeing rather than thinking is that flow manifests as synchronistic occurrences (Jaworski 1996), and this has huge implications for doing the practical aspects of research.

For example, as I was writing this section, I felt that I needed a particular reference, and as I searched my library for a particular book, I stumbled upon a book (April et al. 2000), which opened to a chapter on awareness, which is the dominant exploration of this paper. I have no recollection of purchasing this book, let alone ever reading it, yet its timely appearance allows for this inquiry to be more firmly rooted in the innovative scholarly research of others. In this particular case, the book has added value because it emanates from the work of South African researchers. (It should be added that this is not one isolated example, but one of very many.)

More precisely, this endeavour is about deepening the practitioner research perspective, located as it is within the social change praxis of action research, so that the LED practitioner researcher engages with concepts that allow for an emergent space to open, where there is a full spectrum engagement with oneself as the primary domain of research, because this domain, it is argued, is not separate from the larger collective.

This requires a text that hopefully engages rather than alienates; that is built solidly on a platform of persuasive argument rather than un-investigated assertions; that is informed by the research of others without blind acceptance; that holds the understanding that both the poetic and the technical utterance are needed to effect the recognition that the goal of this form of practitioner research is finally about a re-cognition that the conceptual terrain is a servant in the service of a mindful awareness; that this is not the action of thinking – that is, incessant conceptualisation – but is prior to it.

It is important to note that only one academic research book actually approaches mindfulness as central to the research endeavour, but even here the discussion takes place in the chapter dealing with Additional Suggestions (Braud and Anderson 1998:243) rather than in the main sections, although it is implied at the very beginning of the textbook. It is useful to note the authors’ characterisation of mindfulness, because this reinforces what is being argued here:

*Mindfulness involves a clarity of perception, a clear and undistorting mirroring of the fullness of what reality presents. It is an abiding awareness, an integral awareness, an expansive awareness. It is also a compassionate awareness – a compassionate awareness of actions, motives, and thoughts; a sweet and mellow feeling toward life and toward oneself, others, and all of nature. (Ibid.)*

On the other hand, Geake’s *The Brain at School: Educational Neuroscience in the Classroom* (2009) exemplifies the current non-recognition of mindfulness in educational settings. While I showed earlier that research into mindfulness is gaining momentum in the cognitive and neurosciences, it is rather surprising that there is no mention of it at all in Geake’s book beyond noting that there was a suggestion from a participant at an educational workshop that neuroscience should research whether ‘meditation techniques in the classroom improve children’s attention through enhanced executive control’ (Geake 2009:19).

But meditation techniques do not necessarily have the same objectives or even the same worldviews, so this cursory reference to meditation cannot be construed to refer to mindfulness as discussed in this paper, where
mindful research needs to be articulated in real world complexities where change – radical change – is needed.

Davis’ work with mindfulness in ecopsychology (1998:82) is important, not only as an example of real-world mindful practice, but because the domain of ecopsychology, especially in rural LED activities in South Africa, has great socio-environmental meaning for how we use our natural resources for sustainable development. Davis writes:

*Ecopsychology is based on the recognition of a fundamental nonduality between humans and nature and on the insight that the failure to experience and act from this nonduality creates suffering for both humans and the environment.*

The crucial question we need to ask is: Are our LED practitioner researchers exposed to this perspective? And how can this be meaningfully enacted?

LED may appear to be one of the panaceas for our economic and development woes, but if the thinking that underlies the endeavour is still situated within an economic model of ever-increasing development and unbridled consumerism, then all we are ever going to have is the illusion of change, and not change itself.

To illustrate the above point, if somewhat simplistically: If one of the objectives of LED is about getting more foreign investment to create more factories to produce more plastic goods (from a talk given by a KZN municipal LED officer), what exactly is the nature of the development? In the short term we may count the creation of a few hundred jobs and the added flow of money into the economy; this, simplistically, has always been the model of industrial progress, local or otherwise. But what are the systemic consequences when there is environmental degradation, eventual consumer satiation, and the hidden expansionist policies of a foreign nation (ill will, greed and delusion)? What are the consequences when the policies that do not factor these effects into account are themselves holding unconscious worldviews, which can be traced to an 18th century mechanistic paradigm?

Both our current capitalist and socialist worldviews can be traced back to the strong influence of the techno-economic base of industrialization and the machine mentality’ (Wilber 1995:417) and there is little room in these views for a discussion of mindfulness. In the dominant worldview, thought is the nexus of experience, and any discourse that allows for a consideration of consciousness or awareness is relegated to the metaphysical/spiritual and not worthy of inquiry related to so-called concrete reality. The arguments for this exclusion are based on the apparent inability of science to empirically verify consciousness through third-person observation. But there are now compelling arguments for a first person science (Pillay 2007). However, this bias is still the status quo, albeit there are slowly emerging signs of a new perspective developing across a range of disciplines.

Whatever is emerging that may eventually challenge the dominant discourse, the larger terrain, however, is still held within the grips of a positivist outlook so that even pioneering works on mindfulness, within a Western scientific perspective, are approached from the objective of enhancing cognitive strategies, rather than being an ontological condition as given in Eastern philosophies and experiential practices (Langer 1989: 78-79), where thinking is contained within mindful seeing.

Seeing is variously described as: mindfulness/mindful attention in Buddhist traditions; self-observation (Deikman 1982); choiceless awareness (Krishnamurti 1992); and Wilber (1995: 357-358) credits St. Augustine with developing the concept of the ‘interior Witness’ in Western thought.

But the thesis being advanced here does not exclude the growing body of work of Langer and others, and sees this work as providing empirical evidence for what has been termed loosely (and misleadingly) ‘mystical’

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2 This page number refers to a PDF of the journal article available from [http://www.johnvdavis.com/ep/thpeptp.htm](http://www.johnvdavis.com/ep/thpeptp.htm).
(Stacy 2007: 92-93), but which, in fact, is just simply the condition of being (Scharmer 2007: 108), which we overlook because thinking conceptualises itself as one’s primary identity.

Within the area of practitioner research, the first recently published text book (Fox et al. 2007) contains no concept that comes close to mindfulness as a practice for research. There is a brief reference to the positivist criticism about ‘whether self-knowledge acquired through self-reflection or introspection is a valid form of knowledge’ (Fox et al. 2007: 15), but it is not clear within what domain self-knowledge is placed; is it referring to the ontological condition of being mindful, or to the conceptualisation of the thinking process? It is most likely the latter because mindfulness, until recently, has had no place in general academic discourse. As we proceed, we will reiterate that mindful awareness and mental cogitation are two very different, but complementary, ways of knowing.

However, before we can proceed to understand more deeply the relationship of LED practitioner research to mindful research, we need to understand more clearly what mindlessness is.

UNDERSTANDING MINDLESSNESS

Simply put, mindlessness is the act of not paying attention to the here and now of one’s experience. Thinking dominates the experiential field of awareness, and while the thinking process may set up the illusion of being attentive, the very act of thinking, without standing back and witnessing one’s thinking, is a fundamental form of being mindless.

However, the work of Langer (1989, 1997) provides more accessible examples of mindlessness within the domain of enlargening positive cognitive strategies. We can relate more easily to these examples because they are still within the realm of the conceptual; true mindfulness does not exclude the conceptual, but is emphatically non-conceptual. An apt analogy is that of a bowl (the condition of being mindful) holding its contents (which are the processes of thinking and the concepts which arise from this).

A simple example of a mindless action is taking a learnt behavior into a context where it does not apply. For example, drivers accustomed to driving on the left side of the road need to be alert to their driving habits when driving in countries where the right side is legal. Being mindless in this situation could be fatal.

At a deeper level, mindlessness occurs ‘when we rely too rigidly on categories and distinctions created in the past’ (Langer 1989:11), which Scharmer (2007:37) calls ‘downloading patterns of the past’. A particular delusion arises from this; we mistake the conceptual perspective for the actuality itself. When we defend our point of view, we are actually defending a story.

TOWARDS MINDFULNESS FOR THE PRACTITIONER RESEARCHER

In Scharmer’s Theory U model, the journey of inquiry and transformation can only begin when we learn to suspend our mental models (Senge 1990: 8), and when we develop the capacities of seeing, sensing and presencing (Scharmer 2007:37).

Theory U is a pioneering work because mindfulness is the focus of an ontological journey which intersects with different ways of knowing, and unlike Langer’s work, explicitly honours the larger ontological enterprise of bringing presence (that is, being mindful or choicelessly aware) into being through dedicated practices like awareness training (Scharmer 2007:408).
Let us now briefly understand the different ways of knowing described by Theory U so that we can see their relevance to practitioner research.

The first movement is the active suspension of the habitual downloading of mental models from the past, and Scharmer views the downloading phase as an egocentric condition ‘I-in-Me’ (Scharmer 2007:11). While there are legitimate life conditions that require the I-in-Me self-interest phase (for example, physical security), by and large the incessant identification with ‘me and mine’ constructs identities of self which limit collaboration to a very narrow field of action, and is essentially self-centred in character. In public life these play out in party politics with their competing ideologies and their essentially destructive nature. For the LED practitioner researcher, this phase will be the most challenging, because we are normally oblivious of the psychological identities that are formed through the course of a life’s social conditioning. For example, the LED context is one of multiple partnerships in the service of local social development. These partnerships cannot be decided by self-interested ideological perspectives, but by the emergent needs of the context, but this is easier said than done. Being unaware of the psychological investment in a particular ideology, something more than self-reflective critical thinking is required, so that fearful reactions to opposing points of view are seen objectively rather than subjectively. This requires the movement into ‘seeing’, a term which I am now using in Scharmer’s sense, rather than as a synonym for mindfulness.

The seeing phase of the U-model requires the individual and the group to consciously engage in seeing the problem situation as part of a larger natural and social context, leading to what Scharmer terms ‘Open Mind’ (Scharmer 2007:15). This is still an oppositional phase (I-in-It), where the social conversations are dominated by debate, but it is nevertheless more meaningful because there is at least an acknowledgment of the other; it is not only about me and mine. This acknowledgement may be antagonistic, which our current social institutions reflect through relationships, and to which our postmodern response has been to invest in the intellectual process of critical thinking, which is the exercise of close intellectual discrimination, usually involving varying forms of conceptual deconstruction and reconstruction. This phase in dominated by mind, but in a much more discriminating, critical sense.

Within the research arena, especially action research, which is the umbrella paradigm for practitioner research, critical thinking is the foundation of the research endeavour as it is in all forms of social sciences research. What marks action research as a process of social change is the framing of critical thinking as the bedrock for the iterative experiential learning cycles which, it is theorised, will result in incremental social change. In other words, action research is about action which is informed by critical thinking.

In Scharmer’s seeing, all of this is necessary, but the U-process stretches the concept of seeing to go beyond mere intellectual seeing, by including actual empirical observation, like that of the natural scientist, where there is an inner standing back to observe closely and objectively, without the movement of the past, that is, memory, interfering with the seeing in the now. This seeing anticipates the third movement of the process.

The U-process’s third movement, sensing, is an original contribution to action research. Conventional research processes have no equivalent for sensing because you will only find instances of this experiential practice in certain spiritual and artistic traditions, which are focused on developing mindfulness.

In this practice, sensing is the mindful awareness of the total functioning of the physical senses – which are habitually ignored, and which, in the mindful view, leads to ignorance – with the outcome being that of breaking down the false duality of self and other. Sensing is really about being embodied through the full functioning of the senses, by allowing a non-judgmental awareness to completely accept whatever is occurring; that is, if one is tasting, then there is complete attention to what is being tasted; if there is pain, psychological or physical, there is no resistance to it (and if there is resistance, then there is an acceptance of this resistance). Experience is then not
split into mindless mental activity and the particular sensory experience; dualistic experiencing is transcended in the moment by nondual awareness.

Sensing is somewhat paradoxical, in that one would think that complete attention to the physical senses would increase self-preoccupation, but in fact it does not because nondual awareness has no sense of a separate self within it as do the constructs of thought. Harrison clearly defines the distinction when he writes that ‘the challenge is to introduce this in a way that shifts the perspective from that of thought/me to awareness/us’ (2002: 90).

Scharmer offers dialogue as the active conversation of this phase, where dialogue is about suspending one’s point of view in order to see the situation through the eyes of the other. This ‘I-in-You’ phase is essentially the real beginning of the breakdown of our conceptual dualistic distinctions and is characterised by empathic listening and deep learning. In this fully embodied state we are more like performing artists acutely attuned to each other in the act of creation; there is actualised mindfulness with its outcomes expressing as creative responsiveness. And yet, all of this is occurring without the habitual isolating self-sense normally produced by mindless thinking.

The felt experience is of one being moved by the field awareness rather than one acting upon it in a manipulative way. Expressions of this apparently counter-intuitive experience (counter-intuitive because it is radically different to our self-centred mode of wanting to control experience) can be found in the literatures and artistic expressions of all cultures down the ages (Katz 2007). In the U-model, we have, perhaps for the first time, a detailed critical description of this mode of mindfulness which is outside the poetic expression or the scholarly scrutiny of mysticism, but firmly located within an experiential process that is employed in business and social change settings.

For the LED practitioner and researcher this, then, is a cultivation of a global, non-isolating awareness that is a prerequisite for entering into a meaningful, constructive dialogue with social partners, each coming with their own agendas. The phase of sensing offers a rich field of research into what kinds of processes will work best to facilitate the flowering of a collective wisdom amongst the participants, but it also throws up challenges for an integral learning that has not been part of our mainstream education.

In their recent work The Power of Collective Wisdom, Briskin et al. (2009) provide examples of how groups can display both profound wisdom and debilitating folly. The former arises when a creative field of potential is nurtured through mindful practices, which break down the sense of separation; folly arises when groups proceed to entrench narrow self-interests and are located in the I-in-Me and I-in-It modes of being.

The journey from sensing continues to presencing, which is characterised by letting go in order to let come; it is a contemplative phase of being immersed in an alert mindfulness – the I-in-Now – in order to sense what the future wants to unfold. And to the mind conditioned by linearity, this makes no sense, unless we apperceive the fact that time is a construct of thought. Again, experiential exercises can provide a deeper understanding of what appears to be highly counter-intuitive, and while it is not necessary to have intellectual proof first for mindfulness to be present, it does help to challenge the argument that this is the terrain of the esoteric. On the contrary, the case studies provided by Scharmer and others show just how rooted this perspective is in the realities of everyday life. The difficulty is not in the practice, but in the adherence to taken-for-granted assumptions of what we think is true.

Even at a very simplistic analytical level, we do not normally see that we are moved by the future. I am writing this now in order to contribute to a journal article in the future. The future, in this sense, is orchestrating this writing. But in actuality even this is untrue from an ontological perspective; the past and future being constructs of thought, there is only the now in which the movement of time appears to take place. Again, thought cannot perceive this, but mindful awareness can.
For the LED practitioner researcher, this would be engaging in action research of a qualitatively different order altogether, where transformative social action arises through:

- Suspending out-dated mental models.
- Nurturing an embodied relationship to the world.
- Sensing that I am not separate from the world.
- Consciously surrendering to mindful unknowing (without abdicating critical thinking).
- Allowing the generative field of the collective to unfold the new.
- Developing prototypes of new social processes.
- Engaging in continual cyclical learning.

The above is a description of where the practitioner research endeavour needs to go if it to transcend current praxis. This is not being dismissive of what practitioner research holds as its fundamental vision, that of bringing about change; what is being argued here is that this vision requires a radical re-assessment of where the nurturing of this change is actually located.

In the book that I found synchronistically by April et al. (2000), the dominant theme is that of awareness as a meta-cognitive skill. Essentially, it is arguing for similarly described capacities to be developed as given here for mindful research. The book is about awareness and leadership, and this paper, ostensibly, is about mindful research for the LED practitioner researcher, but both explorations are, finally, about the development of latent human capacities that are seen as essential to meeting our complex adaptive challenges. The fundamental capacity to be developed is a new way of seeing, which is located first in mindful awareness, and then in the process of critical thinking. Are there actual differences between the concerns of leaders in general and LED practitioners? Are not the latter leaders of necessary social action?

As different disciplines increasingly converge with similar understandings of what it means to be fully human in a complex world (a complexity that may actually be, at the social level, an outcome of our mindlessness), we no longer have the luxury of holding onto questionable shibboleths, however fanciful the academic dressings may be that support their continued existence.

CONCLUSION

I have argued in this paper that LED practitioner research is one obvious example in both postgraduate education and actual real-world practice where mindfulness in research would benefit the social transformation enterprise.

From the discussion of mindfulness and the discoveries of neuroscience, we can list at least three levels of value in engaging in mindful practice.

Using the LED practitioner researcher as an example, we note that the first level of bringing psychological well being to a profession that is very stressful\(^3\) can only enhance research and professional competence. The research in the neurosciences attests to the positive psychological outcomes produces by mindfulness (Siegel 2007).

The second level is concerned with cognitive strategies for recognising limiting mental models in order to see the problem situation with greater systemic clarity. There are a number of effective processes that can be used in the service of cognitive restructuring. An elegant example is The Work of Byron Katie, which is a process of self-

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\(^3\) My knowledge of the stressful nature of LED practice comes from my direct engagements with LED practitioners from local municipalities.
Social regeneration through practitioner research and public leadership

inquiry using four questions to inquire into a firmly-held belief (Pillay 2001).

The third level, as emphasised in both the perspectives of nonduality and Theory U, is living from the field of nonconceptual awareness (that is, Being/Presence), which deconstructs the sense of separation from the world and begins to heal the attendant problems that such a condition gives rise to.

However, it would be very naive to assume that such a programme of radically restructuring perception and values can happen without threatening deeply-rooted structures of consciousness, that is, the movement of thought with it constructed sense of identity and duality, which then play out in the way social forms perpetuate themselves. In Blackmore's meme theory (1999, 2003 ), the root is the uninvestigated illusion of self. And being mindful of ‘your own experience does not reveal a solid world observed by a persisting self but simply a stream of ever-changing experience, with no obvious separation between observer and observed’ (Blackmore 1999).

This is an important inquiry, not just for LED practitioner researchers, but for all human beings. LED practitioner research, however, given its imperatives for sustainable development and social change, might just be the area in educational training and professional practice where this perspective has some chance of taking hold.

REFERENCES

Inculcating Public Leadership for Citizen Value: Reflecting on Public Administration Curricula

Betty Mubangizi and Francois Theron

ABSTRACT

Although broadly advocated and entrenched in South African law, the practice of public administration tends to pay lip-service to the principles of public participation and citizen empowerment. It seems that the public managers who plan and implement service delivery processes do not fully comprehend the social and meaning-giving local contexts in which the public exists – possibly attributable to the training they have received. The recent Winelands (2010) Conference on Public Leadership for Added Citizen Value introduced the principles of citizen value and public leadership into the discourse of public administration theory and practice in South Africa. This paper examines the suitability of existing curricula at selected South African universities for inculcating a people- and citizen-centered approach in Public Administration teaching, through exploring the curricula of the Bachelor of Administration of selected universities and drawing on discussions held with selected academics. In addition, the authors reflect on their experience of teaching Public Administration, as well as conducting research supervision in the discipline. The paper concludes that while academic conferences are vibrant in their discussion of values and notions of public leadership, public governance, public value and public participation, this is not sufficiently reflected in the curriculum of Public Administration – at least not at undergraduate level.

Keywords: Public Administration, curriculum, citizen value, public leadership, public governance, Higher Education Institutions

INTRODUCTION

Academic conferences are invaluable in shaping both the theory and practice of academic disciplines. Not only do conferences provide space for academics and practitioners to present their research, but valuable academic networks are established and contacts built. Conferences have the added potential to fundamentally impact on both the curriculum and the practice of an academic discipline.

So it was with Public Administration and the Minnowbrook I-III Conferences in America as well as the Mt Grace Conferences I-II in South Africa (Theron & Schwella 2000). Cameron and Milne (2009:380-395) argue that while there were important differences, both the Minnowbrook and Mount Grace Conferences have been influential on Public Administration with regard to scholarship, professional education and training in the discipline of Public Administration. They have, for this reason, been referred to as “the watershed conferences which tried to shape Public Administration in times of turbulence” (Cameron & Milne 2009:380). The recent Winelands Conference (2010) added yet another dimension of reflecting about Public Administration when it not only introduced the principle of public leadership and citizen value, but linked the two principles.
In this paper, the authors reflect on the continuously developing discourse of conceptualising Public Administration theory and practice by examining Public Administration curricula from selected tertiary institutions in South Africa. Examining the curricula allows one to establish the extent, if at all, to which various academic teaching programmes incorporate conference discourse generally, and specifically, the principle of citizen value. The authors advocate that public value needs to be located within the level and space of “publicness” that is; the combination of ideas, issues, people, relationships, practices and sites that are in the public domain. “Publicness” also refers to the space allowed for the public to participate in the design, delivery, implementation, monitoring and evaluation and governance of institutions and services (Newman & Clarke 2009:2-7; Cornwall & Coelho 2007 and Mhone & Edigheji 2003).

Some may rightly ask “why do the authors continuously debate Public Administration theory and practice?” This recurring question is asked by academics as they are forced by practical realities and challenges to refocus and adapt to stay “relevant”. The authors interrogate what difference Public Administration makes (or can make) through teaching and research to better prepare students that will contribute significantly to policy implementation within South Africa’s current socio-political reality.

With increasing globalisation, public administration is no doubt experiencing “challenging times” the world over. The challenge is particularly significant for the South African public where, due to fundamental socio-political changes, discourse tends to be preoccupied with narratives of decline in public policy implementation. Newman and Clarke (2009:1) warn of a “new debate” developing in the public sphere. This debate, Newman and Clarke (2009) contend, is concerned with inter alia an unsustainable environment, security concerns, food insecurity, global warming, poverty, social exclusion and a lack of authentic public participation. This growing debate calls for public action and clear guidance from both academics and practitioners. In particular, academic leadership, innovation and direction are required if Public Administration hopes to remain relevant as an academic discipline and respected by government, and the public alike. Newman & Clarke (2009) enlighten academics about the “chain of connectivity” between publicness; the public sphere; public value; the politics of the public and public action. In South Africa, if one assesses the quality of public services, it is not always clear if and how the above connectivity functions – is it connected or dismantled? One thing is clear though and that is, that academics in the discipline are researching, they are debating and they are sharing their thoughts through publications and conferences as the following discussion will reveal.

FROM MINNOWBROOK TO WINELANDS – A BIG LEAP OR A SMALL STEP FOR PUBLIC ADMINISTRATION?

The young and eager academics brought together by Waldo for the first Minnowbrook Conference (1968) focussed on the need for a Public Administration that addresses public interest. Minnowbrook I marked the birth of the “New Public Administration” which was normative in approach and characterised by a move towards normative theory and social concern. It was also characterised by an attempt to break away from the technical prescripts of the POSDCORB (planning, organising, staffing, directing, coordinating, reporting and budgeting) model developed by classical Schools exponents, namely Gulick and Urwick (Hughes 2003:24-31).

Subsequent conferences in the Minnowbrook series were particularly concerned with the importance of productivity and performance management in the public sector (Cameron & Milne 2009:5; Bailey 1989; Guy 1989 and Frederickson 1989) and on how Public Administration, Public Management and Public Service could better respond to current times effectively (Cameron & Milne 2009:380 – 395).

In 1991, following the political changes in South Africa, the New Public Administration Initiative (NPAI) was launched in South Africa (De Beer 2003:478) as an attempt to reenergise, unify and transform Public Administration
and Management into a relevant discipline. Based on this initiative, the Mt Grace Conferences (I&II) were initiated to map out a framework under which Public Administration and Development Management as a discipline and practice could be transformed.

A clear message from the Mt Grace Conferences I & II was that “the theory, teaching and practice of Public Administration was in crisis in that it was too descriptive, reductionist, fragmentary and ignored other dimensions and approaches to public administration” (Cameron & Milne 2009: 386). One of the conference resolutions called for, among others, an explicit establishment of a developmental focus as opposed to a control, regulatory and managerialist framework in Public Administration teaching and practice.

Changes in Public Administration and Development Management since Mt Grace I, though seen as superficial by some (see Gasper 2000:22), included the adoption of development and management oriented curricula as well as the abolition of the divisions between white-oriented and black-oriented Public Administration. Fundamentally the curricula did not change and as Cloete (2000:14) noted, the Public Administration teaching content remained too descriptive and lacking in analytical and explanatory techniques. For this reason, a call was made to change the focus and depth of research in the discipline. The Mt Grace Conference II resolved that research should be relevant, empirically rigorous and critical and that it should be geared towards generating new knowledge rather than rehashing existing knowledge.

Since 1997 the School of Public Management and Planning (currently the School of Public Leadership) at the University of Stellenbosch has presented the Winelands Conferences. These bi-annual conferences increasingly attract national and international participants. In the past, the themes have ranged from networking for sustainable delivery; good governance; outcomes-based governance; ethics, to mention a few conference themes (see Meyer, Theron & Van Rooyen 1995; Burger, Theron & Van Rooyen 1996; Theron, Van Rooyen & Uys 1998; Theron, Van Rooyen & Van Baalen 2000 and Van der Molen, Van Rooyen & Van Wyk 2002 for published conference proceedings).

The 12th Winelands Conference, in the view of the authors, took on a paradigmatic shift and advanced the concepts of public leadership and citizen value as conference themes. Papers were focused on these concepts and subsequent discussions called on the public service to take a leading role as informed by that which the citizen’s value. Muller’s entitled Creating public value through collaborative environmental governance example showed the benefits that accrue when government finds alternative ways of contributing to public value and adopts new roles to cope with what he calls “the limits of governance”. In his paper, which examined the benefits of collaborative arrangements for resource management, Muller affirms that such arrangements require processes and consensus-building between stakeholders and knowledge sharing to enable the development of sustainable solutions to new challenges. Muller concludes that such collaborations require a “shift of emphasis from management skills to enablement skills that engage the public and that bring multiple stakeholders together for a common end” (Muller 2010:13).

Nabatchi and Goerdel, in their paper entitled Reconciling managerialism and Public-centred administration: the role of Lead Administrators in creating public value offered theory-driven strategies for reconciling managerialism and public-centred administration to better create overall public value through service delivery. While pointing out the importance of efficiency in public administration, they warn that a focus on this alone crowds out important values that are critical to the functioning of government, including a reduction in public participation and an erosion of democratic principles in service delivery processes.

Mubangizi and Theron in their paper entitled Public leadership in local government for public value – what role for South Africa’s community development workers?, located the notion of public leadership within the service delivery debate at the local government sphere, and proposed locally based solutions in the pursuance of service excellence for public value. In particular, they point out the role of the newly established Community Development
Workers (CDWs) Programme, suggesting how these CDWs can promote public value through processes of engagement with the community and by acting as a link between public managers and the communities they serve.

Probably the most poignant paper relating to public leadership and citizen value was the Kafka Brigade Research Programme whose paper, *Public management Theory in Practice* presented a process approach to tackling bureaucratic dysfunctions through an understanding of public value, public sector organisations and public leadership. The process approach suggested in the paper highlights (among other things) the importance of putting the public at the centre while involving all stakeholders; reflection on all projects undertaken so as to understand cause and effect while maximising learning; and creating a safe environment for public servants to innovate, share new ideas and challenge long held assumptions. In short, the Kafka Brigade Research Programme calls for a greater understanding by public servants of the public and the environment in which the public exists.

What emerges from most of the 12th Winelands Conference papers is the shift away from an inward-looking bureaucracy seeking to manage internal processes efficiently and effectively, to one that is outward-looking, seeking to not only create linkages with the public but to create dialogue and seek to understand what the public, in fact, values. To do this requires public leadership – a notion that flows from a relationship between key concepts that have dominated the realm of both theory and practice in the public sector organisations. Notably, these are Public administration; Public management; Public governance as discussed below.

**THE CONTINUUM OF PRINCIPLES – IMPLICATIONS FOR PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT CURRICULA**

A detailed discussion of the concepts of public administration, public management, public governance and public leadership is beyond the confines of this paper. It will suffice to argue that these key concepts reveal a progressive shift towards greater participation of the public in public services and an increasingly flexible bureaucracy in the pursuit of public value. There is no doubt that the nature and quality of the public service by and large depends on the nature and quality of the system of education and specifically the Public Administration curriculum in South African institutions of higher learning. It is in these institutions that the above mentioned key concepts will become real in influencing public action. It is also through these institutions that the discourse in conferences will translate into practical application.

Connaughton and Randma (2003) argue that the education system ought to respond to the demands of public administration, while at the same time shaping the nature of that administration. A curriculum should therefore respond to and inform public administration practice, both through the content taught and the knowledge generated by research. The concerns of both the Mt Grace Conferences about content of research and teaching of Public Administration in South Africa were thus significant and timely. During that period South Africa was going through fundamental changes to democratise the State by shifting it to one that would not only be socially conscious but also be internationally connected. At the same time, both the discipline of Public Administration, and the practice globally, had undergone changes in response to the New Public Management (NPM) debates. As Newman and Clarke (2009:5) state, “While the dominant managerial logistics associated with the high point of the NPM were based on economics, public services now require therapeutic or psychological skills in order to deliver developmental and behaviour-changing strategies”.

Thus South Africa’s public service required a move to a skill-based or technocratic approach of *doing things right* (efficiency). At the same time, South Africa’s public service requires a move towards a compelling moral requirement for public managers and the public service to *do the right thing* (effectiveness). The time for mere administration and maintenance of the status quo while being oblivious to the public being served and the
resource implications for sustaining such a process had come and gone.

Doing the right thing in the public service requires that public institutions make a concerted effort to move in a democratic and socially relevant direction and function in a manner that promotes social justice and deliberately removes social inequity. Following public sector reforms of the 70’s and beyond, public management came to be viewed as a panacea for achieving efficient, effective and politically popular governments (Lynn 2006:104). These reforms, whose principles were embedded in the New Public Management Paradigm, called for market driven changes to make the bureaucracy entrepreneurial, competitive, customer oriented and result-driven. This, in essence, meant the introduction of private sector ideals in the public sector domain. At the heart of these reforms was a theoretical mix of public choice theory and agency theory (Hughes 2003).

In South Africa, these principles are embedded in The White Paper on Transforming Public Service Delivery, 1997 – referred to as the Batho Pele Principles. Fundamental to this White Paper is the notion of value for money and efficiency. It is no surprise therefore, that curricula to train public servants in South Africa (generally the Bachelor of Public Administration), has been too focused on ensuring that public servants do things right. Such a curricula trains students on how to manage resources, keep records and religiously follow the prescripts of POSDCORB. There seems to be less focus on understanding what the right thing is, i.e. who it is the public institution is serving? What are the power relations between and within communities being serviced? Or what the real needs of the public are?

Implicit in the Batho Pele Principles and in the constitutional principles of Public Administration in South Africa is the zeal to make government programmes more responsive to the public’s needs. This can only happen if programmes are designed, not from the point of view of government officials, but from the point of view of the public as recipients of services. The benefit of public participation in the creation of public value is well documented in South Africa’s public service delivery systems. Many public structures like parliamentary committees, citizens’ forums and street committees as well as IDPs and izimbizo (Mubangizi 2010) have been established to facilitate discourse between the public and the government.

Barnes, Newman and Sullivan (2007:2) have shown that the public is becoming increasingly keen on public policy systems by demanding more transparency. They have also shown that, as a result, public service workers are being exposed to new experiences and encounters. This is the case, for example, when public servants have to deal with public service delivery protests and an irate public. In this regard, Barnes et al. (2007:3) advise that public servants develop the capacity to change their orientation to what they do and how they do it.

Public managers need to understand the socio-economic context in which they function and the implication of their actions on the needs of the public. While public participation offers transformatory potential, it is critical to realise that institutional practices can constrain the participation processes (and related benefits) by producing a loss in trust by the public (Barnes et al. 2007:6). Thus the role that public managers’ play as “facilitators” or “enablers” of service delivery at all spheres of government is critical. To this effect, a curriculum of Public Administration should train and develop public managers who are creative, able to ask different questions and able to discover alternative knowledge without getting stuck with organisational maintenance. It should prepare public administrators for the ambiguous, unpredictable consequences of POSDCORB. Such a curriculum would have to be democratic rather than technocratic as differentiated in the discussion below.

Morgan (1984:263) defines a technocratic curriculum as one which focuses on precise knowledge of processes, procedures as well as expert decision-making and efficiency. The technocratic view, Morgan adds, assumes that the world represented in the curriculum is rational and standardised and is as such predictable and capable of manipulation to attain goals. Trained under this curriculum, a good public manager shows systematic organisation of tasks, projects and programmes for the successful implementation of public policy.
Conversely, Morgan (1984:263) defines a *democratic* curriculum as that which emphasises localism, public control and accountability. A democratic view in a given curriculum emphasises participation and collective decision-making. It assumes that in the real world public administration is practical, subjective and contingent upon a range of factors. Trained under this curriculum, public managers admit that, rather than systematic organisation of tasks, projects and programmes, there is a diversity of approaches to achieving desired public policy outcomes.

In the training and development of public managers, a *technocratic* curriculum would be one which emphasises public administration processes, project, finance or human resources management. A *democratic* curriculum on the other hand, would place emphasis on development theory, social policy, gender relations, rural development and the like (cf. Henderson, 2001).

From Minnowbrook to the 12th Winelands Conference, a call has repeatedly been made to change the focus of the teaching and practice of Public Administration. What has transpired in South Africa in this regard? What curricula changes have occurred since the Mt Grace deliberations? To what extent are our curricula in South African institutions mindful of the inherent conflict between developing public servants that do things right i.e. are technocratically efficient and developing public servants that do the right thing and are effective, i.e. public servants that are democratic and socially alive to the public they serve?

The authors consider the above questions by examining curricula from selected tertiary institutions and hypothesise that while academic discourse has followed a continuum from public administration to public leadership, fundamentally our curricula remain biased to the technocratic(s) of public administration with little input from the democratic aspect of a curricula.

**RESEARCH METHODOLOGY**

The objective of this paper was to examine curricula of the Bachelor of Administration in selected institutions to obtain an overview of the extent to which concerns of the public are incorporated into the curricula and in this way establish the “democratic” content of the curricula. A study of curricula in selected universities was undertaken. A purposive sampling technique was used to select Universities that offer the degree and whose curricula appear on their websites. This was followed by a one-on-one discussion with an academic teaching on the Programme. While the authors appreciate that detail in curricula focus cannot be clearly assessed by interpreting course framework contents alone, it was possible to draw conclusions with regards to the curricula’s focus. In the discussion of findings, the names of the universities are omitted in keeping with ethical considerations.

**FINDINGS**

**University 1**

Based in the Faculty of Management and Commerce, the Bachelor of Administration aims to produce a cadre for the developmental State and thus enable students to fulfil the role required of an official in the public service, non-governmental organisations and civil society in general.

The 1st year modules are predominantly in line with the technocratic approach. In addition to Public Administration as a core module, the modules offered at 1st year level are; Business Management, Financial Accounting and Statistics. There is a slight focus of the human sciences at this level in that Economics is offered as a mandatory module as is Political Science. The 2nd level is much the same but in addition, students are offered
a wider exposure to fields which include Development Economics and Administrative Law. At the 3rd year level, a good balance of subjects is offered with Public Administration modules equally interspersed with Political Science, Administrative Law and Development Economics. While there is a bulk of technocratic modules in the 1st and 2nd year, there is a gradual shift to modules in the developmental and legal domain by the final year of study.

University 2

The Bachelor of Administration, offered in the Faculty of Economic and Management Sciences, aims to build the capacity of students to participate and contribute to managerial issues of policy making, human resource management, organisational restructuring and ensuring accountability in public institutions.

In the 1st year, the programme provides students with a variety of modules outside mainstream Public Administration which, at this level, comprises a mere 20%. In addition to Public Administration, students have compulsory modules in Communication, Academic Literacy, Computer and Information Technology, English and Politics. In subsequent years (2nd and 3rd) the programme grounds students in Public Administration modules but allows electives from a vast number of fields from (largely) the management sciences. In addition, electives from the field of Law are available in addition to Political Science, International Relations and Organisational Psychology. There is no exposure of students to the study of Development Studies or any module in the social sciences. The curriculum is thus more technocratic than democratic.

University 3

At the 1st and 2nd level, the Bachelor of Administration Programme offers students a good balance of courses from the fields of Public Administration, Management, Economics and Development Studies. In the 3rd year, although more Public Administration modules are offered, students still have an option to select elective modules from other faculties and in this way, are able to gain exposure to such fields as Law, Anthropology and Development Studies. While the introduction of modules from Law, Anthropology and Development Studies is noted, there is, by and large a clear leaning towards the technocratic and the managerial aspect of the curriculum than to a democratic one.

University 4

The Bachelors of Administration degree aims to build the capacity of students in management and governance aspects of the public sector. The 1st year allows a mix of modules in Public Administration and South African Politics. In the 2nd year a variety of management modules are offered including Human Resource Management, Financial Management and Organisational Theories. Also on offer is a module in Urban and Rural Management – a module that is not offered in any of the Universities in the entire study. The 2nd year modules are steeped in developing managerial skills. The picture remains similar at the 3rd year level. An important aspect to note is that students are introduced to knowledge generation through a module on Research Methods in Public Administration, the only of the selected institution that offers a research module.

University 5

In this University, the Bachelor of Public Administration can be taken with, inter alia Economics, Business Management, Financial Accounting, Industrial Psychology, Political Science, Sociology and Philosophy at 1st year level. At 2nd year level the above combinations are continued. In 3rd year, students specialise in either Economics, Business Management, Financial Accounting, Industrial Psychology, Political Science, Sociology and Philosophy. The introductory 1st year module Orientation to Development, Society and State; the 2nd year
module in Development Theory and Paradigms and the 3rd year module in Micro- Development Strategies are more Development Studies oriented than Public Administration/Development Management, while Integrated Development, Policy, Management (Theory and practice capstone) is specifically practical and outcomes based. The modules with a development focus have clearer people- centred practical outcomes than the Public Administration modules, which are Public Management and Policy; Government; Development Policy Frameworks; The Public Policy Process and Public Management Strategies. The development oriented modules have a clearer focus on public value issues, and the rest are somewhat technical and “managerialist” in orientation. A focus on social research through the modules is unfortunately absent. A strong binding element through all modules is theory, management, strategy and policy implications.

**DISCUSSION OF FINDINGS**

The current state of the Bachelor of Public Administration discussed above shows that while some universities focus on the technical, other universities focus strongly on the democratic curricula. The two do not have to be mutually exclusive. Indeed, in this paper the authors do not suggest that the teaching of public administration should be exclusively democratic curricula steeped in the humanities or social sciences. However, what emerges from the discussion above is a tendency for the curricula to emphasise the technical aspect of public policy implementation wherein students are drilled into the knowledge of the process of carrying out government functions and doing so efficiently and economically. With few exceptions, the curricula shows less focus on the general developmental context, be it social, cultural, political or economic, in which government activities are typically carried out (see Davids 2009:25-26). If curricula more or less emphasises the broader process, it is likely that future public managers will know how well to budget, manage resources, interpret policy but will not necessarily have a holistic understanding (see Kotze & Kotze 2003:76-99) of what it is that the public actually value and how best to assist.

With exceptions here and there, none of the curricula of the selected universities incorporate a specific and clear practical component. A practical component of the curricula could take the form of student placements or understudy where students are exposed to the public service work environment under the guidance of the university and as part and parcel of the academic programme. As it is, most students of the Bachelor of Public Administration in the universities studied are not given an opportunity to test the practical aspects of the discipline whilst still in the universities. The disadvantage here is that such students will not be able to functionally relate the theory to practice and will take a long time to relate to their work environment in the public sector.

With the exception of University 4, none of the curricula offer a specific or specialised module which expose students to Public Administration research methods. Students are not explicitly exposed to the basics of knowledge generation or creation. This would also mean that they are given limited exposure to computations of basic statistics or the interpretations of graphs and tables.

Based on an overview of the curricula of the Bachelor of Administration from the selected universities, it can be concluded that, by and large, the curricula leans towards a technical focus, emphasising POSDCORB principles. It assumes that once public managers have the right plans and execute them to the letter, the results will be precise and this will have successful outcomes for government. While the knowledge of these technical aspects is necessary, it is not sufficient in making good government and good governance. For the latter to be achieved, an understanding of the policy context, a perception of democratic and developmental values as well as the effectiveness of elected officials and the public’s ideals are fundamentals that will make government work, and work better.

The findings are reminiscent with McLennan (2007) who noted that South Africa’s curricula in Public
Administration tended to be descriptive and historical in nature, focusing on existing State structures, rather than context, comparative structures and processes of change. McLennan (2007) further noted that there was no clear relation between theory and practice since the curricula, with the exception of technikons (now Universities of Technology), was devoid of relevant practical components. The observations in this study are also reminiscent of Meserumule and Mashigo (2009) who regret the absence of economic principles in the study of Public Administration and who suggested that it be included as an ‘anchor subject’ in the instructional offerings of the degree programme.

DO WE OR DON’T WE NEED TO CHANGE AND RE-FOCUS THE CURRICULA?

Knowledge today is highly situated, rapidly changing and more diverse than ever before (Kalantzis et al. 2003:16). The notion of situated knowledge discards the claim that knowledge is authoritarian, universal and impartial (Harraway 1991). Instead, the notion of situated knowledge acknowledges that knowledge is, in fact, partial and linked to the context in which it is created. To this end, Lave and Wenger, 1992 (in Ben-Ari 2005) have advised that gaining situated knowledge occurs when a learner is mindful of activities as they actually take place within a community (Ben Ari 2005:367-368). From this perspective, it would, according to Lo Bianco (2000), be limiting if a curriculum were to be focused around (authoritarian) empirically right and wrong answers or any assessment techniques that measure knowledge within such a narrow context.

Because knowledge is rapidly changing, any facts or truths learnt in schools, no matter how immediately relevant they may be, are likely to be redundant or contested tomorrow. With this in mind, learners will have to possess particular attributes. Apart from being autonomous and self-directed learners, Kalantzis et al. (2003:17) suggest that good learners in the new economy will have to be broadly knowledgeable, and able to engage with the different interpretive frameworks and contexts of specific information (Kalantzis et al. 2003:17). So it should be in the training of Public Administration students to take on the roles of public servants and managers. The Public Administration curricula should ensure that lecture room information is applicable to the circumstances within which a learner is expected to function once they have left the university. They should be able to think broadly and comprehend the interrelatedness of the managerial and the social, the technical and democratic. Only then will public managers be able to withstand the onslaught of criticism they are faced with. For as Newman and Clarke (2009:7) remind us, “The state of public services and their proposed futures appear at the centre of current public and political debates. This proliferation of projects, innovations and contestations around publics and public services makes us wary of announcements of the death or decline of the public services. Publicness remains a site of significance: the focus of material and symbolic investments”. In the light of the above it becomes clear that the global challenges referred to by Newman and Clarke (2009:1) in the first section of this paper and the national implications thereof require a much more socially focussed, ethically conscious public service, some of these national and global challenges are highlighted below:

- South Africa has become more conscious of the international image relations and obligations. This is evident through the numerous peace-keeping missions in conflict areas on the continent as well as the international relations that are created and nurtured in the high commissions and embassies in far-flung parts of the globe.

- A socially conscious and questioning public (due to public participation rhetoric and disillusionment and social exclusion) makes demands (sometimes violently) on the public service through demonstrations and protests as is currently the case in South Africa.

- The growing poverty levels and unsustainable livelihoods sometimes linked to poor environmental management whose cause and effect, may impact even beyond the national borders of the country.

- The ever looming threat of terrorism and cross border crime to which all countries are vulnerable, but which are of particular significance for South Africa – a regional economic giant with numerous entry points.
RECOMMENDATIONS FLOWING FROM THE STUDY

The authors acknowledge that it is impossible to have one common curricula of Public Administration for the country and variations will no doubt abide. However, it is possible that, even in the diverse curricula presented above, certain principles, as recommended below, do indeed prevail:

- Greater input from the humanities in Public Administration teaching programmes calling for an interdisciplinary approach which enables inputs that inculcate ‘people skills’ which are currently lacking in the curricula.
- Internship programmes for students with government, semi-state agencies and NGOs as well as the introduction of a practical and community based course content in the Bachelor of Administration Programme.
- Incorporation of social research methodology into the curriculum, ideally presented by experts from Sociology. It would be useful to have service modules in Humanities being on offer to Public Administration students.
- Much more formal co-ordination with provincial and national government with regards to needs and requirements of future university trained employees, mutual research programmes, funding and bursary needs.
- Greater input from public administration practitioners in Public Administration curricula at conferences and workshops.
- Greater input from Public Administration academics with regard to government research, panel discussions, committees and public hearings.

CONCLUSION

Against the backdrop of pivotal conferences on Public Administration and noting the evolution of key concepts in the practice and discipline, this paper discussed the never-ending search in Public Administration for efficiency, effectiveness and relevance. In particular, it has attempted, through a scan of Public Administration curricula of selected universities, to examine how sufficiently prepared public managers are in responding to (unpredictable) situations in public administration practice. The discussion concludes that while academic conferences are vibrant in their discussion of innovative processes in Public Administration, and while discourse at such conferences is mindful of, and values notions of public leadership, public governance, public value and public participation, this is not sufficiently reflected in the curriculum of Public Administration – at least not at the undergraduate level. The paper outlines the relevance of a democratic curriculum citing compelling national and global challenges. The discussion wraps up with suggestions on how this can be done. Among other things, the paper suggests a multi-disciplinary approach to the teaching of Public Administration and the incorporation of a social research and a practical component into the curriculum.
REFERENCES


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Profiles of CLMS academics¹

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Shamim has led both research and intervention teams, within single organisations and in multi-stakeholder project contexts.

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Shamim is a member of the academic staff at the Graduate School of Business and Leadership, University of KwaZulu-Natal, in South Africa. He serves as Chairman of the Board of Directors of the Institute of Natural Resources (INR).

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¹ For ease of reference, authors appear in alphabetical order. Profiles were supplied by the contributors.
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Through his work, he has gained considerable insight, allowing him to make better-informed educational choices about how to address general issues relating to the facilitation of learning and teaching in courses. He has a good understanding of the key determinants of poor student success, as well as the problems faced by students, particularly those from disadvantaged socio-economic backgrounds (non-traditional students). He speaks French and is interested in conducting comparative research on approaches to higher education in Africa, as well as making connections with potential international collaborators.

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Fiona is an experienced researcher and policy analyst. Since 2001, she has worked with a variety of organizations on a range of academic and applied research projects, including national studies such as the South African Department of Trade and Industry's *Annual Review of Small, Medium and Micro-Enterprises (SMMEs)* and a sector review of the Plastics Industry in South Africa. In October 2014, she was appointed as Impact Specialist by the National Library of South Africa, to lead the evaluation of Mzansi Libraries Online, a Global Libraries Initiative funded by the Bill and Melinda Gates Foundation.

Fiona has served as the Managing Editor of the Skills at Work: Theory and Practice Journal (ISSN 1815-3666) since its establishment in 2004/2005. From Volume 5 onwards, the journal has been produced in collaboration with the GSB&L. The publication has become an advocacy and dissemination vehicle for Local Economic Development theory and practice.

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Prof. Mubangizi’s research is informed fundamentally by her strong views on social justice, community-based solutions to social issues and the institutional set-up – with its contribution (or lack thereof) to sustainable livelihoods. Her research takes the community as the basic unit of society and tries to show that the community impacts on, and is impacted upon by, institutions operating at micro and macro-levels of society. To this end, she tries to understand how communities can influence policies and processes for their benefit. Her publications have therefore been mainly on pro-poor service delivery, community participation and local governance.

Professor Mubangizi lectures to Undergraduate and Post Graduate students. Her prior experience of lecturing for ten years in a teacher training college; and being armed with a Postgraduate Diploma in Tertiary Education, have contributed to making Mubangizi a passionate reflective practitioner. She constantly reflects on her teaching and regularly researches how to improve it. In this regard, she has examined the areas of teaching and learning, as well as curriculum development – sharing her lessons learnt at conferences and in academic journals.
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His specialist area of research is illusion, consciousness and ontological learning. In this regard he has created two research performance pieces – *Brain Scam*, which explored illusion-making and the brain, and *Not an Angry Ape*, which examined Shakespeare's vision of consciousness – both of which premiered in the UK in 2009 and 2011, respectively.

At the end of 2008 he was one of four UKZN academics selected for the prestigious Distinguished Teacher's Award.

Kriben's collection of short stories, *Three Poisons*, which deal with greed, ill will and delusion, was published in the UK in late 2014.

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The contribution of co-authors from other institutions is gratefully acknowledged.

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This volume is a timely addition to a growing literature and scholarship in teaching and learning in what may be referred to as the professional disciplines and programmes. The range of chapters provide a mosaic of theoretical and practical reflections: from pedagogy, assessment and issues of access; to practitioner research in management and related areas. It should be read by all academics who are involved and interested in advancing student success through innovative curricula and approaches, and will no doubt inspire further research ideas.

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