6. A teaching model to promote learning agility in a university course
   CAROLINE AZIONYA AND ANNA OKSIUTYCZ

42. Quantitative exploration of students’ experience in cloud computing in a higher education institution
   NATASHA MADHAV, KAYODE EMMANUEL ADETUNJI AND MEERA K. JOSEPH

19. Creating an environment that nurtures deep learning: How does the National University of Lesotho fare?
   TEBELLO TLALI

53. Nurse educators’ challenges and corresponding measures to improve the academic performance, success and retention of undergraduate nursing students at a university in the Western Cape, South Africa
   KATLEGO DUMISANI TREVOR MTHIMUNYE AND FELICITY MEGAN DANIELS

86. Practitioners’ Corner
   Reconceptualising teacher professionalism for effective school management: a quest to end corporal punishment
   VUSI MNCUBE AND BEKITHEMBA DUBE

102. Doctoral Corner

68. Factors affecting job satisfaction at a private school in Pietermaritzburg, KwaZulu-Natal
   SUDHINDRA NAIDOO
The Independent Journal of Teaching and Learning (IJTL) is an education-focused journal, published twice a year, online and open access [ISSN 2519-5670 (Online)] by The Independent Institute of Education. The aim of the journal is to make a difference to educators at the primary, secondary and tertiary levels. Providing a scholarly forum for academics and education practitioners to share research on teaching and learning. The journal as well as all submission and publication information can be found at https://ijtl.iie.ac.za/

The IJTL is intended to be a resource for education practitioners and researchers as it aims to provide useful, research-based resources and provide a scholarly forum for academics and education practitioners to share in research on educational practices and teaching and learning at various levels.

The following contributions are considered for publication:

- Research-based empirical, reflective or synoptic articles that would be of interest to education practitioners
- Review articles that critically examine research carried out in a specific field
- Discussion or advocacy papers suitable for publication, articles for publication in a section entitled Practitioners Corner
- Book reviews that comprise a clear and concise evaluation of recently published books.

The journal accepts Doctoral Abstracts, which include the link to the full text thesis, from researchers that have graduated with a PhD/Doctorate in Education in the last two years. These are not peer reviewed and are published in a separate section of the journal.

Disclaimer
The publisher and the editor cannot be held responsible for any consequences arising from the use of information contained in this journal. The views and opinions expressed do not necessarily reflect those of the publisher or the editor.

Address for correspondence
The Independent Journal of Teaching and Learning
PO Box 2369
Randburg 2125
South Africa
E-mail: editor@iie.ac.za
Contents
Volume 14 (1) 2019

1. Notes on contributors
4. Editorial
Professor Dolina Dowling
6. A teaching model to promote learning agility in a university course
Caroline Azionya, University of Johannesburg, South Africa
Anna Oksiatycz, University of Johannesburg, South Africa
19. Creating an environment that nurtures deep learning: How does the National University of Lesotho fare?
Dr Tebello Tlali, National University of Lesotho, Kingdom of Lesotho
32. Pharmacy students’ experience towards active learning using ‘Clickers’
Dr Frasia Oosthuizen, University of KwaZulu-Natal, South Africa
Dr Peter Owira, University of KwaZulu-Natal, South Africa
Dr Varsha Bangalee, University of KwaZulu-Natal, South Africa
42. Quantitative exploration of students’ experience in cloud computing in a higher education institution
Natasha Madhav, Independent Institute of Education, South Africa
Kayode Emmanuel Adetunji, University of the Witwatersrand, South Africa
Meera K. Joseph, IEEE Computer Society, South Africa
53. Nurse educators’ challenges and corresponding measures to improve the academic performance, success and retention of undergraduate nursing students at a university in the Western Cape, South Africa
Dr Katlego Dumisani Trevor Mthimunye, University of the Western Cape, South Africa
Professor Felicity Megan Daniels, University of the Western Cape, South Africa
68. Factors affecting job satisfaction at a private school in Pietermaritzburg, KwaZulu-Natal
Sudhindra Naidoo, University of KwaZulu-Natal, South Africa
86. Practitioners’ Corner
Reconceptualising teacher professionalism for effective school management: a quest to end corporal punishment
Professor Vusi Mncube, University of Fort Hare, South Africa
Professor Bekithemba Dube, University of the Free State, South Africa
102. Doctoral Corner
110. List of reviewers
Notes on contributors

Kayode Emmanuel Adetunji is currently a doctoral research fellow at the University of the Witwatersrand, South Africa. He obtained a masters’ degree in Electrical and Electronic Engineering Technology, specialising in the field of cloud computing technologies and its application in renewable energy systems, at the University of Johannesburg, South Africa. His current research is based on optimisation algorithms and computer vision for implementing microgrid architecture. He has published academic papers in the area of cloud technologies and renewable energy. In his work experience, he worked as a database and programming courses lecturer, service engineer in the material handling industry, and a maintenance engineer. Currently, he is a teaching assistant for software development and power engineering courses.

Caroline Azionya lectures strategic communication (marketing and corporate) in the School of Communication at the University of Johannesburg. She has lectured on the degree and diploma programmes offered in the Department of Strategic Communication for a decade. Prior to 2008, she worked in the private sector as a consultant in the strategic communication industry with various clients from the financial services, telecommunications and government sectors. Her pedagogical research interests include learning agility and innovative authentic approaches. Caroline holds an MA (Marketing Communication) cum laude from the University of Johannesburg.

Dr Varsha Bangalee holds a B.Pharm, M.Pharm (Pharmacoeconomics), PhD, PgDip (Business Management) and a PgDip (Pharmacovigilance and Pharmacoepidemiology). She is a senior lecturer in Pharmacy Practice, and is involved in curriculum restructuring and the introduction of new pedagogies. Her main areas of research interest are Pharmacoeconomics, Pharmaceutical Policy Analysis, Pharmacovigilance and Pharmacy Education.

Professor Felicity Megan Daniels is a Professor in the School of Nursing at the University of Western Cape, where she has been a faculty member since 1994. Felicity is responsible for coordinating the portfolio of Academic Planning in the School of Nursing. She completed her PhD at the University of Western Cape. She is an external examiner for several universities in South Africa and beyond. She is a co-investigator on two international projects. Felicity’s research interests are Mental Health, Nursing Education, Clinical Support and Health Systems Research. Felicity is the Primary Researcher /Leader for a research programme on Learning and Teaching and has been awarded UWC, NRF and MRC grants. She has published in national and international peer reviewed journals and has graduated several masters and doctoral students. She is currently the Africa Regional Co-ordinator for SIGMA / Sigma Theta Tau International. Previously Felicity was the Chairperson of Leadership Succession Committee of STTI Tau
Lamda-at-Large Chapter; Chairperson of Mentoring for the Regional Africa Chapter of STTI and Faculty Counselor, UWC, for STTI Tau Lamda-at- Large Chapter.

**Dr Bekithemba Dube** is a lecturer at the University of the Free State, he is founding member and managing editor of the *African Journal of Education in Rural Contexts*. He has published various articles in the area of religion, education and curriculum theory. He also coordinates an international society for scholars in rural contexts.

**Professor Meera K. Joseph** worked as an Associate Professor at the DFC, Department of Electrical and Electronic Engineering Technology, School of Electrical Engineering, University of Johannesburg (UJ) and is a Professional Member of the Institute of Information Technology Professionals South Africa (PMITPSA) and Full Member of IEEE Computer Society (CS) and currently IEEE Computer Society SA Chapter chair. She received the degrees of DPhil. Engineering Management, UJ in April 2014, Masters in Computer Applications in 1998 from Bangalore University, India. She has published 53 research papers and has over 18 years lecturing experience in the Computer Engineering field. She founded and led the Information and Communication Technology for Development (ICT4D) research group at UJ. Her research interests are ICT4D, smart grids, cloud computing, computer networks / femtocells, renewable energy, ICT for Power research, ICT for women empowerment and the use of ICT in Engineering Education.

**Natasha Madhav** is a senior Head of Programme at the Independent Institute of Education, responsible for researching current industry trends and incorporating these into curriculum developments. She is currently registered for her PhD at the University of Johannesburg, South Africa.

**Professor Vusi Mncube** is the Deputy Dean: Research and Internationalisation at the University of Fort Hare, Eastern Cape. His research focuses on good governance with special focus on school governance, democracy, education, and social justice. He has published widely in the area of school governance. In 2017, he collaborated with Clive Harber on a monography entitled ‘School Violence: South Africa in the International Context’. In addition, in 2012, he collaborated with Prof Harber on a monograph entitled ‘Education, democracy and development: Does education contribute to democratisation in developing countries’. He has completed various research projects, presented papers in both national and international conferences on school governance. He has supervised to completion masters and PhD students and has examined masters and PhDs for various universities.

**Dr Katlego Dumisani Trevor Mthimunye** is a lecturer and researcher in the School of Nursing at the University of Western Cape. He completed his PhD by publication at the University of the Western Cape. Katlego’s area of interest include: Nursing education, Health information systems and Renal Health. He has published in national and international peer reviewed journals. He also presented papers internationally in this specific field.

**Sudhindra Naidoo** is an alumnus of the University of KwaZulu-Natal. He qualified with a BBA degree (*summa cum laude*) in 2015 and with an MBA degree (*cum laude*) in 2018. He currently works as a Provincial Programme Specialist (KZN) and Quality Improvement Advisor for the Networking HIV and AIDS Community of Southern Africa (NACOSA).

**Anna Oksiutycz** is a lecturer in the Department of Strategic Communication, University of Johannesburg, where she teaches undergraduate and postgraduate strategic communication (marketing and corporate) courses. She has over 20 years of university teaching, research, and postgraduate students’ supervision experience. Innovation in teaching, authentic learning and interdisciplinary approaches to teaching and learning are among her research interests. Anna holds an MA Journalism degree from St Petersburg State
University, Russia; MCom Communication Management degree from the University of Pretoria, South Africa and an MBA degree from Durham University, UK.

**Dr Frasia Oosthuizen** holds a BPharm, MSc (Pharmacology) and PhD (Pharmacology) qualifications, all obtained from PU for CHE (now North-West University). She is a Senior Lecturer in Health Sciences, at the University of KwaZulu-Natal. She teaches pharmacology to undergraduate students in the B.Pharm programme, and has extensive experience in curriculum development. Her main areas of research interest are Drug Safety and Pharmacy Education.

**Peter Owira** is a Senior Lecturer in Pharmacology and also a team leader in the Molecular and Clinical Pharmacology Research Unit. His areas of research interest include drug design and development; pharmacokinetics and disposition; role of natural products (flavonoids) in diabetes and dyslipidaemia and antiretroviral therapy associated metabolic disturbances. He is the senior author of 24 peer reviewed ISI indexed high impact factor journals.

**Dr. Tebello Tlali** is a lecturer at the National University of Lesotho (NUL). She holds a PhD in Educational Philosophy and Policy Studies. She also holds a Post-Doctoral M.A. in Higher Education Studies (MA-HES). Her research interests include educator ethics; educator professional development; engendering of reflective practice; and issues pertaining to teaching and learning in higher education.
Exponential technological innovation in areas such as Artificial Intelligence, robotics and the Internet of Things, will change the nature of work across industries and occupations with many future jobs being ones that do not yet exist. Concomitantly, there will be job losses particularly where automation substitutes human capital. When we take into account the need of human beings to generate an income and to have a meaningful and purposeful life, which for many is given expression in work, it is apparent that education needs to change. Major shifts in understanding the nature and purpose of education need to occur to reflect this new reality. There needs to be education appropriate for this fast-emerging new global economy and in which all learners and students are given the skills and tools to flourish.

Furthermore, not all countries are at the same stage of development or following the same growth trajectory. Each country has different circumstances and challenges. Indeed, within many countries there is a wide gap between education practices not only at the different levels in the system but within levels. Nowhere is this more apparent than in South Africa with its first and third world divide; the increasing rise of squatter camps; the rural and urban divide, and the correspondingly widely varying infrastructure and resources not least in its education institutions. In some areas of the country, the second industrial revolution still needs to be fully experienced due to a lack of electricity and in yet more, the third industrial revolution is still not fully realised. Nevertheless, this fourth industrial revolution will still impact such communities.

What then do we teach at the different levels in the system and what are the appropriate pedagogies to ensure that students are optimally prepared for work and society during this period of disruption? One initial response with respect to the latter is to equip students with 21st century skills in the cognitive, interpersonal and intrapersonal domains, which, it is claimed, will produce flexible, adaptable, innovative and agile workers as well as active citizens who participate in civic society and who have cultural and global awareness.

In this 14th volume of the Independent Journal of Teaching and Learning, teaching strategies and student learning are addressed in many articles. While no reference is made explicitly to 21st century skills, aspects of these are addressed in the first cluster of articles. These focus on the learning experience of students as evident in teaching strategies. The concern is to ensure that deep rather than surface learning takes place. Deep learning occurs when students are able to transfer their knowledge and skills to different situations through critical thinking and problem solving and to work collaboratively to solve problems.

In the first article, the authors offer a conceptual teaching model that facilitates learning agility and softens the boundaries between theory and practice; work and study. They hold that this approach will inter
alia graduate students who have well-developed problem solving skills which enable successful decision making. This model meets the desiderata of collaboration and teamwork; creativity and imagination; critical thinking; and problem solving – all first tier 21st century skills. An advantage of the model is that it can be applied in different curricula.

The following two papers are concerned that deep learning takes place; that students are not merely learning for exam passing then forget what they learned. In the first, the author investigates practices at a university through exploring teaching strategies and the learning approaches of students from the lecturers’ perspectives through semi-structured interviews and an examination of assessment papers. She finds that at best, surface learning is taking place. This, she suggests, is due to a lack of teaching and learning policy, staff development and student support programmes. This needs to be addressed. The authors in the next paper, in a quantitative descriptive study, investigate the impact of using clickers as an active learning strategy. They find that students enjoyed using clickers, that they had a better understanding of course content and there was increased facilitator and peer interaction. As a result, this model is likely to be included in other modules of the Pharmacy programme.

It hardly needs to be said that technological expertise is a sine qua non; these are critical skills needed to participate fully in the 21st century world of work and society. In their paper, the authors explore in a quantitative study, the use of cloud computing technologies in a higher education institution with respect to students’ experiences. Their research shows that students lack sufficient skills for cloud technologies to be used successfully in learning. The last paper in this cluster investigates in a qualitative study, the challenges faced by nurse educators in ensuring the success and retention of undergraduate nursing students. The author identifies a wide range of challenges that need to be addressed if student success is to be assured.

The other cluster in this edition gives voice to a range of issues in schools that need addressing before attention can be given to 21st century skills. These deal with disparate issues such as teacher job satisfaction and the use of corporal punishment which may, at first blush, seem to have no link. However, a closer examination reveals that at the core, these concern policy and management at the different levels of the education system. In the first of these papers, the author explores factors which affect job satisfaction in a private school. He finds that working conditions, professional development and empowerment of staff are key factors in job satisfaction without which morale and motivation is low. This, in turn, has a negative impact on student learning. To create and sustain a healthy learning community, all schools need to ensure that these factors are addressed.

Sadly, the article in Practitioners’ Corner shows not only a failure of implementation of policy but a failure of the policy itself. Despite corporal punishment being illegal, it is still used in the classroom and as the article shows, often with devastating consequences. Through participatory action research, the authors examine the use of corporal punishment in a school and investigates the reasons for this. They recommend professionalising the teaching profession and the democratisation of schools as a means to ameliorate this practice.

Doctoral Corner comprises abstracts of recently awarded doctoral degrees which are concerned with curriculum design frameworks at access, foundation and postgraduate levels as well as a mentoring programme for new teachers in primary schools. The publication of abstracts alerts researchers and practitioners to new research in their areas of interest.
A teaching model to promote learning agility in a university course

Caroline Azionya, University of Johannesburg, South Africa
Anna Oksiutycz, University of Johannesburg, South Africa

ABSTRACT

Producing graduates with advanced problem-solving capabilities that function in ambiguous complex contexts is imperative for the academy and praxis. This paper articulates authentic learning theory within an agile problem based learning approach as a pedagogical curricular foundation for a conceptual model that diminishes boundaries between work and study to catalyse learning agility. It uses social problems requiring interdisciplinary collaboration to develop students’ knowledge arenas using five learning loops; Individual Discovery, Disciplinary Collaboration, Interdisciplinary Collaboration, Expert Evaluation and Reflection. A knowledge arena is a locus for learning a specific domain. Learning loops are the experiential processes through which knowledge arenas are constructed to inculcate learning agility and gain industry relevant skills for work. The approach equips students with critical literacies, disciplinary mastery, interdisciplinary reflective thinking skills and prepares them to respond more successfully to uncertainty during decision-making. Each loop is incrementally complex to allow students to adjust their learning from teaching, corrective and informational feedback, research, and informational inputs from lecturers, tutors, industry and issue experts to apply them progressively with each iteration. The model can be applied to various higher education curricula.

Keywords: agile problem based learning, authentic learning, communities of learning, critical thinking, deep learning, learning agility

INTRODUCTION

Globally, higher education and contemporary business are currently experiencing exponential shifts largely driven by disruptive technologies that result in operational uncertainty, complexity and the need to respond to the ambiguities of a continually changing environment.

South African societal demands for transformation and inclusive curricula necessitated by the #FeesMustFall movement are sharp reminders of how powerful stakeholders can disrupt and redefine operations in order to remain relevant. If current trends continue, the future world of work will exhibit turmoil and dynamical business cycles that require marketing and communication educators to rethink curricula, current models of delivery and produce graduates that meet current and future work demands within a rapidly changing environment.

1 Date of submission 21 July 2018
Date of review outcome 27 November 2018
Date of acceptance 16 January 2019
higher education context. Perhaps more importantly, the need to produce graduates that can solve problems using creative, innovative and critical thinking amid ambiguity has become an imperative for higher education and industry alike.

This paper articulates authentic learning theory within an agile problem based learning approach as a pedagogical curricular foundation for a model that diminishes boundaries between work and study to catalyse learning agility. It uses social problems requiring interdisciplinary collaboration to develop student’s knowledge arenas using five learning loops: Individual Discovery, Disciplinary Collaboration, Interdisciplinary Collaboration, Expert Evaluation and Reflection. The model can be applied to various higher education curricula with a vocational focus or with some practical components.

**AUTHENTIC LEARNING**

Meyers and Nulty (2008) argue that through the interplay between the student’s learning, the curricula and teaching methods employed, high quality learning can be attained, mainly through the introduction of deep learning approaches such as authentic learning.

**Deep learning approaches**

Deep learning is based on appropriate prior knowledge and requires meaningful engagement on the students’ part, which can be facilitated by interest, a sense of purpose and challenge (Biggs & Tang, 2011). Deep learning leads to improved understanding, develops integration of knowledge and enables students to apply their own and other’s ideas to new situations (Meyers & Nulty, 2008).

The concept of authentic learning is relatively new, however, other related concepts such as situational learning, action learning, project based learning, problem based learning, collaborative problem solving, and goal based scenarios have been used by educators for several decades (Ardley, 2006; Calver, Gold & Stewart, 2013; Rule, 2006). Authentic learning represents the shift in learning theory from behavioural to cognitive to constructivist in the past 30 years (Herrington & Herrington, 2007).

**Constructivism**

Constructivism assumes that students construct knowledge through their own activities that build on the foundation of their prior knowledge (Biggs & Tang, 2011). This constructed knowledge is based on social experiences and community interaction (Slavin, 2004) and not only by assimilating what is taught by educators (Maphalala, 2017). However, to build meaningfully on this knowledge, student learning should be situated in authentic learning environments that interface with challenges facing either a specific community or society. Therefore, authentic learning is student centred and empowers students by allowing them to use their personal frame of reference and evokes high order thinking skills.

**High order thinking and the development of critical literacy**

Brookhart (2010: 3-8) defines high order thinking as:

- **the transfer of knowledge** characterised by the recall, sense making and utilisation in varied contexts
- **critical thinking** which entails reasoning, reflection, questioning, comparisons, observations, exploring divergent points of view to make decisions
- **problem solving** which entails the creative, critical evaluation of content to reach a goal or the strategy employed to reach a goal.

The essential components of authentic learning as identified by Rule (2006) are developing critical literacy that requires exploring multiple perspectives and recognition of social barriers. In addition to
specific instructional outcomes, this mode of learning provides students with opportunities to develop life
skills such as, problem solving, time management and team work. By participating in authentic learning
environments, students take responsibility for their own learning as well as for the learning of others.

How context contributes to cognition and knowledge construction

Authentic learning rests on a view that student learning is promoted when it occurs in a meaningful context
grounded in reality (Mims, 2003; Campbell & Oblinger, 2007) and acknowledges the interdependence
of a situation and cognition (Herington & Oliver, 2000) for knowledge construction. In line with the
authentic learning approach, Meyers and Nulty (2008) propose curriculum development that involves
tasks and experiences based on relevance to the real world, are constructive, sequential and interlinked.
Furthermore, tasks should require students to use progressively higher order cognitive processes that
provide a challenge, are aligned with each other, and keep them motivated to learn (Meyers & Nulty,
2008).

Authentic activities designed to match the real-world disciplinary-related tasks of practitioners as much
as possible (Lombardi, 2007) help students to contextualise and assimilate the content and develop the
necessary skills they will use in their adult work experiences. Thus, authentic learning is a pedagogical
approach that allows students to explore and construct concepts that originate in real-world problems by
making connections between the new material being learnt and previously acquired knowledge and skills
(Mims, 2003). However, context alone is not sufficient to engender learning, it needs to be coupled with
a problem or challenge to achieve learning goals and sustain student interest.

PROBLEM BASED TEACHING

Problem based teaching offers students and educators the opportunity to co-create learning environments
that incorporate real-life complex problems to prime students with various skills for individual and
collaborative future work contexts. It is therefore important to examine the requisites, rationale and rewards
for the effective use of this approach.

Real-life versus hypothetical problems

Hypothetical problems do not create the high levels of motivation in student learning that real-world
problems rooted in accessible contexts do (Luar, 2013). We define a hypothetical problem, issue or
scenario as

- imaginary, not practical and based on supposition versus reality
- devoid of contexts or details that students can easily grasp, relate to or research
- well structured for a single right answer by applying predetermined processes and limited concepts
  acquired through rote learning and memorisation (Cho, Caleon & Kapur, 2015: 4)
- do not require creativity or criticality to solve (Cho, Caleon & Kapur, 2015: 4).

Hypothetical problems can stunt a student’s critical literacy and ability to conceptualise novel solutions
in the face of complexity. The authentic learning process is purposely designed around authentic tasks
set in meaningful and complex (Glatthorn, 1999) or challenging investigations (Luar, 2013) relevant to
students’ lives, their communities or broader society to engender empathy, buy in and enquiry (Pahomov,
2014). Beyond achieving module outcomes, students are expected to find solutions that change people’s
actions or attitudes (Rule, 2006) thereby creating solutions that have value beyond the learning achieved
for target communities. Students are expected to communicate effectively their findings and strategy to
their lecturers, peers as well as audiences and communities outside the lecture hall (Renzuli, Gentry &
Reis, 2004).
Thus, the outcome of learning is a valuable product that can be shared with audiences outside the lecture hall (Pahomov, 2014). When learning is centered on topics of interests to students, they ‘become emotional stakeholders’ (Rule, 2006: 3) in the problem and its resolution. This aids the integration of the knowledge, skills and attitudes required to complete complex tasks. Subsequently, authentic learning cannot take place without a legitimate desire to acquire knowledge and skills (Pahomov, 2014) through deep engagement with content and standards of learning (Laur, 2013).

The critical literacies developed by ill-defined and open-ended problems

The ill-defined nature of the problem catalyses a learning process that involves students identifying the problem, seeking relevant information, categorising, analysing, synthesising and evaluating information (Renzuli et al., 2004). Meyers and Nulty (2008) acknowledge that during the learning process students progressively develop more complex and sophisticated ways of thinking.

The problems presented should also be open-ended, without prescribed paths to solutions and open to multiple interpretations (Lombardi, 2007) to demonstrate that complex issues do not have simple solutions. It is also an opportunity for students to develop the self-confidence needed to make decisions and develop coping mechanisms to overcome feelings of inadequacy and the fear of making the wrong choice when many options exist. Practically speaking, these skills are progressively acquired through an agile trial and error process. This presents several challenges for curriculum designers.

Despite the merits of a problem based teaching approach, in terms of developing students’ critical literacies, student buy in and solutions to societal issues; the reality is that in the world of work, complex problems are seldom solved by one specialisation. To authentically create an environment which prepares students for the ambiguity created by open-ended problems, and the skills to work in diverse cross-functional teams, there is a need to expose students to problems that reach beyond disciplinary silos and boundaries (Oksiutycz & Azionya, 2017). A possible solution lies in the use of agile problem based learning which is about interdisciplinarity and using problems that require interdisciplinary solutions (Kek & Huijser, 2017). Although there is significant literature addressing agile concepts applied to management education, there is a lack of academic literature addressing how agile methods can be used broadly in learning environments, beyond management, systems development and engineering contexts (Parsons & MacCallum, 2019).

AGILE PROBLEM BASED LEARNING

Kek and Huijser (2017) position agile problem based learning as a curricular and pedagogical vehicle that diminishes boundaries between work and study, public and private spaces, formal and informal learning environments, to promote connected learning. The learning environment becomes an interconnected and collaborative space where all partners are involved in teaching and learning; students, employers and the wider social networks within and without the university (Kek & Huijser, 2017). Therefore, it is not a departure from authentic learning but rather an enhancement thereof.

Learning agility is defined as the ability and willingness to learn the right lessons experientially and perform those learnings in new scenarios/contexts (De Meuse, Dai & Hallenbeck, 2010; Lombardo & Eichinger, 2000). DeRue, Ashford and Myers (2012) emphasise the speed of learning (an ability to learn quickly) and an ease of movement across ideas, points of view and situations as central concepts of learning agility. Authentic learning with specific reference to agile problem based learning strives to build learning agility capabilities in students to prepare them for work by responding more successfully to uncertainty and making faster decisions.
Other requisites for an agile problem based learning environment

An authentic agile problem based learning environment must be experience based, place students in interdisciplinary communities of learning, have responsive and adaptive support mechanisms, and an integrated, varied assessment strategy. To prepare students authentically, curriculum designers and instructors must collaboratively create:

- **An experience based learning environment:** The cultivation of agile capabilities/skills require diverse opportunities to apply lessons learned, receive feedback, and then apply again (De Meuse et al., 2010) and are dependent on an individual's ability to self-reflect. Agile capabilities are a solutions-oriented mindset, principles and behaviours that solve problems incrementally within a specific timeframe according to stakeholder needs. Learning agility, therefore, is catalysed and learnt in accelerated, dynamic, and experience-based learning environments with early and frequent exposure to training experiences that call for adaptive responses (De Meuse, et al., 2010). Timeframes and expected deliverables must be articulated upfront during the problem briefing.

- **Interdisciplinary communities of learning:** A community of learning is defined as a system of relationships between people, the activities they are involved in, and the world (Ardley, 2006). Wenger and Wenger-Trayner (2015) identify several characteristics that communities of learning have such as: problem solving, information sharing, coordination and synergy between the members, discussing developments as the task progresses, identifying gaps and documenting work. Within interdisciplinary communities of learning, major tasks cannot be completed on an individual basis but as a multi-skilled collective to reflect the world of work characterised by complex problems tackled by teams reflective of diverse skills, ranks and socio-cultural backgrounds.

Therefore, group collaboration in interdisciplinary communities of learning is an essential aspect of authentic learning as it promotes collaborative problem solving, integrated decision-making skills and the cross pollination of ideas and knowledge. Not only do students improve their skills through sharing but they are exposed to different perspectives and roles beyond their area of specialisation (Lombardi, 2007) or disciplinary silos to cultivate, sensitise and develop interdisciplinary thinking and problem solving.

These communities of learning become an experiential locus of collaborative discovery driven learning for all participants regardless of specialisation. Group work in this context, requires students to use social discourse and language for sense making in relation to the world around them. This collaborative context allows students to reflect on their learning as individuals as well as in a group context.

- **Responsive and adaptive support mechanisms:** Although students are expected to navigate their own solution, authentic learning within the context of agile problem based learning is facilitated by lecturers, tutors and external experts that use the scaffolding learning technique. This technique varies from learning instructors giving students occasional support, prompts, appropriate feedback, guidance to the completion of an entire task (Brickell & Herrington, 2006; Lombardi, 2007). The support lessens as their ability to tackle the problem improves and progresses through increasingly complex tasks over a ‘sustained investigation’ requiring temporal and intellectual resources (Lombardi, 2007) to allow students to be inculcated with the relevant content and find a solution.

- **An integrated and varied assessment strategy:** The assessment strategy needs to cater for the sustained investigation which can last over a semester or a year. Assessment of learning
activities is integrated, formative and continuous versus just summative. Summative assessment is used to assess what the student has learnt, and formative assessment fosters learning through the identification of knowledge gaps and uses various remedial strategies (Northern Illinois University, n.d.). Therefore, authentic assessment involves varied assessment methods that are staggered according to tasks, instructional outcomes and their complexity. Assessment opportunities are broken up into timed blocks or iterations according to complexity and instructional goals/objectives to provide a dedicated time in which to create a quality solution. These blocks can be from a week to two months long. They offer students to reflect individually or as a group on how to improve a solution after critical feedback. These learning milestones are seamlessly integrated into the learning experience to reflect the world of work (Lombardi, 2007).

Designing an authentic learning environment for undergraduate students that requires interdisciplinary solutions can be challenging in terms of logistics, timing and aligning the curriculums of dissimilar disciplinary contexts, within rigid faculty requirements and learning outcomes. In their approach, the researchers argue that these principles should be adapted to the needs of students, lecturers’ strengths, subject matter and the teaching context to promote learning agility in students.

**BACKGROUND FOR THE MODEL’S CREATION**

Scholarly teaching emphasises disciplinary or field-centred scholarship, which involves a reflective process where teaching practices that promote learning are published in peer reviewed articles to allow other educators to critique, adopt or build on them (Kek & Huijser, 2017). This paper endeavours to do the latter.

The conceptual model presented in this paper, stems from the findings of previous research conducted by the authors (Oksiutycz & Azionya, 2017) in the process of introducing a new curriculum for applied strategic communication (marketing and corporate) courses in the Department of Strategic Communication for second year students at the University of Johannesburg (UJ) in 2014. This was in response to changes in the marketing and communication industry, a need to improve the learning experience, performance and industry relevant knowledge and skills of students. When developing the new study modules, the lecturers used the Kozubska and McKenzie (2012) approach to authentic learning, which has the following characteristics: a small group of participants (community of learning), a project with a real-world problem, the client - problem ‘owner’, a set adviser and a timeframe. In addition, aspects from learning agility theory, particularly the emphasis on the use of feedback and the opportunity to apply lessons learnt in other tasks as outlined by De Meuse et al. (2010) and the use of an agile problem based approach to tackle serious social issues, including human trafficking, xenophobia and organ donation, were central concepts in the design of the learning environment.

The learning environment was the result of a partnership between the Department of Strategic Communication and the following:

- various clients/problem owners, including the Pretoria Mission of the International Organisation for Migration (IOM), a United Nations Migration Agency, the Gauteng Department of Human Settlements, the Informal Settlement of Zandspruit, Sparrow Schools for special needs children and the Organ Donation Foundation. They briefed students, on a complex problem aligned to their core function that required a strategic communication campaign.
- the Direct Marketing Association of South Africa (as the marketing communication industry expert and set adviser that supported the teaching and learning)
- the Department of Graphic Design, the UJ Faculty of Art, Design and Architecture (FADA) provided interdisciplinary communities of learning consisting of five to eight students.
Although the focus of this paper is not to report on the research that was previously carried out by the authors (Oksiutycz & Azionya 2017), it is pertinent to explain briefly the methods used. Using action research, data were collected from students using a mixed method approach, including 94 questionnaires, 14 in-depth interviews and three focus groups over a period of four years. Throughput rates and assessment marks were also analysed to gauge the success of the new curriculum. During this period, 1001 students went through the programme. After five years of reflection, incremental improvements instituted from the action research, informal discussions and reflective assessment practices; the lecturers have developed a teaching model to promote learning agility (Figure 1), grounded in an authentic learning approach.

The selection criteria for all participants is a critical success factor. Problem owner (client) selection should simultaneously serve societal needs but should be appropriately matched with the relevant disciplinary curriculums. Very importantly, for the model to work the problem owner and relevant industry experts/partners (set adviser) must exhibit commitment and availability. Without their active participation in the planning stages and role specific interventions, the model does not operate optimally.

Similarly, the selection of interdisciplinary counterparts needs to ensure that students are in a similar grade level or possess the maturity to interact respectfully and learn from each other. Therefore, teams are constructed in such a way as to create balance. This avoids unnecessary power struggles (an us against them mentality). However, the pairing depends on the disciplines involved, logistical requirements and the brief.

Figure 1:
An authentic learning environment for learning agility – a teaching mode
The model (see Figure 1) uses learning loops to develop the knowledge arena of students. The knowledge arena is a locus for learning around a specific domain that enables a student to internalise learning agility for future scenarios. The learning loop is a critical process and mechanism through which a knowledge arena is experientially constructed. Learning loops are not linear and allow students to adjust their learning in response to inputs in the form of teaching, research, appropriate feedback and/or salient information.

**Individual discovery**

To prompt the exploration and construction of concepts that originate in the real-world problem, students are tasked with carrying out research. This formative assessment requires students to seek, categorise, analyse, synthesise (Renzuli, et al., 2004) and critically evaluate relevant content on an individual basis. This stage is critical and ensures students have more than a superficial knowledge of pertinent issues in relation to the brief. Before submission, an industry expert delivers a master class on relevant industry/disciplinary related content to develop further the individual discovery knowledge arena.

During lectures, lecturers as subject experts create appropriate links between theoretical concepts and the brief and application of content in other contexts. A few class activities tied to the task are incorporated within this learning loop. Written and verbal feedback is given for the class activities. However, before moving to the disciplinary collaborative learning knowledge arena and loop, students are given critical feedback which is evaluative and informative. What distinguishes high agile performers is their solicitation of feedback (De Meuse et al., 2010) in consultations, asking questions during lectures/tutorials/class activities and implementing corrective strategies and learnings in the next learning loop.

**The intra-disciplinary collaborative learning**

To allow for the application of learning from the corrective and informational feedback, students are given a similar brief with more cognitive complexity, disciplinary and multi-role task completion requirements. They form self-organised disciplinary groups. Within this learning loop and knowledge arena, the industry expert gives a final master class. The session includes examples on how the brief can be answered using the principles outlined in the master class. The sessions are interactive and designed to elicit informational feedback.

Students are also at a stage where they can engage with the brief and the content more deeply. The industry expert tasks students with a rubric based on the problem owner’s brief outlining marks and key expectations for the industry adjudication. A peer benchmarking technique is used by asking the previous year’s winner(s) to present their strategy to the class and reflect on their key learning. In addition, tutors who have passed through the process are available for consultation and strengthen the peer benchmarking technique.

This learning loop is designed to evoke disciplinary mastery through collaborative data driven decision making and the identification of the key problem facing the client or problem owner. Additionally, this learning loop encourages collective and coordinated problem solving, the use of critical reasoning defined as reflection, questioning, information and ideation comparisons, observations, exploration of divergent viewpoints in the decision-making process by Brookhart (2010).

A strategy is then innovated by students after the critical evaluation of content and learning from informational and corrective feedback they receive from workshops, individual and group consultations, class activities and disciplinary related content. It should be noted that as the project progresses the tasks become progressively multifaceted and with inbuilt less scaffolding techniques. Students are required to present and effectively communicate their strategy to their lecturers during presentations using PowerPoint. Students receive real time feedback about their strategy in relation to the brief and develop skills they will use during the final industry and client presentations.
The assessment strategy utilises a combination of assessment types to encourage students to think about their strategy more deeply. The final exam includes questions that elicit reflection on different aspects of the solution/strategy, and the relationship between the strategy and theory. Students incorporate feedback from the two learning loops. At this point students have the necessary disciplinary knowledge to collaborate effectively with students from other disciplines.

**Interdisciplinary collaborative learning**

In this cycle of the model, students collaborate with peers from another discipline to develop their interdisciplinary collaborative learning knowledge arena. Students from one discipline craft a brief based on their vetted strategy. This process ensures knowledge transfer after reflection and sense making. The collaboration in interdisciplinary communities of learning develops and sensitises interdisciplinary thinking around the strategy. Students from different disciplines operate as experts in their field. Additionally, the collaborative context allows students to reflect on their learning as individuals as well as in a group context.

During the process of collaboration, students recall pertinent disciplinary and brief-related knowledge content. The skills they learnt around problem solving, time management, team work in the previous learning loops are further developed as they learn to communicate effectively their findings and strategy to their peers within their assigned learning communities. In this phase, the choice of whom to work with is removed to mimic adult working conditions. This loop also incorporates a mixed assessment strategy which includes submissions and presentations to lecturers and peers. Critical feedback, both informational and evaluative, is given to students in a few formative and one summative assessments before progressing to the final stage in which they present their strategy to the problem owners and industry experts respectively.

**Expert evaluation**

In this final learning loop, shortlisted interdisciplinary communities of learning present first to the problem owner. The feedback and learnings from these sessions and all the mentors throughout the model are incorporated and used to refine the final strategy presented to a panel of industry experts. The industry mentors evaluate student presentations (pitches) according to the brief given in learning loop two. Students receive real-time and comprehensive feedback from a practitioner lens.

The industry experts nominate the top collaborators for entry into an industry-related award. Students are given a final opportunity to incorporate feedback from this session. The work is further judged by a different set of industry experts. Students hand over these strategies to the problem owner for implementation. By this stage, participating students have developed self-reflection techniques as evidenced by the emails and informal discussions with shortlisted candidates about the process and key learnings.

**Reflection**

Reflection is the final stage of the agile learning model. Reflection is useful in learning from any experience as it turns experience into knowledge applicable across different contexts (McAlpine & Weston, 2000). Mules (2018) suggests that reflection is an essential element in educating professionals. In our model we use retrospective reflection-on-action (McAlpine & Weston 2000), which prompts the students to reflect on their learning experiences and outcomes. Formal reflective sessions such as class discussion and writing short reflective essays are encouraged at the end of a learning period. Reflection also allows the lecturers to improve their teaching practice.

**DISCUSSION**

The model uses the principles of authentic learning and incorporates aspects of learning agility theory. Furthermore, it demonstrates that agile methods can be applied to learning contexts to enhance project
based learning (Parsons & MacCallum, 2019). With reference to authentic learning, results from four years of action research previously conducted by the authors (Oksiutycz & Azionya, 2017) reveal that ideally, learning loops one and two should run for a semester to allow for a ‘sustained investigation’ (Lombardi, 2007) with clearly defined milestones for students and mentors. Secondly, centring learning on a real versus hypothetical problem achieves buy-in from students (Luar, 2013).

The Millennials and Generation Z respectively want to be part of positively contributing their talents and time to worthy causes and lean towards collaboration in their social lives. This attitudinal trait is tapped into learning loop two to strengthen buy-in. Students voluntarily select the communities of learning (small groups) in which they wish to work and therefore self-manage the group dynamics of collaboration better. Self-organised teams provide students with support, mutual learning opportunities and a sense of empowerment and agency over their own learning (Parsons & MacCallum, 2019).

As advocated by Lombardi (2007) and Luar (2013), presenting students with an authentic and complex problem, such as human trafficking, xenophobia, that can be solved in many different ways, sensitises students to the ambiguity present in the business and social world and develops their advanced problem-solving skills. To be authentic, these problems should reflect those faced by practitioners (Cho, Caleo & Kapur, 2015). Student buy-in is reinforced by using a real problem owner, as recommended by Kozubska and McKenzie (2012); worthy beneficiaries, simultaneously provide additional motivation to engage in deep thinking and a cognitive challenge.

The learning experience and agile problem based learning environment designed by the model, mimics future work, allows students to master the theoretical and applied principles of their discipline using role playing. Students are assigned tasks and roles similar to those found in industry. Not only are students exposed to different roles, but tasks create opportunities for them to operate experientially in them. Cho, Caleo and Kapur (2015) emphasise that students learn by participating in authentic activities that typify a profession, whereby students acquire the knowledge, values and skills like practitioners (Cho, Caleo & Kapur, 2015). As the project progresses, tasks become more complex to catalyse the development of more intricate and sophisticated ways of thinking as stated by Meyers and Nulty (2008).

In the final phases of the model, students are put into interdisciplinary teams to mimic work requirements and build the necessary critical thinking needed for a strategic mindset. As in any industry these communities of learning work together on a strategy to ‘sell to’ their peers, lecturers, the problem owner or industry. Johnson (2017) concurs by emphasising the need for students to be able to communicate information in varied formats to diverse audiences persuasively. She further rates communication as a foundational skill without which collaboration and criticality cannot take place. An invaluable skill in practice as students will be required to foster buy-in for their ideas in adult work scenarios. An added benefit of collaboration for students is the application and acquisition of project management skills, leadership (for group leaders), and negotiation and conflict resolution skills. The prospects for industry mentorship and internship opportunities are further incentives to develop learning agility. These opportunities both represent the opportunity to gain experience and invaluable industry feedback.

Students’ knowledge arenas benefit from the input of different mentors (subject experts, peers, and industry and problem owner representatives). Students develop resilience by learning how to deal with negative feedback and different perspectives (Salmon, 2018). Feedback is essential for an effective learning environment; self-reflection helps students understand their progress and alternative ways to improve their learning (Maphalala, 2017). The model helps students develop emotional and cognitive coping mechanisms and respond by using corrective strategies (information seeking and implementation of corrective feedback) thereby cultivating agile behaviours and characteristics. The model has an inbuilt
agile behaviour mechanism by giving students the opportunity to implement corrective feedback in other
tasks albeit which exhibit more complexity as recommended by De Meuse et al. (2010).

Using an integrated formative and continuous and reflective summative assessment strategy, the model
cultivates high order thinking skills, learning agility capabilities, and interdisciplinary collaborative works
skills. The model can be applied in diverse disciplinary settings and can be adapted to large and small
class sizes as was the case in its development. For large class sizes, groups should consist of around six to
eight students. As a minimum requirement large groups must have a pair of students from each discipline.
Disciplinary coupling helps students have a sounding board and someone from a similar knowledge
arena who speaks their ‘disciplinary language’ particularly in the third learning loop.

A limiting feature of the model is that not all students benefit from feedback about their solution from the
problem owner and industry experts. The practical reason for this is that it is not easy for lecturers to get
the deep involvement of collaborators outside of learning institutions in educational projects. Involvement
requires a lot of time and effort. This can be mitigated by other solutions, for example by creating short
debriefing videos where industry experts give general feedback. Furthermore, not all students get internship
opportunities as a result of educational projects. In addition, the model is based on teaching at a public
university in the field of communication and it would benefit from empirical testing in another teaching
environment to ascertain its relevance to the broad educational context. Despite these limitations, it can
be argued that the model strives to create a balance between designing realistic adult work scenarios and
providing students with access to valuable learning opportunities.

CONCLUSION

The conceptual teaching model presented here strives to prepare students for the complexity faced by
private and public organisations by cultivating agile behaviours such as reflection, incorporating feedback
successfully, problem identification and data driven decision making. The model primes students to respond
successfully in new scenarios by learning the skills they acquired during the programme.

REFERENCES


Creating an environment that nurtures deep learning: How does the National University of Lesotho fare?

Tebello Tlali, National University of Lesotho, Kingdom of Lesotho

ABSTRACT

The paper sought to explore the lecturers’ experiences concerning their teaching strategies and students’ learning approaches at the National University of Lesotho (NUL). Thus, the paper analysed these practices mainly from the lecturers’ perspectives. The growing media negative views about the quality of the teaching and learning practices at NUL necessitated research on the matter. Departing from an interpretive paradigm, the study adopted a qualitative design. Data were gathered through semi-structured interviews with lecturers across the seven faculties of NUL. The population consisted of 300 lecturers. However, participants were purposively selected, and 14 (two from each of the seven faculties) participated in this study. The assessment papers provided by the interviewed lecturers were analysed. The findings indicate that lecturers are frustrated by the lack of a clear teaching and assessment policy. This situation is exacerbated by inadequate training in teaching and assessment. In addition, the findings suggest that there is a high prevalence of memorisation, reproduction of class notes and plagiarism among the students. The paper proposes that the institution addresses these shortcomings through clear teaching, learning and assessment policies as well as the establishment of comprehensive staff development and student support programmes.

Keywords: deep learning, quality teaching, quality assessment, student motivation, academic integrity, institutional factors

INTRODUCTION

The National University of Lesotho (NUL) has operated as the sole university in Lesotho ever since its establishment in 1975 (Ntimo-Makara, 2009). The Lesotho higher education landscape changed in 2008, when a Malaysian, Limkokwing University satellite campus was opened in Lesotho. Later in 2016, Botho University (originating in Botswana) also branched into Lesotho. Other Lesotho higher education institutions worth mentioning include: the Lesotho College of Education (LCE) and the Leroholi Polytechnic (LP). Despite the presence of these other institutions, NUL is still the largest public academic higher education provider, and it continues to cater for over 50% of the students in this sub-sector.

1 Date of submission 24 July 2018
   Date of review outcome 23 October 2018
   Date of acceptance 10 January 2019
Currently, NUL has a student population of more than 9000 and about 300 lecturers of which approximately 31% hold PhDs (NUL - CHE Report, 2018). However, the majority of the latter group of lecturers (with a few exceptions) have no training in teaching and assessment matters. Thus, most of the lecturers were employed on the basis of their expertise in other disciplines, such as Law, Economics, Financial Management, Sociology, Physics, Chemistry, Linguistics, to mention a few examples. When most of these lecturers were initially employed, a credential in pedagogical issues was not a requirement. However, the Lesotho Council on Higher Education (CHE) has stipulated that all higher education teachers must improve their profiles by acquiring a teaching credential (CHE, 2010). The aim is to improve the quality of higher education in the country.

**PROBLEM STATEMENT**

The necessity for creating an environment that nurtures quality teaching and learning is captured in the NUL strategic goal which aims to turn this institution into ‘a university of choice providing high quality educational experience’ (NUL Strategic Plan, 2015: 19). Conversely, the achievement of this strategic goal seems questionable and compromised. For example, the media has been critical of both the lecturers’ teaching methods and students’ learning approaches. Lloyd (2012: 1) harshly writes: ‘lecturers read notes to students instead of engaging them and do not allow students to ask questions in class; …students consider studies a secondary reason for their being at university’.

The view that further casts doubt on NUL’s ability to achieve its strategic goal is expressed by the Ministry of Education and Training (MOET, 2005) and the Lesotho Council on Higher Education (CHE, 2010) who concede that quality teaching and learning is a critical challenge confronting Lesotho higher education. This, in a nutshell, is what drove my curiosity to get to the core of this matter. My intention was to find information on the basis of which I could recommend measures to improve the situation. This paper, therefore, is guided by the following main research question: *Does the NUL environment encourage or discourage deep learning?*

**RESEARCH AIM AND OBJECTIVES**

This study sought to analyse the NUL teaching and learning context with the aim to establish whether or not the environment nurtures deep learning. Drawing on this aim, the study had two objectives, namely:

- to explore the views and experiences of the NUL lecturers with regard to their teaching strategies and the students’ learning approaches
- to suggest mechanisms for enhancing deep learning at the institution.

**LITERATURE REVIEW**

Quality teaching and learning constitutes the cornerstone of any world-class institution of higher learning. As a research theme, this area deals with teaching and learning approaches (deep and surface) and factors which influence them (Tlali, 2014; Tlali & Jacobs, 2015). In the quest to stay relevant and to gain better global ranking, higher education institutions need to reposition themselves by repackaging their product (Le Grange, 2006; Singh, 2011). The achievement of quality higher education also requires utilisation of more student-centred (constructivist) approaches. This trend has made constructivism a dominant theoretical perspective adopted in nurturing deep/quality learning at the various levels of education (Vanderstraeten, 2002). Hence the literature review has been framed within constructivism as the overarching theoretical perspective. The literature defines deep learning by also contrasting it with its antonym, surface learning. In addition, ways of inculcating deep learning are discussed.
Constructivism

Constructivism advocates the teaching activities that shift focus from the educator to the students (Biggs & Tang, 2011). Constructivism is based on the conviction that the students use their own activities to construct knowledge (Biggs & Tang, 2011). This theoretical perspective is associated with theorists or philosophers such as John Dewey (1859-1952) and Lev Vygotsky (1896-1934). (Sutinen, 2008; Vanderstraeten, 2002; Kivinen & Ristela, 2003). Dewey’s ideas are construed as the most relevant for this paper. In Dewey’s view, constructivism postulates that knowing is an active creation or building process, rather than a passive registration of the outside world (Sutinen, 2008; Vanderstraeten, 2002). Unlike theoretical perspectives such as positivism which perceive the learner as a passive recipient of external stimulation, constructivism emphasises the centrality of action as well as the active nature of learning. This view is captured in Dewey’s famous principle of ‘learning by doing’. As far as this principle is concerned, experience, learning and knowing result from doing or active involvement of the learner.

The reason for aligning this paper with Dewey’s ideas, is that he puts a great emphasis on ‘active involvement’, ‘active creation’ and ‘learning by doing’. These are the very tenets which make his ideas most comprehensive and relevant in fostering deep learning (Biggs & Tang, 2011). As part of the constructivist theoretical perspective, it is deemed vital to unpack the notion of ‘deep learning’ and to contrast it with ‘surface learning’, in order to highlight features of the two concepts.

Deep versus surface approach

Tight (2012) identified eight main research themes in Higher Education Studies, namely: teaching and learning, course design, the student experience, quality assurance, systems policy, institutional management, academic work, and knowledge. Against this backdrop, quality teaching and learning can be seen as a key issue in higher education. As a research theme, teaching and learning deals with teaching and learning approaches (deep and surface), including factors which influence them (Tight, 2012).

Deep learning and its antonym, surface learning, are two distinctive learning approaches, initially conceptualised by Marton and Saljo in their 1976 study (Biggs & Tang, 2011). Deep learning involves the learner’s ability to go beyond the surface and thereby grasp the core of the learning material. It also implies the ability to figure out how the individual pieces of learning material constitute the whole (Baeten et al., 2010; Biggs & Tang, 2011). Deep learning originates from the learner’s aspiration to use high cognitive skills with the aim of accomplishing the task accurately and meaningfully. Students who adopt a deep approach to learning are able to formulate knowledge which is highly structured and coherent. This results in the development of relational responses to tasks, long-term retention, ability to apply knowledge to novel situations, as well as the ability to generate new meanings.

On the contrary, students who adopt the surface approach tend to browse the learning material superficially, thereby reducing learning to a reproduction activity. A surface approach only engages lower cognitive levels, thus resulting in a limited understanding of concepts. It also results in the students’ inability to distinguish principles from examples, difficulties in developing a logical argument in identifying the key ideas. Unconnected facts are passively accepted and memorised for reproducing when required (Fisher, 2003). The symptoms of surface learning include listing points without constructing an argument and presenting a verbatim recollection of information whilst failing to interpret or demonstrate a critical reflection thereof. In addition, it becomes difficult for the student to even apply the information in novel situations (Baeten et al., 2010).

Strategies for nurturing deep learning

The adoption of a particular learning approach (deep or surface) is not innate. Each learning approach can to a great extent, be influenced by factors that originate from a particular teaching and learning
environment (Biggs & Tang, 2011; Smith & Colby, 2007). As part of the context, the educator’s approach is key in determining a particular learning approach (deep or surface) which the learners adopt. The next section highlights the educator’s role in nurturing deep learning.

The educator’s role

As indicated earlier, constructivism advocates the teaching activities that shift focus from the educator to the students (Biggs & Tang, 2011). This implies that educators should always ensure student-centred teaching regardless of the class size. If a lecture method has to be used, it has at least to be interactive, only then can the achievement of deep learning be enhanced (Biggs & Tang, 2011). In a quest to promote deep learning, a good educator does not simply display information for the learners to absorb. Rather, he or she motivates the learners to take responsibility for their own learning (Cooner, 2010). His or her focus is primarily on how the learners do. Such an educator is also aware that how he or she assesses students’ performance has a bearing on how the students learn. In essence, learners tend to focus their learning on what they think they will be assessed (Reid, Duvall & Evans, 2007; Van Tonder, Wilkinson & Van Schoor, 2005). It can therefore be inferred that when assessment focuses on high order tasks, the result will be promotion of deep learning.

In order to nurture deep learning the educator needs to create a teaching and learning environment where trial and error is accommodated and learners are at ease to make mistakes and learn from them (Biggs & Tang, 2011). In addition, the educator must find out learners’ prior knowledge and build on that, while at the same time identifying learner misconceptions and eradicating them. Furthermore, teaching must also seek to bring out an active response from the learner (Biggs & Tang, 2011). Thus, teaching should not merely focus on expanding information. Rather the educator must employ problem-based activities and questioning techniques to involve the learner actively (Tek-Yew, 2011). Emphasis must be placed on depth (quality) not the width (quantity) of learning.

Moreover, teaching and assessment must be applied in a manner that is directly linked to the intended learning outcomes (Biggs & Tang, 2011; Tek-Yew 2011). This can be achieved by making use of learning taxonomies such as the Revised Bloom’s taxonomy and the Structure of Observed Learning Outcome (SOLO) taxonomy (Biggs & Tang, 2011; Smith & Colby, 2007). The learning taxonomies are regarded as some useful teaching and assessment tools because they help educators to articulate the desired behaviours that must be elicited from the students. The use of learning taxonomies enables educators to determine what knowledge and skills are to be acquired, as well as the cognitive processes that are to be employed (Biggs & Tang, 2011; Smith & Colby, 2007).

In addition, educators can nurture deep learning by utilising constructive alignment. This is a teaching and learning design which helps to foreground the intended learning outcomes. When constructive alignment is used with a view to promote deep learning, the different components of the teaching and learning environment have to be aligned in a manner that promotes this goal (Biggs & Tang, 2011; Reid, Duvall & Evans, 2007). Such components include: learning outcomes, learning content, learning activities and assessment tasks.

Educator factors which hinder deep learning include: lack of reflection and lack of professional training, lack of resources and lack of time to engage in practices that can contribute to deep learning (Frick & Kapp, 2009; Green, 2006). Hence it can be agreed with Smith and Colby (2007) that it is important for educators to undergo academic professional development which is focused on teaching and learning as a disciplinary field. Such training must promote appreciation of what deep learning means and how it can be nurtured. This necessitates a clear institutional academic staff development plan that focuses on the achievement of deep/quality teaching and learning (Frick & Kapp, 2009).
RESEARCH DESIGN AND METHODOLOGY

The study was framed within an interpretivist paradigm and a qualitative design was adopted (Cohen, Manion & Morrison, 2011; Merriam, 2009). I commenced by conducting a literature review to inform the subsequent empirical work (Fouche & Delport, 2011). I then conducted semi-structured interviews with lecturers. I gave the participants a choice to be either interviewed in the comfort of their own offices or to come to mine. The interviews were audio-recorded and transcribed verbatim after which data were analysed.

NUL has about 300 lecturers who constituted the population for this study. However, I only interviewed a group that was purposively selected (Greeff, 2011) to ensure representation of the different faculties. Ultimately, I interviewed two lecturers from each of the seven faculties at NUL (namely: the Faculties of Agriculture, Education, Health Sciences, Humanities, Law, Science and Technology, and Social Science). This group was made up of eight females and six males with varying experience in teaching and learning. Their teaching experience varied from two to 18 years.

I also purposively selected lecturers who have a teaching qualification and those who do not. This was meant to highlight the importance of professionalisation of higher education teaching. For example, two lecturers had formal teacher training and subsequently acquired a Master of Education (MEd) and a Master of Science Education (MSc Ed) respectively. As highlighted in the introduction, the other lecturers in the group did not have a teaching qualification. Instead, they held qualifications (Masters’ degrees and PhDs) in various specialisations, such as Law, Economics, Financial Management, Sociology, Mathematics, Physics, Chemistry and Linguistics. When most of these lecturers were initially employed, NUL did not emphasise a need for them to acquire a teaching qualification. Their areas of specialisation were regarded as adequate for teaching at this level. However as noted earlier, the Lesotho-CHE has since stipulated that a teaching qualification is a requirement for higher education teachers (CHE, 2010).

In addition, I conducted a content analysis of assessment papers provided by the lecturers I interviewed, with the view to scrutinise their style and coverage (Nieuwenhuis, 2007; Strydom & Delport, 2011). In conducting this study, pertinent ethical issues such as obtaining the required permission, issuing informed consent, protecting the dignity of the participants and ensuring confidentiality (Cohen, Manion & Morrison, 2011) were observed. No coercion took place and participants were advised of their right to withdraw from the research whenever they wished to do so (Cohen et al., 2011). I employed direct quotes from the qualitative data in the presentation of the findings in order to increase credibility of the research study (Merriam, 2009).

THE FINDINGS

In an attempt to establish whether or not deep learning is nurtured at NUL, I compared the empirical findings with literature on best practices in teaching for deep learning. The discussion in this section is based on the main constructs which emerged from the findings. These include: institutional factors, teaching practices, assessment practices, students’ motivation, students’ studying practices and academic integrity.

Institutional factors

According to the interview findings a number of institutional factors seem to hinder quality teaching and learning at NUL. These include the lack of a clear policy, lack of training and a well-coordinated orientation programme, lack of monitoring mechanisms and inadequate teaching facilities. In order to support this position, one participant explained:
...because of a disjointed way of doing things at NUL, somehow students’ learning gets affected; this is due to lack of a clear policy on teaching.

Assessment and class attendance were cited as impediments. One participant emphasised:

...regulations are a mess and they have some loopholes which students sometimes take advantage of. If we could align regulations which cover all the areas of teaching and learning, this would be a perfect place to work in.

Lack of a compulsory orientation and professional development programme was mentioned as another limitation. Thus, a participant noted:

...there is a need for a more efficient and well-coordinated orientation or professional training.

Another participant concurred:

...we could use some education courses...we need to have some short courses, workshops on education so that we are at the same level with other universities.

Participants also mentioned the absence of monitoring and evaluation mechanisms as one of the factors which make them feel unsupported. For instance, one participant highlighted:

...there is no one to check. I have never seen anyone come to my class. It’s up to me what I do in there. So I don’t feel any support. There was no orientation, I went straight to class. I didn’t even know where the class was...

In addition, participants cited lack of facilities as one of the challenges. For example, a participant stated:

...lack or shortage of facilities such as library books, laboratory resources as well as teaching and learning technology also have a negative impact.

Moreover, participants unanimously cited large classes and staff shortages as some of the demoralising factors. For instance, one participant stressed:

...the issue of large classes is a big concern, and it is mostly a concern with marking of assignments, because with assignments you would have given a five paged work to mark for every student. I wish we could hire more lecturers.

From the above findings, it seems participants are frustrated by the absence of supporting policies, teaching facilities, monitoring mechanisms, as well as lack of education training on their part. These factors could make it difficult to uphold quality teaching strategies.

**Teaching practices**

The study found that some of the teaching methods that are used include problem solving, case-based learning, collaborative/group learning and class presentation. One participant indicated:

...I consciously avoid situations where students would just sit and absorb whatever I tell them and later reproduce it. Rather I allow them to do research on their own on assigned topics and then they share the information through class presentations.
Another participant added:

…I usually assign them group work…it makes my job very easy because they are able to explain to each other and learn from their peers…

However, the majority of the participants reported use of the traditional lecture method due to large classes. This can be typified as a teacher-centred method that does not encourage any activity from the student. As one participant highlighted:

You have to stand in front of a huge group and there are no projectors, no system to assist you to do it in a way that you feel comfortable that you have covered everything to the depth that you wanted. Sometimes it becomes a pain to teach large classes without such facilities.

Participants unanimously acknowledged that, due to the big numbers of students, they are unable to give their best. One participant explained:

…due to big numbers, one is not able to give them as many assessment tasks as desired, and as such even the feedback that they get is not a true reflection of what they are capable of.

Another participant elaborated:

…the objectives are simply written in the course outline. I must confess that I tend to forget that at the end of the topic or at the end of the lesson I should still go back to my objectives to determine whether they have actually been achieved.

From the above findings, some good practices such as assigning research to students and utilising group learning can be identified. However, it needs to be highlighted that the majority of the participants resorted to the traditional lecture method especially in big classes. In addition, most of the participants did not mention the constructive alignment of teaching and learning components. The literature maintains that deep learning can only be achieved when learning outcomes are aligned to teaching and assessment methods (Biggs & Tang, 2011; Cooner, 2010). When this alignment is not foregrounded, then it cannot be guaranteed whether or not the learning objectives are indeed achieved.

**Assessment practices**

I also requested the participants to provide samples of their test and examination question papers. Some complied. I received a total of 10 assessment papers (four test papers and six examination papers). Table 1 illustrates the analysis of assessment tools in terms of their coverage of high versus low order tasks.

<table>
<thead>
<tr>
<th>Assessment Papers</th>
<th>High Order Tasks (%)</th>
<th>Low Order Tasks (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>60</td>
</tr>
</tbody>
</table>
From Table 1, it can be noted that only samples 1 and 2 have a greater percentage of high order questions (60% and 50%, respectively). The rest of the samples are dominated by low order questions. Sample 10 is on the extreme end with 100% low order questions, and 0% high order questions. When the participants were asked to define how they distribute the assessment tasks in relation to the different levels of the learning taxonomies, one participant indicated:

…my assessment papers carry more knowledge and less application tasks…something like 25% to application and 75% to knowledge.

Another participant also appeared to follow a similar trend. This participant divulged:

…my own assessment is dominated by more knowledge questions and remembrance.

Another participant added:

…in my assessment tasks I ask students one question that requires them to analyse and three questions that generally cover what was discussed in class.

From the above findings, it can be noted that if assessment practices mostly concentrate on lower order tasks, as appears to be the case, the achievement of deep learning can be jeopardised. However, one participant appeared to do things a lot differently from the rest, and it turned out this was one of the participants who held a teaching qualification. The participant explained:

…taking the Bloom’s taxonomy of educational objectives, I try to ask questions which allow students to engage their mental faculties at a higher level. I ask evaluation questions where they analyse stuff, where they apply stuff. I do not ask simple recall questions.

This above quotation is exceptional in the sense that it epitomises an assessment approach that can help promote deep learning. Thus, students are made to engage higher levels of their cognitive domain. Otherwise, it appears to be a norm that the weighting of assessment tasks, focuses more on low order tasks.

**Students’ motivation and related personal factors**

According to the lecturers’ views, many students exhibit lack of motivation for their studies. One participant pointed out:

…some students regularly skip classes, they stay passive in class, and their lack of motivation is also illustrated by a high failure rate.
Another participant observed:

…it’s even difficult to get them talking or to involve them in a discussion in class…as a junior lecturer I don’t know what to do. I think they have this culture that even if they don’t work as hard as they should, they would still pass…they don’t aim high, they just say, ‘if I get a fifty I will be ok.’ So they settle for a fifty.

The above quotation not only illustrates how demotivated students are, but it also points to the fact that some of the lecturers have no classroom management skills. Lecturers like these feel helpless as they are not equipped with strategies to motivate the students. This confirms the need for continuous professional training for such lecturers. The participants also noted that students do not seem to care much about their studies. As put by one of the participants:

…the way some students write shows that they are careless. Even if you advise them to organise their points and improve how they write, they don’t really take your advice.

Another participant pointed out:

…students are always on the internet and on social media during study time.

One participant commented:

…it seems students are more concerned with financial matters (the stipend) to the detriment of their studies. They are quick to go on strike if the sponsorship money is late.

One of the participants added:

…even when they get their book allowances, they do not buy books.

From these findings, the issue of student motivation remains questionable. According to the literature, motivation stems from students’ determination to do well and the satisfaction that they get after completing a challenging task (Fisher, 2003). The literature adds that when students are motivated, they get their priorities in the correct order. For instance, they put their studies first and resist the temptation to do anything else that jeopardises their learning (Biggs & Tang, 2011). When students are demotivated, it may be difficult for them to attain deep learning.

Students’ studying practices and academic integrity thereof
The participants indicated that students remain passive most of the time and expect to get all the information from the lecturers. In addition, they miss classes and refuse to go to the library to find information on their own. They also resort to dishonest practices such as plagiarism. In support of this position, a participant stated:

…there is a very small percentage of students who actually remember what was taught after they have written examinations. They just write to get a certificate.

One participant commented:

…it seems students are more concerned with financial matters (the stipend) to the detriment of their studies. They are quick to go on strike if the sponsorship money is late.
A participant added:

…the assignments are a disaster…students simply copy and paste. They just take stuff from the internet as it is.

Another one reiterated:

…I have even avoided giving assignments because students copy and paste. …the situation is worse because the university has not installed computer programmes that can detect plagiarism.

From the above findings, a number of practices that are associated with students’ surface learning can be identified. These include passiveness in class, as well as memorisation, cutting and pasting information without synthesising it. In addition, there seems to be a number of institutional factors which make the NUL environment inadequately equipped to promote deep learning. These include the lack of supporting policies, teaching facilities, monitoring mechanisms, as well as lack of pedagogic training on the lecturers’ part. The majority of the lecturers admitted that they resort to the traditional lecture method due to big classes. They are also not able to assess students to the depth that they would desire. Against this backdrop, the depth of teaching and learning approaches at NUL remains questionable.

**RECOMMENDATIONS**

As indicated in the literature, constructivism advocates the teaching activities that shift focus from the educator to the students (Biggs & Tang, 2011). In addition, the teaching and learning activities must be guided by the learning taxonomies and be constructively aligned to the learning outcomes (Biggs & Tang, 2011; Smith & Colby, 2007). In light of this view, I recommend that NUL lecturers should make use of learning taxonomies and constructive alignment in their teaching. If a lecture method has to be used, it has to be interactive at least, and should strive to elicit action from the students. These strategies may help influence the depth of teaching and learning.

The literature also indicates that assessment plays an important role since it determines what students learn, and how they learn it. Thus, if assessment focuses on low order tasks, the result will be promotion of surface learning rather than deep learning (Baeten et al., 2010; Biggs & Tang, 2011; Tek-Yew, 2011). Against this background I recommend that assessment should be strategically positioned to encourage deep learning by focusing more on higher order tasks. This can be achieved by actually constructing an assessment blueprint to determine the coverage of assessment papers in terms of high order versus low order tasks (Van Tonder et al., 2005). A shift from lower order to higher order tasks is most likely to promote deep learning.

When students are motivated, they demonstrate interest in their studies (Biggs & Tang, 2011). The literature further reveals that some of the factors which contribute to students’ lack of motivation may originate from the educator or the teaching and learning environment. For instance, some educators may generate unwarranted anxiety by telling students how difficult and unachievable the task is or they may openly express a dislike for teaching a particular topic thereby causing lack of interest on the part of the learners as well (Biggs & Tang, 2011; Smith & Colby, 2007; Tek-Yew, 2011). On the basis of this, I recommend that lecturers should strive to be positive and demonstrate passion in the subjects they teach. They should also try to nurture student confidence by giving them positive reinforcement and illustrating that tasks are attainable. These strategies could help to generate interest and enhance students’ motivation (Cooner, 2010).

In the absence of formal pedagogic training, some lecturers may not be aware that their behaviour is negatively affecting students’ learning. Hence, I recommend that NUL should ensure that lecturers obtain
the relevant continuous professional development to enhance their teaching. In this way, they can be capacitated to become reflective practitioners who are better positioned to promote deep learning (Green, 2006). Moreover, NUL should strengthen student support services. In this regard, the literature emphasises the importance of student support in ensuring the achievement of the desired learning outcomes (Biggs & Tang, 2011). Most importantly, the institution has to strengthen monitoring strategies, while at the same time fast-tracking the dissemination of relevant policies with a view to create an environment that nurtures deep learning.

**CONCLUSION**

While the NUL strategic plan seeks to achieve quality education, the institution needs to be cognisant of the fact that quality higher education can only be achieved by ensuring a shift from surface to deep learning (Bings & Tang, 2010). Reflecting on the findings of this paper, I noted some good teaching practices at NUL, such as allowing students to do research on their own, as well as the promotion of collaborative learning by some lecturers. However, the majority of the practices that emerged from the findings cast doubt concerning the quality of teaching and learning practices at the institution. The recommendations made in this paper offer some guidelines on how deep learning can be enhanced. In the final analysis, it can be noted that unless NUL takes practical steps to scaffold and nurture deep learning, its strategic goal of becoming ‘a university of choice providing high quality educational experience...’ (NUL’s Strategic Plan, 2015: 19) could remain fruitless.

**REFERENCES**


Pharmacy students’ experience towards active learning using ‘Clickers’

Frasia Oosthuizen, University of KwaZulu-Natal, South Africa
Peter Owira, University of KwaZulu-Natal, South Africa
Varsha Bangalee, University of KwaZulu-Natal, South Africa

ABSTRACT

The knowledge and application of pharmacology is central to ensuring that pharmacists are able to fulfil their professional roles. Academics teaching pharmacology in the pharmacy programme at the University of KwaZulu-Natal must ensure ‘learning that lasts’ despite being faced with ever increasing student numbers. In an attempt to achieve this, active learning, using clickers (an example of an audience response system), was incorporated into an undergraduate pharmacology module in the pharmacy programme with the aim of improving large group student learning. While clickers have been increasingly used as a tool to promote active learning in the higher education domain, little is known about students’ experience towards its use in undergraduate pharmacy programmes. This study sought to describe students’ experience and opinions on active learning strategies using clickers. This was a quantitative, descriptive study that utilised a self-administered questionnaire conducted amongst level three pharmacy students enrolled in a pharmacology module. Overall, student feedback was positive, as they indicated that they enjoyed using clickers - and had an improved understanding of the course content. Students additionally benefited from the increased facilitator and peer interaction. This study provides a motivation for including this teaching pedagogy in other modules in the pharmacy programme.

Keywords: pharmacology teaching, audience response systems, clickers, active learning, pharmacy education

INTRODUCTION

Pharmacology, which is both a basic and an applied science (Merriam-Webster, 2011), is a core subject competency taught across all four years of the Bachelor of Pharmacy (B.Pharm) degree at the University of Kwa-Zulu Natal (UKZN). It is defined as the science of drugs, including their origin, composition,
pharmacodynamics, pharmacokinetics, therapeutic use, adverse-effects and toxicology (Merriam-
Webster, 2011). A thorough knowledge of the concepts and its application is essential for successfully
fulfilling the pharmacist’s role as the custodian of medicines and for offering patients the best treatment
outcomes possible. Furthermore, literature reveals that both prescribing and dispensing errors in practice
have been linked to deficiencies in knowledge and inadequate training in pharmacology (Desai, 2016).
Thus, strengthening efforts to improve the delivery of pharmacology education through new pedagogies
has become increasingly important. The universal acknowledgment that pharmacology courses form the
backbone of therapeutic medicine use, and knowing that it is essential for the effective treatment and
management of conditions and diseases in modern medicine (Shankar, et al., 2003), emphasises the need
for constantly reviewing and updating teaching pedagogies.

Traditionally, at UKZN, pharmacology modules have been delivered via a didactic approach across all
four years of the B.Pharm programme. This approach is primarily beneficial to the lecturer, as it offers a
convenient, cost effective, efficient and standardised way of delivering information to a large group of
students (Luscombe & Montgomery, 2016). Unfortunately, didactic teaching creates a teacher-centred
and passive learning environment with minimal student participation (Luscombe & Montgomery, 2016;
Osinubi & Ailoje-Ibru, 2014), which is counteractive to the self-directed learner ethos that the discipline
of Pharmaceutical Sciences is striving to attain. Encouraging students to take responsibility for their own
learning is a growing theme in health professional education, as it presents a promising methodology for
lifelong learning (Murad & Varkey, 2008), and is an important skill set required for future professional
success, given the continuous advances in the biomedical sciences (Murad & Varkey, 2008). Furthermore,
the current predominantly didactic approach contravenes the technologically progressive students that are
now entering university and enrolling into the B.Pharm programme. Students enrolling for an undergraduate
degree are used to having vast amounts of knowledge available to them via the internet, and a didactic
teaching approach does not hold any attraction for these students. Recognising this, a natural question
therefore arose as to ‘how do we as academics revolutionise traditional teaching and learning activities
that are capable of imparting the correct content whilst being technologically progressive, innovative and
captivating for students?’ Incorporating active learning strategies in the undergraduate pharmacology
curriculum seems to be the rational next step, particularly as several studies revealed that in comparison
to didactic teaching, active learning in higher education courses has resulted in better academic outcomes
for students (Hake, 1998; Michael, 2006).

The term ‘active learning’ refers to a variety of processes aimed at engaging students in the learning
process. These can include case studies, computerised tutorials, audience response systems (clickers),
and team-based learning (Stewart et al., 2011). Active learning occurs when students actively participate
and engage in their learning, and it moves away from the historic didactic approach where students are
merely passive listeners. The main advantage of active learning is that it enhances students’ retention
of knowledge and promotes learning and critical thinking (Gavaza, Campbell & Mullins, 2012). The
above-mentioned advantages thus made it an attractive new teaching strategy, which spoke to the type
of learners and future young professionals the discipline aims to develop. Active learning is not only
beneficial to students – it also helps academics to gauge student comprehension, engage students, and
enhance interactivity amongst students. According to Monaghan et al. (2011), educational technology
has not directly caused improvements in education, but rather indirectly influenced positive changes in
teaching practice.

After reviewing possible options of including active learning in classroom teaching, clickers were introduced
in a level 3 pharmacology module in the programme, based on their feasibility and availability. This,
however, was the first exposure of students to using clickers. Clickers, or audience response systems
(ARS), are remote control devices used by students to respond anonymously to multiple-choice questions
posed by the instructor through a PowerPoint® interface. The main aim of introducing clickers in lectures
was to capture and maintain student attention throughout the lecture, and monitor progress and student comprehension so that deficiencies may be addressed immediately, and improve grades and student satisfaction (Meguid & Collins, 2017).

While the use of clickers is increasing in popularity in various health science disciplines (Liu, Gettig & Fjortoft, 2010), little information exists pertaining to its use in pharmacy (Gavaza et al., 2012; Stewart et al., 2011). Furthermore, despite the consistent feedback from student Quality Promotion and Assurance (QPA) reports, stating that lectures incorporating active learning strategies and principles are preferable to didactic teaching, it is often the case, that several students do not engage with active learning tasks. Thus, this study attempted to investigate the opinions of level three B.Pharm students, towards active learning with clickers, in order to support the implementation of this pedagogy in the discipline.

**METHODS**

**Study design**

This was a quantitative, descriptive study that utilised a self-administered questionnaire that was designed by Gavaza et al. (2012) upon receiving permission from the author.

**Context**

The study involved level three pharmacy students enrolled for the course entitled, Pharmacology II (PHRM 301) at the University of KwaZulu-Natal. The average number of students enrolled for the module is 90, however, annual enrolment increased to 120 students in 2019. Students registered for the course come from diverse backgrounds in terms of religion, language, ethnicity and self-directed learning skills. The aim of the module was to provide learners with a basic understanding of the pharmacology of drugs affecting mediators of inflammation and pain (College of Health Sciences UKZN, 2017). The course was taught during allocated lecture periods of 45 minutes each. The PHRM 301 course has traditionally been taught via didactic-based lectures of concepts, principles and application.

**Intervention**

The active learning pedagogy was applied to one section of the PHRM 301 module, taught over six weeks, early in the first semester. As was the case in previous years, students were provided with the lecture notes that would be covered during the lecture period prior to the lecture. The content was first taught didactically as in the previous years.

The intervention was applied in a follow-up session, run in a tutorial format by the lecturer. At the start of the session, students were required individually to answer a series of Multiple-Choice Questions (MCQs) using clickers, based on the topic covered in the previous lecture. The correct answer was not revealed at this stage. The questions posed, included a balance of knowledge and application questions (presented as clinical case studies). Students were then randomly assigned into groups of six students, to discuss these questions. After peer discussions, students were once again individually required to answer the same set of questions. This time the correct option, as well as the students’ responses, were revealed. A graph was then displayed on the PowerPoint® slide, indicating only the number of students who had chosen each option, without any identifiers. The lecturer could view the responses for both the first and second attempts. The correct answer was then revealed, allowing for discussions to rationalise why each of the incorrect answers was unsuitable, and created an opportunity for the instructor to identify student misconceptions on the content tested. In this way, each individual student could assess his / her own understanding. The process further provided immediate feedback to students during the class session without singling out individual students.
Data collection
The questionnaire consisted of three sections. Section 1 elicited basic demographic information. Section 2 consisted of seven Likert-type questions which were used to measure students’ opinions of active learning in which they had participated during the module. Each item in the questionnaire was rated using a bipolar semantic differential scale anchored by strongly disagree (1) and strongly agree (5). The final section consisted of one open-ended question, where students were asked to describe what they liked most about using clickers.

The questionnaire was administered in the form of a self-administered anonymous paper-based survey distributed in class, for which students were given time to complete. Unfamiliar terminology (i.e. self-directed learning and didactic teaching) used in the questionnaire was explained to students.

Data analysis
Data were collected, captured electronically and processed using Microsoft® Excel® 2013. For the closed-ended questions, descriptive statistics were generated and responses were tabled. For the open-ended question, responses were recorded, analysed thematically and grouped in order of prevalence. The frequency count for common comments was determined and all the repeated responses were reported only once.

Ethical Consideration
Gatekeeper permission and ethical approval for this study were obtained from the UKZN Humanities and Social Sciences Research Ethics Committee (HSS/0026/013). Student consent was obtained prior to administration of the questionnaire. All ethical considerations were adhered to, such as respect for persons, confidentiality and privacy. Participation in the study was voluntary and participants were given the option to withdraw from the study at any time.

RESULTS
Out of a total of 85 students enrolled for the module, 82 students completed the questionnaire, of which 17% were male and 83% were female.

Table 1 presents the students’ opinions on using clickers as an active learning strategy in the PHRM 301 module. The first five questions addressed students’ opinions on the usefulness of clickers in improving their learning and attitude toward the course content. The next three questions explored students’ opinions on the delivery of the intervention.

Feedback was generally positive. A narrow majority (58.54%) felt that the intervention improved their ability to take responsibility for their own learning. The majority (71.95%) of students acknowledged the benefit of using clickers in achieving exam readiness, improving understanding of the course material (79.25%), and in recognising the correlation between the material covered in class and the active learning session (79.27%). Fifty-four students (65.85%) felt that clickers improved their attitude toward the subject, and only 39 students (47.56%) found AL more effective than didactic learning.

In terms of the delivery of the intervention, opinions were sought on responses, suggested areas for improvement, pertaining particularly to the time allocated to the intervention and articulation of the purpose of the exercise. Despite the majority (71.95%) of students agreeing that sufficient time was dedicated to active learning, a minority (48.78%) reported that the purpose of the session was well articulated by the lecturer.
Table 1:
Opinions on AL in the pharmacology module (n=82)

<table>
<thead>
<tr>
<th>Item</th>
<th>Disagree / strongly disagree, n (%)</th>
<th>Neutral, n (%)</th>
<th>Agree / strongly agree, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL is more effective than lecture-intensive didactic learning.</td>
<td>9 (10.98)</td>
<td>34 (41.46)</td>
<td>39 (47.56)</td>
</tr>
<tr>
<td>AL helped me to become a self-directed learner.</td>
<td>7 (8.54)</td>
<td>27 (32.93)</td>
<td>48 (58.54)</td>
</tr>
<tr>
<td>AL helped me to prepare for exams in the course.</td>
<td>6 (7.32)</td>
<td>17 (20.73)</td>
<td>59 (71.95)</td>
</tr>
<tr>
<td>AL improved my understanding of the material covered in the course.</td>
<td>5 (6.1)</td>
<td>12 (14.63)</td>
<td>65 (79.27)</td>
</tr>
<tr>
<td>AL improved my attitude toward the subject.</td>
<td>8 (9.76)</td>
<td>20 (24.39)</td>
<td>54 (65.85)</td>
</tr>
<tr>
<td>There was a direct / discernible correlation between the material covered in class and the AL.</td>
<td>2 (2.44)</td>
<td>15 (18.29)</td>
<td>65 (79.27)</td>
</tr>
<tr>
<td>Sufficient class time was devoted to AL</td>
<td>4 (4.88)</td>
<td>19 (23.17)</td>
<td>59 (71.95)</td>
</tr>
<tr>
<td>Lecturer clearly articulated the purpose of AL</td>
<td>7 (8.54)</td>
<td>35 (42.68)</td>
<td>40 (48.78)</td>
</tr>
</tbody>
</table>

A total of 52 students responded to the open-ended question. These are listed in order of prevalence in Table 2. From the comments in Table 2 it is clear that students felt that they had a better understanding of the lectures, both from actively participating as well as from having immediate feedback on their own understanding – they thus immediately knew when concepts were not clear and could ask for this to be explained again. In addition, several students commented on the fact that they enjoyed group work, and the fun-element associated with the use of clickers.

Table 2:
Open-ended question responses (n=52)

<table>
<thead>
<tr>
<th>Describe what you liked most about using clickers</th>
<th>Number of responses (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyed working with class members and the peer discussion</td>
<td>16</td>
</tr>
<tr>
<td>Clickers were fun and exciting</td>
<td>8</td>
</tr>
<tr>
<td>Tested my knowledge of my work and helped with revision</td>
<td>8</td>
</tr>
<tr>
<td>Helped me to rate myself</td>
<td>7</td>
</tr>
<tr>
<td>Interaction between class and lecturer</td>
<td>7</td>
</tr>
<tr>
<td>Allows you to understand the lecture and module content more clearly</td>
<td>7</td>
</tr>
<tr>
<td>Helped to prepare for tests and exams</td>
<td>5</td>
</tr>
<tr>
<td>Feedback to all questions</td>
<td>3</td>
</tr>
<tr>
<td>Describe what you liked most about using clickers</td>
<td>Number of responses (n)</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Enjoyed working through clinical case studies</td>
<td>2</td>
</tr>
<tr>
<td>I found the questions informative</td>
<td>2</td>
</tr>
<tr>
<td>Makes you enthusiastic about learning</td>
<td>1</td>
</tr>
<tr>
<td>You learn from your mistakes</td>
<td>1</td>
</tr>
<tr>
<td>It is a balance between conventional learning and a new style</td>
<td>1</td>
</tr>
<tr>
<td>Having to research some questions</td>
<td>1</td>
</tr>
</tbody>
</table>

Overall, the feedback from the closed- and open-ended questions regarding the use of clickers as an active learning intervention appeared to be mostly positive.

**DISCUSSION**

In this technologically progressive era, faculty members at higher education institutions are increasingly pressured to be innovative in the classroom and to adapt appropriately the educational methods they employ. While lecturers might understand the benefit of trying a new teaching approach, it is not always clear if students feel the same way. This study documented the opinions of students towards using an innovative teaching strategy, an audience response system, as an active learning strategy in a large classroom. The use of technologies, such as clickers, allows active learning, i.e. student engagement and interaction in the classroom, ultimately improving the quality of students’ learning, (Cain, Black & Rohr, 2009; Caldwell, 2007).

This was a novel teaching approach for pharmacy students at UKZN, who have not been exposed to anything similar during their university education. As can be expected, pharmacy students have an established learning culture as to the format of teaching sessions expected as they have been consistently taught in the didactic fashion since level one. Hence, when asked if they found active learning more effective than lecture-intensive didactic learning, just less than half of the respondents agreed, with the majority being neutral or in disagreement. This response was probably to be expected from a group of students who had been predominantly didactically trained; students are understandably apprehensive and uncomfortable with transforming their roles from passive to active learners. Despite the overall positive feedback from the interactive teaching sessions, students appear conflicted with the innovation in teaching that they perceivably value, yet may find challenging to initiate. This lack of confidence in the effectiveness of AL in comparison to didactic teaching amongst students was consistent with a qualitative study that explored the experience of medical students learning in the large group teaching environment and is thus not unique to our student population (Luscombe & Montgomery, 2016). Similar to this study, research by Luscombe and Montgomery (2016) suggests that there is already an established learning culture within a faculty, that students are accustomed to, and expect. Students require time to adjust to a new method of teaching, with perceptions being likely to change for the positive, with perseverance in using the new method of teaching.

Overcoming the initial fear of trying something new in the classroom and being expected to participate on an individual level, students agreed that the use of technology was a highlight during these lecture sessions – students indicated that the clickers were fun and exciting to use.

This is reflective of the general trend in the literature pertaining to students’ attitudes toward using clickers (McDermott & Redish, 1999; Draper, 2002; Caldwell, 2007). An additional theme emanating from the
open-ended questions, were that students enjoyed the increased level of interaction between the lecturer and students. Similarly, studies by Knight and Wood (2005) revealed that in classes that introduced clickers, lecturers were viewed by students as being more aware of students’ needs, cultivating a more caring and friendly environment.

Despite not being directly attributed to the use of clickers, but rather the layout of the session, it seems, that the most benefit was achieved from working with peers in smaller groups. It would have been ideal to explore qualitatively the dimension and benefits of peer learning emanating from this study, however, this fell beyond the initial scope of the research. Similar clicker studies revealed that the strength of active learning, also highlighted from student feedback in this study, is the interaction it fostered between students, who often found it easier to understand concepts explained to them by their peers rather than the lecturer (Caldwell, 2007). Students feel that discussing questions with other students is helpful, as it aids understanding. Results from both the closed- and opened-ended questions confirmed this.

Students valued that the intervention helped in their exam and test preparation, which for the researchers seemed predictable, given their experience with the exam driven nature of the students enrolled in the programme. This outcome, however, was not tested by conducting a pre- and post-intervention test, but the literature reveals that overall the use of clickers either has a positive impact or does not harm exam scores (Knight & Wood, 2005). Students valued the fact that clickers helped them to rate and reinforce their learning. This is probably rooted in the anonymity of the process, as it allows students to compare their answers with the rest of the class, with the reassurance they are not alone in answering a question incorrectly, under the safety of being kept unnamed (Bunce, VandenPlas & Havanki, 2006).

The results from this study show that overall students found active learning had a positive impact on learning, academic achievement, and satisfaction with the class experience. It is clear that using educational technology, like clickers, and incorporating active learning strategies, creates a stimulating learning environment that fosters self-directed learning. This study is in agreement with findings from Monaghan et al. (2011) that found students take more responsibility for their own work and teachers work more as mentors and less as presenters of information.

The findings from this study, furthermore indicated the change in pedagogy from didactic to a more student-centred approach to have been successful from the students’ point of view. When introducing new teaching strategies, it is imperative to ensure that these are not merely for the benefit of the lecturer, but also for the end-users, i.e. the students. Given the positive feedback from students, it is thus anticipated that this teaching approach can be used in other modules in the B.Pharm programme. This would, however, require discipline consensus on where best to introduce the intervention, to prevent student fatigue from using this technology.

By implementing active learning strategies in teaching, it is however not necessary to abandon didactic lectures altogether - active learning can easily be inserted into a traditional lecture as it is not necessarily the teaching technology in itself that directly causes improvement, but rather the positive change in teaching practice brought about by using technology in teaching (Monaghan et al., 2011).

Recommendations
The study should be followed with a qualitative study to further interrogate and identify the reasons for student responses. A possible positive outcome that was not measured in this study was whether this active learning strategy affected student grades and lecture attendance. Despite the positive student response with using the clickers, results revealed that there were still areas of improvement required in delivering the clicker session by the facilitator. Therefore, an important recommendation, moving forward would be
to develop a more detailed training and orientation programme for both faculty and students, in order to sensitise and familiarise them to active learning strategies in the discipline. This is important, as the discipline team plans to implement more active learning sessions both in pharmacology and other subjects taught in the discipline.

Limitations

The questionnaire developed in the Gavaza et al. (2012) study did not report on the validity and reliability of the instrument, however the questionnaire was appraised by an academic teaching in the pharmacology programme for face-validity.

CONCLUSION

Active learning with the use of clickers was incorporated into an undergraduate B.Pharm module to improve student learning in a larger group. According to student feedback, this strategy was effective in promoting student interaction; students learned from their peers and had a better understanding of concepts covered – it is thus clear that active learning achieved its goal.

Graduates of the B.Pharm programme at UKZN are required to possess a variety of complex skills and attitudes in order to fulfil their future challenging roles in the South African healthcare system. They need to be able to use and translate a body of scientific, medical, and clinical knowledge to decipher complex scientific and clinical problems (White et al., 2016). Pure didactic delivery of module content alone, is unable to achieve this. The increasing awareness amongst academics of the shortfalls associated with didactic teaching, which amongst others, includes its inability to promote self-directed learning, warrants the use of innovative strategies such as active learning.

Overall, this has been a valuable innovation for the module, and will be expanded in the future. The aim is thus to continue using, evaluating and improving upon this strategy of active learning using clickers in the B.Pharm programme at UKZN.

REFERENCES


Quantitative exploration of students’ experience in cloud computing in a higher education institution

Natasha Madhav, Independent Institute of Education, South Africa
Kayode Emmanuel Adetunji, University of the Witwatersrand, South Africa
Meera K. Joseph, IEEE Computer Society, South Africa

ABSTRACT

The use of cloud computing in the educational sector is still in its evolving stage in countries like South Africa. The readiness for cloud computing in South Africa has already gained momentum, but not many researchers are looking into the quantitative exploration of students’ experience in the Cloud even though these cloud technologies are perceived to expand the educational sector through distance learning and data exchange among students. The slow uptake seems to lie with data security. In this paper, the authors investigated the use of cloud services in higher education institutions considering students’ experiences. Statistical Package for Social Sciences (SPSS) was used for Likert scale construction and analysis. The results showed that over 65% of participants had problems with the usage of virtual labs due to lack of skills and 89% of participants could learn more through practical experience. However, the IT skill level of students may not determine their outcomes in module tasks while using cloud technologies. A strong significant relationship between perceived ease of use and perceived value of cloud technologies proved that the measure of students’ experiences while using cloud technologies will impact the value of the technologies to assist in class module tasks.

Keywords: cloud computing in higher education, student experiences with cloud, SPSS, higher education institutions

1. INTRODUCTION

In South Africa (SA) skills shortages remain a severe problem, and there is a dire need for the best trained engineers for further developing and sustaining technological advances. Challenges such as a weak economy, population outgrowth, climate change, require a highly qualified expert workforce to address these issues. In this study, we identify strategies for the promotion of technology-enhanced learning within the Faculty of Engineering at the University of Johannesburg to promote learning anytime, anywhere. Al Noor et al. (2010) identify cloud computing as the most ubiquitous technology for deploying and scaling applications through virtualisation. They further indicate that cloud computing can offer diverse services for varied users through virtualisation technology and storage capacity of PCs and servers. Tan and Kim (2011) describe cloud computing technologies as flexible IT management services, such as e-mail, calendar, and collaboration tools that members of the education community can engage with online via

1 Date of submission 6 August 2018
Date of review outcome 19 December 2018
Date of acceptance 31 January 2019
the web at no cost. This allows system administrators to introduce new services and computing capacity online quickly and at minimal costs. By introducing Cloud Computing into educational institutions, it can assist administrators mitigate risks, increase demand, and promote scalability.

Mell and Grance (2011: 7) define cloud computing as

a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction.

Akande and Van Belle (2014) describe cloud computing as an on-demand self-service that provides access to resources that are freely available. With an increase in the adoption of mobile technology, there is a requirement within the higher education institutions (HEIs) to deliver education anytime, anywhere. This paper reviews what cloud computing is and how it can be adopted at learning institutions. We review case studies of cloud computing with the intention of probing into the successes and setbacks on the adoption of cloud computing solutions within HEIs. The paper discusses the findings conducted at a private higher education institution in SA. This institution was chosen due to proximity of the location and a lecturer who had implemented virtual labs in their classrooms.

Former studies on cloud technology highlight the significant contribution it has made in the education sector. Sultan (2010: 109) highlighted the potential benefits of cloud technology to ‘cash-strapped educational establishments due to two main factors: flexibility and a pay-as-you-go pricing model’. Sultan (2010) describes how effectively the University of Westminster (UoW) implemented free apps such as Google Apps, to replace the existing student email service, Google Drive which provided each student with up to 7.3GB of email storage capacity, allowing students to store large graphics and multi-media files. Mashandudze and Dwolatzky (2015) indicate that cloud computing offers substantial computing capability that generally may not be affordable especially to small and medium enterprises (SMEs) that may not have the capital to invest in IT hardware and software.

Many HEIs in SA are slowly adopting cloud tools and technologies in the classroom even though this may come with significant restrictions from the IT departments. Encalada and Sequera (2017) developed a system which was integrated with Google, such as Google tools like Docs, Hangouts, Calendar, Drive, Groups, and others.

2. RESEARCH OBJECTIVES AND HYPOTHESES
The main objective is to explore students’ experience in the use of cloud computing. The sub-objectives are:

1) to explore the adoption of cloud technologies in teaching and learning in HEIs
2) to investigate the association among perceived usefulness and perceived value in relation to perceived ease of use and IT skills level of student in the adoption of cloud technologies in HEIs.

The hypotheses are:

- Null hypothesis (Ho1): There is no statistically significant association between the IT skills of students and their ability to complete their portfolio (assignment) using virtual labs (perceived value).
- Alternative hypothesis (Ha1): There is a statistically significant association between the IT skills of students and their ability to complete their portfolio (assignment) using virtual labs (perceived value).
Null hypothesis (H02): There is no statistical significance between enhanced learning experience (perceived ease of use) from virtual labs and the completion of portfolio of evidence for the module through virtual labs (perceived value).

Alternative hypothesis (Ha2): There is a statistical significance between enhanced learning experience (perceived ease of use) from virtual labs and the completion of portfolio of evidence for the module through virtual labs (perceived value).

3. CLOUD COMPUTING FOR 21ST CENTURY TEACHING AND LEARNING

Drivers for the adoption of cloud computing in education

With the majority of today’s students owning mobile devices and the availability of Massive Open Online Courses (MOOCs) and online learning, the need for improved internet access and IT infrastructure is critical. Researchers (Sultan, 2010; Gartner, 2009; Katz et al., 2010) have stated that cloud computing allows HEIs to continue to provide valuable resources under budgetary constraints. The adoption of cloud computing is highly essential, especially in HEIs.

Tout, Sverdlik and Lawver (2009) indicate that cloud computing provides a solution to universities by eliminating budgets for technical infrastructure, software licenses and hardware. They further indicate that the adoption of cloud computing can significantly reduce costs in the areas of supportive requirements, such as air conditioning and security mechanisms for server rooms. Ercan (2010) describes cloud computing as an excellent alternative for educational institutions facing financial restrictions as cloud computing will allow educational institutions to operate their information systems effectively without spending any more capital for the computers and network devices. In fact, many learners and educators are using cloud computing applications in their personal lives, such as Google Docs, Google Scholar, etc. Universities are beginning to follow this trend by leveraging on emerging technologies and making these accessible technologies for students and staff (Sultan, 2010).

4. RESEARCH METHODOLOGY

This section discusses the materials and methodology used for this research, which investigates the factors that determined the level of adoption of cloud computing in HEI classrooms. The aim was to observe the decisions of students on their use of cloud computing tools. This study also used a quantitative approach, using a Likert-scaled questionnaire to observe frequencies, and test for dependencies and correlation among specific variables. A quantitative method was adopted because it is an appropriate way to examine relationships among variables based on statistical analysis (Creswell & Creswell, 2017).

A quantitative research design and methodology was used to explore and understand students’ experience with the use of cloud-based technologies for educational purposes. A survey was used to determine the level of adoption of cloud computing in HEI classrooms. Likert scales have been extensively used in various psychometric research (Stephens, 1998). The development of Likert scale dates far back as 1932. The first of its kind was based on a five-point scale response (Allen & Seaman, 2007). These scales are common to grading questions from surveys; ranging from answers perceived as high to low rank, or best to worst. Data have been grouped into four major levels of measurements namely; ordinal, nominal, interval, and ratio. SPSS basically combines interval and ratio to make up scale. However, ordinal scales were used in this study.

Sample characteristics

The populace from a research study is neither an individual nor an object, but a representation of a measurement or observation. For this study, a group of networking students was selected from a private higher educational institution to study the adoption of virtual labs in the classroom. Students were asked to
connect to Microsoft Virtual Labs to complete their assessments as these labs allowed students to connect to online virtual machines across a network. The benefits for the students were that they were given full access to a real machine that operates in a virtual environment providing access 24/7. Students could thus perform functions to the virtual machine that could be executed in the real-world scenario. There is also the use of software with other students through cloud-based services for storage such as Google groups, which was implemented in the students’ course of study.

A simple random sampling method was chosen to select willing participants for the survey. The implementation of random sampling was stress-free, as it does not require many demographic details except for gender and age. This method is well recommended as there is no chance of a biased decision (Creswell & Creswell, 2017). In addition, there was no physical contact with the participants, as the survey was conducted online. The sample size calculated is derived from the formula in equation 1:

\[
SS = \frac{Z \text{ score}^2 p (1-p)}{e^2}
\]  

(1)

From the equation, the Z score is drawn as 1.96, for a confidence level of 95% and \(e\) is the confidence interval (or error of margin). \(p\) is the proportion of the expected outcome, which is taken as 0.5. The adjusted (corrected) was calculated from the estimated calculation. The equation is shown in Equation 2

\[
SS_{adjusted} = \frac{SS}{1 + ((SS-1)/\text{population})}
\]  

(2)

The population is estimated at 90, and the sample size is calculated as 33. After the data collection, five participants were annulled due to numerous blank spaces.

Data collection, design procedure, and analysis

Most variables of study were measured in ordinal form, using a five-point Likert scale ranging from strongly disagree to strongly agree (Joshi et al., 2015). Authors (Vogt, 2011; Brown, 2011; Jamieson, 2004) have been in trivial discussions about coding Likert scale items as either an interval scale or an ordinal variable. The outcome of the discussion theorised that population sample and normality of data can be used to determine the variable types on a Likert scale. However, this study justifies its non-parametric approach from the central limit theorem (Carifio & Perla, 2008) which states that the use of parametric statistical test is advised when the population sample is higher than 30, thereby assuming normal distribution.

The collected data were exported into SPSS for analysis. The initial part of the questionnaire was about demography, which was limited to gender and age. Afterwards, a total of 13 questions were asked and six out of the total were used for analysis. Description statistics including cross-tabulation with tests were used for analysis. Somers’ delta (Somers d) was used to test association measurements strength and significance. Somers d is applicable for nonparametric measure of strength of association and direction between two ordinal dependent and independent variables (Newson, 2002). Goodman and Kruskals’ gamma is also a nonparametric measure of strength of association but more tolerable than Somers d. Values are calculated in symmetric measures without classifying variables as dependent or independent. Symmetric measures were also observed using the Goodman and Kruskals’ gamma. A hypothesis was stated to examine our results. As noted earlier, the Null hypothesis, \(H_01\) states that there is a statistically significant association between the IT skills of students and their ability to complete their portfolio (assignment) using virtual labs. Alternative hypothesis, \(H_a1\) states that there is no statistically significant association between the IT skills of students and their ability to complete their portfolio (assignment) using virtual labs. The second hypothesis states that \(H_02\) is when there is a statistical significance between enhanced learning from virtual labs and
improved knowledge. While Ha2 states that there is no statistical significance between enhanced learning from virtual labs and improved knowledge. The confidence interval is 0.95 and the reference significant value (p-value) is 0.05.

5. RESULTS AND DISCUSSION

This section shows the data obtained from the SPSS output and analysis. Table 1 shows the gender participation statistics. The disparity on gender still conforms to the study conducted by the Organization for Women in Science for the Developing World (OWSD), which summarises scientific discipline variation, decision making, opportunity equality, and health and social status as factors to gender inequality in science and technology (Elan, 2017). Gender demographics showed that 66.7% of the participants were male and 33.3% were female. An approximately normally distributed histogram chart is shown in Figure 1, displaying the distribution of participants’ skill level. However parametric tests were not used because most of the data were not normally distributed, hence choosing a non-parametric test (Creswell & Creswell, 2017).

The cross-tabulation of experience of students that made use of virtual labs to the outcome of the experience (cloud technologies provided us with access to software and services that I may have not been able to access before) is illustrated in Figure 2.
Figure 2:
Illustration of cross-tabulation of participating students views of perceived usefulness after experience

Cloud technologies provided us with access to software and service that I may not have been able to access before

Table 1:
Virtual labs enhanced my learning experience

<table>
<thead>
<tr>
<th>Scale</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid %</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2.9</td>
<td>3.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Neither Agree or Disagree</td>
<td>1</td>
<td>2.9</td>
<td>3.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>31.4</td>
<td>40.7</td>
<td>48.1</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14</td>
<td>40.0</td>
<td>51.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>77.1</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows a perceived ease of use of virtual labs, as it enhances the learning experience of about 89% of participating students. The students with a three-point level of IT skills (Beginner, Intermediate, and Expert) were cross-tabulated against the perceived value (the use of virtual labs assisted me with the completion of my portfolio for this module).
Table 2:
Cross-tabulation of participants that answered to virtual labs enhanced my learning experience and the use of virtual labs assisted me with the completion of my portfolio of evidence for this module

<table>
<thead>
<tr>
<th>How would you rate your IT skills? (IT)</th>
<th>The use of virtual labs assisted me with the completion of my portfolio of evidence for this module (PV)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>D</td>
</tr>
<tr>
<td>Beginner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>% within IT</td>
<td>0.0%</td>
<td>42.9%</td>
</tr>
<tr>
<td>% within PV</td>
<td>0.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>% within IT</td>
<td>5.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>% within PV</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Expert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>% within IT</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>% within PV</td>
<td>50.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>% within IT</td>
<td>7.4%</td>
<td>14.8%</td>
</tr>
<tr>
<td>% within PV</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Somers $d$ and Gamma were used to test for measures of association, while checking the significance of independence. Tables 3 and 4 show the directional and symmetric measures for IT skills and perceived value of cloud computing.

Table 3:
Directional measures for IT skills and perceived value of cloud technologies

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Asymptotic Standard Error</th>
<th>Approximate T</th>
<th>Approximate Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somers $d$ How would you rate your IT skills? Dependent</td>
<td>.090</td>
<td>.173</td>
<td>.521</td>
<td>.602</td>
</tr>
<tr>
<td>The use of virtual labs assisted me with the completion of my portfolio of evidence for this module Dependent</td>
<td>.115</td>
<td>.224</td>
<td>.521</td>
<td>.602</td>
</tr>
</tbody>
</table>
From Tables 3 and 4, it is seen that the Somers d and the Goodman and Kruskal Gamma value indicates a very low positive correlation between the targeted variables, with the value of 0.115 and 0.155 respectively. Furthermore, the approximate significance value (p-value) is 0.602, thereby higher than 0.05 (>0.05). This also makes the variables independent of each other, thereby accepting the null hypothesis, Ho1. The same measures were carried out on perceived usefulness after experience; that is, cross-tabulation of participating students enhanced learning experience after using virtual labs (perceived usefulness) with the improvement of knowledge and understanding after the enhanced experience (perceived value).

Table 5:
Cross-tabulation of participants that answered to virtual labs enhanced my learning experience and virtual labs improved my knowledge and understanding of the learning content
Focusing on the Strongly Agree row/column intersection from Table 5, it is seen that the value has a high percentage of 88.9%. This explains the positive correlation of PEOU and PV. Tables 6 and 7 shows the results from the directional and symmetric measures of association.

Table 6:
**Directional measures for virtual labs enhanced my learning experience and perceived value of cloud technologies**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Asymptotic Standard Error</th>
<th>Approximate Test value</th>
<th>Approximate Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somers d Symmetric</td>
<td>.628</td>
<td>.124</td>
<td>3.894</td>
<td>.000</td>
</tr>
<tr>
<td>Virtual labs enhanced my learning experience</td>
<td>.622</td>
<td>.123</td>
<td>3.894</td>
<td>.000</td>
</tr>
<tr>
<td>Dependent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virtual labs improved my knowledge and understanding of the learning content</td>
<td>.634</td>
<td>.132</td>
<td>3.894</td>
<td>.000</td>
</tr>
<tr>
<td>Dependent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7:
**Symmetric measures for virtual labs enhanced my learning experience and perceived value of cloud technologies**

<table>
<thead>
<tr>
<th>Ordinal by Ordinal</th>
<th>Value</th>
<th>Asymptotic Std. Error</th>
<th>Approximate Test value</th>
<th>Approximate Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma</td>
<td>.915</td>
<td>.092</td>
<td>3.894</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Somers d value (0.628) from Table 6 shows that there is an association between the perceived ease of use (through the question - Virtual labs enhanced my learning experience) and perceived value (through the question - Virtual labs improved my knowledge and understanding of the learning content). This indicates that students’ experience in using cloud technologies will moderately determine the outcome of the value yielded from module assignments. Furthermore, the value of the approximate significance (0.00) shows that the said association is statistically significant. The Goodman and Kruskal gamma value (0.915) also showed a high strength of association, with a statistically significant value (0.00), accepting the alternative hypothesis (Ha2).

6. CONCLUSION

The drive of this quantitative non-experimental correlational examination was to explore and understand students’ experience with the use of cloud-based technologies for educational purposes. A virtual lab application was the cloud tool used by students to complete subject-related tasks. It was observed from the results that students were able to use and improve from the experience of virtual lab usage. We explored
the adoption of cloud technologies for teaching and learning in an HEI, showing the perceived usefulness, perceived ease of use and perceived value of participants after taking a module through virtual labs. We could demonstrate directional/symmetric measures for IT skills and perceived value of cloud computing. There was no significant correlation between the IT skills of students and their perceptions, suggesting that IT skills level of students may not determine their outcomes in module tasks while using cloud technologies.

Directional/Symmetric measures for perceived ease of use and perceived value of cloud technologies were also computed, with results showing a strong significant relationship between them. This suggests that the smooth and enhanced use of cloud technologies will always positively impact the value of cloud technologies to helping in module tasks. However, the limitation of this study is that the participants are taken from a sample of networking students from a private HEI and so cannot be applicable to all potential students in South Africa but can guide towards the analysis in other locations. Lastly, the significance of this research study was to augment existing knowledge on cloud computing adoption in higher education institutions in South Africa.

REFERENCES


Nurse educators’ challenges and corresponding measures to improve the academic performance, success and retention of undergraduate nursing students at a university in the Western Cape, South Africa

Katlego Dumisani Trevor Mthimunye, University of Western Cape, South Africa
Felicity Megan Daniels, University of Western Cape, South Africa

ABSTRACT
The aim of this study was to explore and describe the challenges experienced by nurse educators at a selected School of Nursing regarding the academic performance, success and retention of undergraduate nursing students and the measures implemented to overcome these challenges. An in-depth qualitative research approach with an exploratory and descriptive design was implemented. Stratified purposive sampling technique was used to recruit nurse educators to participate in the study. Data were analysed by means of thematic analysis using Atlas, ti. Mac Version 1.6. software. Trustworthiness was safeguarded by employing the principles of credibility, transferability, dependability and confirmability. Research ethics was safeguarded by obtaining a written consent as well as ensuring privacy and confidentiality of the study participants. The findings of this study indicate that nurse educators are faced with challenges related to: (1) Nursing students’ lack of interest, motivation, dedication, commitment and poor class attendance; (2) Lack of academic readiness of students admitted into the undergraduate nursing programme; (3) Students’ socioeconomic backgrounds and employment responsibilities; (4) Lack of proficiency in English; (5) Structure of the undergraduate nursing programme; (6) The physical teaching and learning environment not being conducive to learning; and (7) Unfavourable working conditions. The recommendations emerging from this study indicate the need to address student related as well as school related matters.

Keywords: academic performance, challenges, measures, nurse education, qualitative research, South Africa

INTRODUCTION
The rapidly changing nursing system is remodelling the role and scope of nurse educators in the academic environment. The change in focus from hospital-centred health care to primary health care, as well as the proposed new curriculum for undergraduate nursing by the South African Nursing Council (SANC), poses challenges for the approach to and quality of teaching and learning. Therefore, nurse educators need to reassess teaching methods in order to prepare nurses for the work environment (Bell et al., 2013). Nurse...
educators also need to be resourceful and implement innovative methods that will enhance the academic performance, success and retention of nursing students.

The national and global shortage in the nursing workforce (Buerhaus et al., 2009), together with the implementation of the recommendations of the National Plan for Higher Education (2001) has led to an increase in the number of students being admitted to higher education, particularly in undergraduate programmes. The National Plan for Higher Education (2001) addresses the transformation of higher education to remedy previous inequalities experienced by historically disadvantaged populations. This increases the nurse educators’ workload, which impacts the quality of the teaching and learning process and requires additional efforts by nurse educators to promote the academic performance, success and retention of nursing students. This includes an acknowledgement of and appropriate response to the diversity of students, including offering emotional support, extra classes and individual consultations.

In addition, the nurse educators’ preparation for conducting teaching and learning sessions before each semester requires insight into preparing comprehensive and detailed lesson plans as well as organising all teaching material needed to ensure that quality teaching and learning takes place (Cherry & Jacob, 2016). Apart from being experts in nursing content, nurse educators are also expected to support students on emotional, psychological and spiritual levels. Without this additional support, students are at risk of unsatisfactory academic performance and may drop out of the programme (Jeffreys, 2012).

The challenges faced by nurse educators to perform their duties effectively, unless resolved, have serious consequences for students, Higher Education Institutions (HEIs) and ultimately the nursing profession and patient care. Given the current global demand for qualified nurses, efficient education and training is essential for ensuring that the quantity and quality of nurses is sufficient to sustain the required nursing workforce. Thus, it is pivotal to understand the challenges experienced by nurse educators that hinder them from ensuring satisfactory academic performance, success and retention of nursing students.

Nurse educators are expected to take responsibility for implementing effective, reasonable solutions to counter the numerous challenges they face within their profession. The South African Nursing Council (SANC) guides the professional practice of nurse educators. The core competencies stipulated by SANC (2013) for nurse educators provide guidance in quality nursing education. These competencies include: scholarship of teaching and learning; academic and student management; curriculum development; management and leadership; personal development of the nurse educator; and research and knowledge creation. Literature research has highlighted two main challenges associated with the core competencies of nurse educators. These relate to the facilitation of learning, as well as curriculum design and programme evaluation (Adamson, 2012; Cambier et al., 2013).

Adamson (2012) reported that nurse educators’ competency as related to the facilitation of learning is complicated due to the fact that teaching and learning approaches are multidimensional. Nurse educators are challenged with the responsibility of creating a multidimensional programme and employing a range of teaching methodologies to ensure that quality teaching and learning takes place, thereby positively influencing academic performance, success and retention of nursing students (Cambier et al., 2013). Thus, it is essential for nurse educators to demonstrate commitment to and accountability for the education of nursing students to guarantee satisfactory academic performance.

Apart from participating in curriculum design and evaluation of programme outcomes under the SANC competencies, nurse educators are also at the forefront of the implementation of the curriculum. However, the literature search indicated that nurse educators face numerous challenges in their endeavour to fulfil this essential competency (Stanley & Dougherty, 2010). Cambier et al. (2013: 7) reported that ‘the changing healthcare system and the need to stay relevant taking into consideration the current issues add
to the challenges. While changes in the healthcare system have initiated debate around increasing the content in nursing programmes, Fong, (2016) as well as Thomas, Bantz and McIntosh (2019) warned against content overload which adds to the educators’ and students’ workload. The repercussions of content overload in nursing programmes can have a detrimental impact on the academic performance, success and retention of nursing students. Another curriculum design, implementation and evaluation challenge relates to evolving technologies such as web-based classrooms, virtual reality simulations and online classes (Stanley & Dougherty, 2010).

This paper is grounded on the conceptual framework for reducing the School of Nursing (SoN) success gap and promoting success for all as adapted from Perna and Thomas (2006). This model assumes that students’ academic success cannot be comprehended without considering that such success is shaped by four contextual layers: (1) the individual’s internal context, (2) the family context, (3) the school context, and (4) the social, economic and policy context (Perna & Thomas, 2006).

### PROBLEM STATEMENT

Previous studies have placed emphasis on exploring the challenges faced by nursing students during the course of their undergraduate studies (Killam & Heerschap, 2013; Porteous & Machin, 2018). According to two studies conducted at the university under study, the university is challenged with a decline in academic performance of nursing students (Swart, 2013; Mthimunye, 2015). Although much is known about the challenges faced by nursing students (Killam & Heerschap, 2013; Porteous & Machin, 2018), very little attention has been given to understanding these challenges from the nurse educators’ perspective. Poor academic performance and failure by nursing students does not only affect the nursing students and their families, but also has an impact on the nurse educators as they strive to perform their primary responsibility of ensuring students’ success. Likewise, the current study formed part of the larger project that aimed to ‘develop an intervention towards the improvement of academic performance, success and retention among undergraduate nursing students at a university in the Western Cape, South Africa’.

### AIM OF THE STUDY

The aim of the study was to explore and describe the challenges experienced by nurse educators at a selected SoN regarding academic performance, success and retention of undergraduate nursing students and measures implemented to overcome these challenges.

### METHODOLOGY

#### Research approach and design

A qualitative exploratory and descriptive research design allowed for an in-depth understanding of the challenges and restorative measures used by nurse educators to ensure satisfactory academic performance, success and retention of nursing students. According to Grove, Burns and Gray (2012), a qualitative research approach increases our in-depth understanding about some aspects of the phenomenon.

#### Research setting

The study was conducted at the SoN in the Western Cape, South Africa. The main focus of this research was the undergraduate Bachelor of Nursing (BN) four-year programme and the five-year Extended Curricular Programme (ECP), which are regulated by R425 according to the Nursing Act 2005 (Act 33 of 2005) and culminate in registration as a nurse with SANC. This enables graduates to practise as general nurses, midwives, community health workers and psychiatric nurses.

#### Population and sampling

The population included all nurse educators involved in the mainstream Bachelor of Nursing programme as well as Extended Curricular Programmes. The total nurse educator population was 20, with each year
level of the programme having one to four representatives. Stratified purposive sampling was used to recruit nurse educators for participation in the study. The sample started with one to two nurse educators in each of the year levels of the programme. Sampling ended when data saturation was reached (Grove et al., 2012). In this study, data saturation was reached when all new information was able to fit into the newly established codes, i.e. when new data reflected the same data that is already collected (Creswell & Poth, 2018).

Data collection and management
Data were collected between April and July 2017 through individual face-to-face in-depth interviews, which lasted from 45 to 60 minutes. The following research question was posed to participants: what challenges are faced by nurse educators regarding teaching and learning and what measures have they implemented to overcome the challenges? Interviews were digitally recorded and password protected to ensure confidentiality. The recordings facilitated accurate verbatim transcriptions of the interviews (Onwuegbuzie et al., 2009).

Data analysis
ATLAS.ti. Mac Version 1.6. software was used for the organisation of text along with coding and memos (Creswell, & Poth, 2018). Thematic analysis (Braun & Clarke, 2013) was an iterative process involving coding of data until themes and sub-themes were generated. Identification (ID) codes were used to present verbatim quotes.

Rigour
Rigour was safeguarded by employing the principles of credibility, transferability, dependability and confirmability (Thomas, Nelson & Silverman 2015). Member checking was done to gauge the accuracy of the interpretation of data and to enhance credibility. A detailed description of the research setting, the participants, as well as the method of data collection and data analysis were provided to ensure transferability. During data collection, dependability was ensured using in-depth interviews, which allowed the researcher to ask a question and change the follow-up question depending on the answer (Ritchie et al., 2013). The enquiry auditor verified the processes and procedures used by the researcher and confirmed that they were acceptable and dependable.

Ethical considerations
The study was approved by the university’s Research Ethics Committee (S17/1/42). Permission to conduct the study was granted by the university Registrar and the Director of the SoN. Prospective participants were provided with written information about the study before being requested to sign a written consent for their participation. Permission for the use of an audiotape to record the interviews was sought from the participants. The participants were made aware of their rights, including voluntary participation, the right to withdraw from the study, confidentiality and anonymity. All data were kept safe in password protected electronic files. Participants were assured that their privacy would be protected and that no form of data will be traced back to them. Furthermore, to safeguard the principle of confidentiality, the researcher used identity codes for quotations provided in the result section of this paper instead of using the actual names of the participants.

FINDINGS
A total of seven themes and eight categories were generated from the data. The categorisation and interpretation of the data were grounded on the two layers of the framework for reducing the SoN success gap and promoting success for all as adapted from Perna and Thomas (2006). The findings indicate that educators are challenged with various student related factors (theme 1 to theme 4) and school related
factors (theme 5 to theme 7) that hinder them from ensuring that students perform optimally, thereby achieving the desired level of performance, success and retention of nursing students.

Theme 1: Nursing students’ lack of interest, motivation, dedication, commitment and poor class attendance

Educators discussed the measures implemented to create a positive teaching and learning environment. Opportunities were provided for active participation of students, ensuring that these challenges do not lead to academic disengagement and have a minimal impact on their academic performance.

Category 1: Low levels of student motivation, commitment and dedication towards programme responsibilities and irregular class attendance

Educators reported that students display low levels of seriousness towards their studies.

...my group of students last year were really disinterested. They were a tough group. [P4]

...for me they’re not at the level of the fourth year in terms of motivation and dedication towards their studies. [P6]

It was also mentioned that students were selective and intentionally gave less attention to certain modules.

I’ve heard students say, oh, that HDP is a boring subject…I didn’t even know what was going on there. I just want to pass the module... [P3]

Further reports indicated that students do not take programme responsibilities seriously, fail to participate and are disengaged.

...they might understand the topic, but they don’t go into sufficient depth. They will just say the normal things, superficial things… [P7]

Students are not participating, not producing, not listening…but there may be more to it. [P1]

...students’ lack interest. Some students they just don’t come…especially at the end of the term or at the end of the semester…the level of attendance declines…once I saw one student sleeping in class. [P8]

Category 2: Positive teaching and learning environment, student involvement and support

Educators highlighted the importance of treating students as individuals and providing them with personalised attention.

I just feel that students want to be known and they feel a sense of belonging if the lecturer knows their name. [P3]

...I make a rule...let’s talk about what makes you feel uncomfortable before we start a lesson. What are you fears? So, what do they do? They immediately open up. [P5]

Despite the challenge posed by large numbers of students in the classroom, educators want to ensure that there is interaction and sharing of ideas among students.

Students need to participate fully within their groups. They need to engage with each other…I can see that there’s improvement because when students start disagreeing with each other it means that
something is happening...I don’t expect students to give me the correct answer. I expect them to have a discussion to debate with each other... [P6]

Educators discussed their efforts to provide emotional support to students who experience emotional stress.

I don’t know maybe I’m an idealist, but I think that students must also feel loved; [...] made to feel as a person and not just a number sitting there, for me - that’s my personal view... [P1]

I just tell them if you cannot cope or it is too traumatic you need to come to me... [P5]

One educator reported that providing emotional support to students was overwhelming and had to advise them to seek professional help:

I personally decided to withdraw from this other student when she couldn’t [cope]... But I told her one evening that you cannot contact me every time. So that’s when I told her that you need to get some professional help. [P6]

Theme 2: Lack of academic readiness of students admitted into the undergraduate nursing programme

Educators discussed their efforts to ensure that poor previous academic performance has a minimal impact on the academic performance of undergraduate nursing students.

Category 1: Poor academic background of students

Educators reported that the academic background of students that are recruited for the nursing programme is not up to standard and that the SoN accepts students that have been rejected by other departments, which results in their inability to cope with the basic demands of the programme.

…the level of education that a lot of the students come into the programme with is not high. [P4]

…They didn’t get in anywhere because of their poor marks and then nursing would take them, and you can imagine… [P7]

Category 2: Provision of academic support

Some educators reported their commitment to providing academic support through consultations, conducting regular assessments and providing feedback and guidance to students at risk of unsatisfactory academic performance throughout the undergraduate programme.

…And we have a discussion. And then I say let’s revise your work. Go and prepare and then we revise what we have covered. It really helps them to empower them a lot...consultation time, it’s open time for them... [P5]

…when I see the students are struggling, I will sit there and I will get them kind of like triggers – think about this, think about that. Think back… [P6]

Theme 3: Student’s socioeconomic backgrounds and employment responsibilities

Educators discussed their efforts to ensure that challenges relating to the socioeconomic status and employment responsibilities of students, which lead to academic disengagement, have a minimal impact on their academic performance.
Category 1: Lack of basic needs and employment responsibility
Most educators agreed that nursing students’ socioeconomic backgrounds significantly impact their academic performance, success and retention in the programme. Educators indicated that students cannot afford basic needs such as food, which negatively affects their concentration in class.

You can see students sitting in your class they can’t pay attention because they’re hungry. Like how is that not a problem? [P4]

I guess it does play a role. Because the hungry students would be unable to concentrate in class and I mean if you don’t have the finances to come to class you also miss out. [P7]

It was also alluded that students from poor socioeconomic backgrounds are forced to seek and participate in paid part-time employment.

…so, weekends or maybe night shift, they are working, waitressing or shops…so they will tell you, Ma’am, I’m working. That’s why I didn’t come to class. I have to work for my fees…Her eyes were red. I asked her what was wrong with you. So, she said, Ma’am, I’ve been working last night. So, I said why do you work and come to class in the morning? She said I don’t have a choice. [P8]

Category 2: Provision of financial assistance to students
The caring nature of nurse educators drives them to provide much needed financial assistance to needy students.

They tell me when they don’t have food and I provide that for them, as best as I can. Some of them don’t have transport money and I try to be of assistance there in my own personal capacity. [P2]

Theme 4: Lack of proficiency in English
Educators highlighted that language differences and poor language proficiency are some of the challenges they face in the classroom. These challenges hinder effective communication which negatively impacts academic performance.

Some educators reported that one of the major challenges that students experience in the classroom due to differences in cultural backgrounds is to communicate effectively in English.

I have experienced that students do struggle with English as the medium of instruction. [P1]

They don’t understand the language. It is just too difficult for them. [P5]

Theme 5: Structure of the undergraduate nursing programme
Educators highlighted challenges that the current structure of the nursing programme poses on the academic performance, success and retention of undergraduate nursing students. These include timetable arrangements and asynchrony between modules and content being taught across the undergraduate nursing programme. Measures that educators put in place included departmental and interdepartmental collaboration to ensure nursing and non-nursing modules are synchronised.

Category 1: Lack of synchrony between modules and poor timetable arrangements
Educators reported on the asynchrony of programme modules and content which negatively influence integrated learning. Some modules are being taught in isolation with no attempt to pair related modules, resulting in students not being able to understand and comprehend the link between programme modules.
human biology lecturer, she was doing work in the second year that we already do in first year...so the best practices is by aligning our modules with what we call service modules, which is the science department modules. Otherwise they teach and we teach our own and we don’t align it. The students will tell you but we don’t know what you’re talking about. They will actually say that. [P3]

Educators indicated that the structure of the programme does not take into account that nursing students have both theory and clinical/practical responsibilities. Reports also indicated that timetable arrangements for nursing modules are problematic.

...with our students, our students are working tonight and tomorrow night again. On Wednesday morning, they’ve got lectures. That’s another thing, students are tired when they come to their class. [P6]

...there is tutoring classes but because apparently is happened during lunch times so they were not able to attend most of them. [P8]

....we have classes on Friday so they did not want to come on Friday. So when you ask the student, they said it is the timetable they don’t feel like coming just for that. [P2]

Category 2: Departmental and inter-departmental collaboration

Some educators reported on their efforts towards departmental and interdepartmental teamwork through meetings and discussion to ensure that content taught in different modules of the undergraduate nursing programme is aligned.

...we actually meet up with the science department...(and) Every week we’ve got a meeting, maybe Wednesdays and discuss the programme and content as the year level collective... [P2]

Theme 6: The physical teaching and learning environment is not conducive to learning

Educators highlighted environmental challenges that negatively impact the academic performance, success and retention of students. Some educators expressed dissatisfaction regarding the physical environment that does not promote quality teaching and learning.

...the state of the classrooms, broken windows, a hole in the floor, and things like that...your physical environment has to be conducive for learning [and] They are really not conducive. When it is so hot there is no fan. There’s nothing. It is very hot there. And when it is cold it is very cold...those classes, they are really not good. [P1]

One educator also reported challenges related to digital resources such as internet connectivity which negatively affects the learning process.

Now the internet connection isn’t working...if you want to use blended-learning you need students obviously can use textbooks and there’s articles. But to get access to an article you need the internet. [P6]

Theme 7: Unfavourable working conditions

Educators highlighted various work-related challenges that hinder them from ensuring that students perform optimally and result in job dissatisfaction. Some educators reported feeling overwhelmed with the large number of students in the classroom.
I mean, we have groups of students of like 60 or more. It’s not easy to do that... [P4]

So, it becomes an issue for the lecturer just to control the class, especially if it’s big groups. [P7]

Some educators highlighted their frustrations regarding the fact that their areas of specialisation and preferred choices are not considered during work allocation, which negatively impacts the quality of the teaching and learning process.

But I see they normally just swap people – you go there. I didn’t do psychiatry and finish but now I’m teaching psychiatry. [P3]

One educator also highlighted frustrations with the unreasonable workload which impacts negatively on time for student engagement.

…I’ve got so much admin to do as well and a lot of students come in here with things. [P4]

**DISCUSSION**

The findings of the study identified challenges experienced by nurse educators which may have a significant impact on the academic performance, success and retention of nursing students. Furthermore, the study identified several measures implemented by nurse educators aimed at enhancing academic performance of undergraduate nursing students. The findings of this in-depth study will be discussed within the two layers of the framework for reducing the SoN success gap and promoting success for all as adapted from Perna and Thomas (2006).

**Layer 1 - Internal context**

According to Perna and Thomas (2006), the internal context gives attention to the cognitive and motivational aspects that shape an individual’s behaviour. For this study, the internal context was operationalised as a cluster of three main categories: (1) student profile, (2) academic factors, and (3) psychological and emotional factors. It is argued that students’ profile characteristics (such as language proficiency, previous educational experience and employment responsibilities), academic factors (such as class attendance, academic services and course grades), as well as psychological and emotional factors (such as self-efficacy, motivation, gratification and cultural beliefs/background) have a significant impact on the academic performance, success and retention of nursing students (Fernandez et al., 2012; Everett et al., 2013; Glew et al., 2015).

**Students profile characteristics**

Poor English proficiency, previous educational experience and students’ socioeconomic backgrounds were identified as student profile challenges facing nurse educators. This study found that students’ inability to express themselves adequately in English is one of the major challenges experienced by educators. Previous studies are consistent in concluding that proficiency in English has a significant impact on the academic performance and success of nursing students (Everett et al., 2013; Glew et al., 2015). These findings strengthen the importance of English proficiency as a school leaving subject requirement for admission to the undergraduate nursing programme (Dube & Mlotshwa, 2018).

**Academic factors**

Furthermore, this study found that prospective students with poor academic qualifications are being admitted into the nursing programme. This could be due to the global shortage and demand for nursing personnel (Buerhaus et al., 2009), resulting in nursing schools admitting students to the nursing programme
even when they do not meet the minimum entrance requirements (Jeffreys, 2012; Mooring, 2016). Thus, it is imperative that screening and selection of prospective nursing students be done by fully competent personnel. These findings are consistent with previous studies (Safadi et al., 2011; Lancia et al., 2013).

The findings of this study suggest that students admitted into the undergraduate nursing programme at the SoN come from poor socioeconomic backgrounds. Furthermore, this study found that due to these conditions, students resort to paid part-time employment during their studies, which results in poor class attendance due to employment responsibilities. These findings are consistent with previous finding (Everett et al., 2013; Salamonson et al., 2014). Previous studies have found a significant correlation between class attendance and the number of hours spent engaging in employment responsibilities, i.e. the higher the number of hours spent engaging in employment responsibility, the poorer the class attendance leading to academic disengagement (Everett et al., 2013; Salamonson et al., 2014).

Psychological and emotional factors
The study revealed that nurse educators are faced with challenges associated with nursing students’ lack of interest, motivation, dedication and commitment. These findings confirm findings of previous studies (Fernandez, Salamonson & Griffiths, 2012; Clements et al., 2016). This requires nurse educators to identify students with low levels of motivation and commitment as well as those who show signs of lack of interest in programme responsibilities and to implement corrective measures to reduce the risk of unsatisfactory academic performance. Early identification of at-risk students may be fundamental to ensure that corrective measures are implemented timely and thus ensure satisfactory academic performance (Missildine et al., 2013; Mthimunye, 2015).

The study also indicated that there is a need to promote student engagement as well as to create a safe and conducive educational environment that will not pose a threat to students and will allow students space to engage with the study content, the environment and the educators without any fear. A study conducted by Patterson, Kilpatrick and Woebkenberg (2010) in the United States (US) with the purpose of describing students’ perceptions of using a Student Response System (SRS) in the classroom revealed that increased engagement and interaction in the classroom is beneficial to students. However, it is important that nurse educators at the SoN scrutinise their own practices in the classroom with regards to the activities that they believe are engaging. In addition, it would also be essential to explore what students believe would engage them in the classroom.

Layer 2 - The school context
According to Perna and Thomas (2006), the school context gives attention to the compounding effects associated with educational resources, academic preparation, and educational orientations that are necessary for success at a university level. The school context was operationalised for the study as a cluster of four main categories: (1) school background, (2) professional integration, (3) teaching and learning environment, and (4) funding. However, this study found no evidence to support category 1, 2 and 4 of the school context, thus only category 3 was discussed below.

Teaching and learning environment
The study revealed that the curriculum preparation, particularly timetable arrangements and synchrony of modules of the nursing programme, were some of the challenges faced by nurse educators while endeavouring to obtain optimal academic performance by nursing students. Jeffreys (2015) suggests that timetable arrangements have a significant impact on the academic performance and success of nursing students. The findings of this study provide supplementary evidence that issues related to macro and micro curricula such as timetable arrangements and coherent pairing of modules of the nursing programme should be addressed (Iwasiw & Goldenberg, 2014).
Furthermore, this study found that the physical teaching and learning environment, large numbers of students and poor internet connectivity were additional challenges reported by nurse educators. Studies conducted by Marchand et al. (2014) and Wilson and Cotgrave (2016) revealed that students’ perceptions of their educational environments relied highly on physical characteristics such as classroom layout, furniture and number of students in the classroom, and immediate surroundings that include temperature and air quality. Therefore, these findings illustrate the significance of improving the design, organisation, functioning and maintenance of the educational environment (Jennings et al., 2013).

Work environment
In addition to the school context, the findings of this study revealed that some nurse educators face work related challenges such as large numbers of students, high workload and problems with module allocation. The findings are consistent with previous studies conducted by Bittner and O'Connor (2012) and Tourangeau et al. (2014). A study conducted by Bittner and O'Connor (2012) in the New England region, with the aim of identifying the factors that lead to job dissatisfaction as reported by nurse educators, found that the work environment as well as workload are significant factors to job satisfaction. Furthermore, according to Hornsby and Osman (2014), large numbers of students typically make it challenging for educators to create a conducive educational environment in which students feel that their own personal needs are being met. These findings could be explained by the pressure that university nurse educators receive from the faculty as well as from the SoN, i.e. taking on large numbers of students, producing research output, local and international collaboration, continuous professional development, community engagement, as well as various faculty committees’ responsibilities. This pressure adds to the already demanding competencies for nurse educators, i.e. administration, teaching and learning, research and clinical supervision. Several studies have reported that nurse educators take on various roles, which may lead to burnout and job dissatisfaction (Gerolamo & Roemer, 2011; Baker, Fitzpatrick & Griffin, 2011). These findings suggest that in order for nurse educators to perform their primary duty of ensuring academic performance, success and retention of nursing students, the university and the SoN should ensure a favourable work environment that promotes job satisfaction.

LIMITATIONS OF THE STUDY
The main limitation was that a limited number of nurse educators formed part of the study and that they only provided the theoretical perspective of the programme and not the clinical perspective. Furthermore, data were only collected from one SoN in South Africa, therefore the findings of this study may not be generalised beyond that setting. However, the findings of this study provide important information regarding the challenges experienced by nurse educators as well as the measures they have put in place to ensure optimal academic performance, success and retention of nursing students and thus may be generalised with caution to similar educational practices in other countries.

IMPLICATIONS FOR NURSING EDUCATION
The teaching and learning implications of this in-depth study include: (1) reinforcement of student engagement though active participation and promotion of experiential learning; (2) alignment of the curriculum across the entire programme by reviewing the content of the modules and aligning modules based on their objectives and content; (3) advocating for and creating a conducive physical environment by ensuring well maintained and climate controlled classrooms, adequate lighting, as well as access to reliable internet connectivity; (4) encouraging a safe environment for students to reflect and express themselves without fear and obtain emotional support and encouragement where necessary; and (5) early identification of students with language barriers (poor English proficiency) and ensuring that they are referred for language support.
The findings of this study can be used to develop interventions to alleviate the challenges experienced by nurse educators. Furthermore, the findings re-emphasise the significance for proper screening of prospective students. The implications of this study point out the need for a favourable work environment for nurse educators to ensure job satisfaction and reduce the risk of burnout, which has an impact on the quality of the teaching and learning process, thus negatively influencing the academic performance of nursing students. Addressing the challenges identified in this study could result in an improvement in the quality of the undergraduate nursing programme offered at the SoN.

**RECOMMENDATIONS**

*Nursing education and practice*

The recommendations emerging from this study indicate the need to address student related matters, i.e. motivation, commitment, screening processes and socioeconomic backgrounds as well as school related matters, i.e. timetable arrangements, module and content alignment, large numbers of students in classrooms and an unconducive educational environment. Therefore, it is recommended that the SoN should focus on the following:

- Review the current recruitment strategies and admission criteria to ensure recruitment and admission of students who are highly motivated and ready for the nursing programme and where the at-risk students are identified, actions to remedy and support those students should be mobilised.
- Consider ways in which financial challenges experienced by students can be minimised through sourcing of additional financial support.
- The provision of a physical environment that promotes physical comfort in classrooms (adequate space, enough chairs for students, minimal noise, adequate ventilation and temperature regulation).
- The distribution of modules across the undergraduate nursing programme should be done taking into account the relationship between modules, the module content, complexity of each module, and the clinical requirements.
- Review the workload for nurse educators on a regular basis to ensure that work is distributed equally as well as to ensure a favourable work environment and to reduce the risk of burnout. This may also include ensuring a fair nursing student-nurse educator ratio.

*Future research*

This study recommends that for future studies, researchers expand the scope of the study to include more schools of nursing. In addition, more stakeholders linked to students' academic performance, success and retention such as heads of departments, clinical supervisors and faculty staff members should be included to ensure that the limitations of the study are avoided and that a more comprehensive understanding of the phenomenon is gained.

**CONCLUSION**

The study revealed the challenges faced by nurse educators at a university in the Western Cape as well as measures they put in place to ensure satisfactory academic performance by undergraduate nursing students. The findings mainly describe the student (internal) as well as school related factors and indicate the need for more measures to be put in place to remedy the identified challenges. This study did not address the challenges related to the family context or the social, economic, and policy context as suggested by the theoretical framework used for this study. In addition, the framework did not address the influence that the work environment of nurse educators has on their job satisfaction and on the academic performance, success and retention of nursing students.
REFERENCES


Swart, R. (2013) Student success at UWC. Thinktank on student success: Towards redrafting student admission and selection criteria for 2015. 26 August 2013, University of Western Cape, South Africa,


Factors affecting job satisfaction at a private school in Pietermaritzburg, KwaZulu-Natal

Sudhindra Naidoo, University of KwaZulu-Natal, South Africa

ABSTRACT

Recently, private education in KwaZulu-Natal has encountered a decrease in overall employee satisfaction. The objective of this study was thus to determine those factors affecting job satisfaction. This was achieved through conducting a cross-sectional study at a private school in Pietermaritzburg. An anonymous questionnaire was used to collect the data from 47 staff members. Results showed that age and race were significantly associated with job satisfaction (p<0.05). The negative perceptions in relation to job satisfaction mainly revolved around advancement and leadership. Strong positive correlations were found between ‘environment and culture’ and ‘relationship with colleagues’ (r=0.697, p<0.05), ‘environment and culture’ and ‘job security’ (r=0.650, p<0.05), and relationships with colleagues and job security were found to be significantly associated with each other (r=0.660, p<0.05), and leadership with advancement (r=0.300, p=0.043). Although most participants were satisfied with the general working conditions and culture of the school, some expressed dissatisfaction with working conditions in their specific departments. It is recommended that management ensures that working conditions are conducive to skills development and empowerment of staff in order to promote job satisfaction.

Keywords: private education, job satisfaction, motivation, remuneration, leadership, recognition

INTRODUCTION

Educators at education institutions such as private schools, play an integral role in the success of education with job satisfaction impacting on the general execution of activities by such institutions, and thereby, their reputations. In addition, the relationship between job satisfaction and employee retention at private institutions remains highly contentious (Veldman et al., 2013). Shabbir and Wei (2015) suggest that the present school and tertiary education setting, regardless of whether public or private, is influenced by powerless economies, quickly evolving innovation, hierarchical redesigning, and abbreviated lengths of service by personnel. Under such conditions, heads of institutions should focus on removing sources of dissatisfaction in the work place (Zahoor, 2015). Simultaneously, educators need to assume liability for their own fulfilment in their particular employment scenario.

1 Date of submission 18 July 2018
   Date of review outcome 24 January 2019
   Date of acceptance 12 February 2019
Lee (2012) states that some educational institutions have used various measures and techniques to better employee performance, such as incentives and promotions, while others have used a range of non-financial rewards. These interventions focused on improving employee motivation, which is integral to job satisfaction. As Wollhuter (2015: 1384) points out, job satisfaction is crucial in this ‘era of great competition in all spheres of business’.

Shabbir and Wei (2015) believe that one of the most challenging issues in the education sector – including private education – is a decrease in employee confidence and escalating staff turnover, both of which are markers of lowered motivation and reduced fulfilment.

The purpose of this study was to determine which factors affect job satisfaction by exploring the relationship between job motivation, work fulfilment and hierarchical duty at a specific private school.

**LITERATURE REVIEW**

Job satisfaction amongst employees is an important characteristic of successful organisations or institutions (Zeb et al., 2015). Akhtar and Nadir (2016: 236) explain that Hoppock, in 1935, defined job satisfaction as ‘a combination of psychological, physiological and environmental circumstance that cause a person truthfully to say I am satisfied with my job’. Spector (1997) states that job satisfaction refers to the fulfilment one derives from day-to-day activities in one’s job. Javed (2014: 130) defines job satisfaction as ‘the fulfilment acquired by experiencing various job activities and rewards’. The latter definition could be understood as an emotional state that reflects the positive feelings of individuals when they appreciate their jobs.

Job satisfaction is an attitude that employees have about the work they do, and is based on numerous factors – both intrinsic and extrinsic to the individual. Having analysed the various interpretations of job satisfaction, it has come to light that it is the common ground between one’s expectations and the perceived reality of a job in its entirety.

Job satisfaction is important to employers from the perspective of maintaining and retaining appropriate employees within the organisation; it is crucial to fit the right person to the right job in the right culture, and to keep employees satisfied to ensure optimal performance (Richardson, Karabenick & Watt, 2014). Employee contribution to any organisation is key to success. For this purpose, establishing a balance between the contribution of an employee to the organisation and the organisation’s contribution to the employee, is essential (Zeb et al., 2015). In essence, the latter supports the view that employers should make the required effort to ensure employee job satisfaction within the organisation, in order to expect employees to work towards creating a successful organisation.

Understanding job satisfaction in education

Chan (2002) highlights that teacher motivation and job satisfaction are inextricably linked – as one influences the other. Teacher motivation refers to the stimulus for behaviour in a particular context, whereas teacher job satisfaction refers to the result of behaviour within a particular context. Similar to all organisations, in education, high-quality teaching staff are the cornerstone of successful educational institutions and the educational system. One of the steps in developing a high-quality school is to understand the factors generally associated with the quality of teaching (Ambrosetti, 2015). A crucial factor is teacher job satisfaction, since it is directly associated with teacher effectiveness, which in turn affects student achievement (Das & Choudhury, 2014).

Internationally, teacher job satisfaction has been connected to important human resource management issues such as teacher attrition rates, satisfaction with school administration, loyalty to the organisation,
school improvement, productivity, and efficiency (Veldman et al., 2013). Obineli (2013: 29) explains that ‘a teacher who has high job satisfaction is perceived to have a high level of commitment to his or her work’.

Abdullah and Hui (2014) suggest that a teacher who is happy or satisfied with his or her job has a sense of obligation to uplift the society in which he or she lives or works; whereas one who is dissatisfied may exert a negative influence on student learning. Shabbir and Wei (2015) highlight that the factors responsible for job dissatisfaction among teachers in public and private institutions, are commonly administrative, such as the evaluation of student performance, handling of discipline problems, teachers’ heavy workload, poor salaries, lack of respect for the teaching profession, and promotion bottlenecks.

Factors affecting job satisfaction

Quite a few factors may influence the level of job satisfaction or occupation fulfilment of workers (Mafini, 2014). An extensive body of research appears to emphasise salary and remuneration, advancement and promotion, work environment, employee training programmes, teamwork and relationships with colleagues, rewards and recognition, as well as job security and leadership as core employee satisfaction factors – and these would be explored in more detail individually. Shabbir and Wei (2015) reveal that intrinsic job satisfaction factors affect feelings of self-fulfilment and enjoyment that employees gain from their jobs directly, while extrinsic job satisfaction factors refer to factors outside the job itself and are usually administered by someone other than the individual concerned.

- **Salary and remuneration**

Individuals take part in work primarily to earn income. Income is essential for one to be able to provide the necessities and wants for one’s self and family (Gkolia, Belias & Koustelios, 2014). Employees (including teachers) require sufficient financial resources in order to look after themselves and their families. Haider et al. (2016) suggest that money is considered an economic reward by workers. Sufficient compensation paid timeously to employees would certainly help improve employee confidence, satisfaction and commitment. Financial remuneration meets the tangible or material needs of employees, and provides mental fulfilment and peace of mind to employees (Wei & Abdullah, 2016).

Equitable and consistent remuneration of educators boosts teacher motivation (Tschannen-Moran & Gareis, 2015). Lack of sufficient work-place financial support could lead to teachers cultivating negative attitudes at work, with some actively seeking employment at alternate places of work that would provide such support (Van Maele & Van Houtte, 2012). Youthful, eager and skilled individuals resist joining professions that cannot boast lucrative remuneration deals for employees (Brundrett & Rhodes, 2014). A high remuneration package primarily creates stability and commitment in the education profession, and the contrary is true when the payments are low. Teachers join the profession to satisfy their needs (Gkolia et al., 2014).

Pay is a factor that assumes an exceptionally persuasive part in deciding employment fulfilment and job satisfaction. Nonetheless, in a research study conducted in Malaysia, academic staff of public and private universities who participated in the survey indicated that of all the factors that were listed as impacting on job satisfaction, salary had the least relevance to them (Mustapha, 2013). This could suggest that decision-makers and management at education institutions should give serious thought to having remuneration systems and controls guided by perceptions, occurrences and approaches taken at other similar education institutions, or by best practices derived from within the sector.

Mustapha (2013) emphasises that considering the availability of research grants, accessing funds for attending conferences, the allowance of sabbatical leave, and fostering close relationships within
departments by management, contribute to favourable working conditions that would further enhance the job satisfaction of academic staff – since academic staff are not motivated largely by salary alone.

- **Advancement and promotion**

_employee advancement is not always a formal promotion, although very often it is an official transfer from one position to another (Haider et al., 2016). Advancement also can be a lateral move, such as an educator making a lateral move from one school to another (Das & Choudhury, 2014). Generally, a lateral move of this type presents some benefit to the teacher, who is likely on a track towards some specialisation offered at a particular school. Therefore, even lateral moves are part of employee advancement. Advancement forces performance – employees who move upward or laterally have an obligation to their employers to prove that they are worthy of the promotion or demonstrate their skills with another employer (Brundrett & Rhodes, 2014).

_Brundrett and Rhodes (2014) suggest that high worker productivity is generally rewarded by an organisation in the form of a promotion, which subsequently results in further acceleration of employee effort. In organisations where promotion is regarded as insignificant or has less meaning to employees, an increase in salary might be regarded as a better method to compensate employees for their increased effort (Shabbir & Wei, 2015)._

- **Work environment**

_The work environment is an important factor that can influence the level of fulfilment of workers (Van Houtte, 2006). Wang, Ma and Liu (2014) suggest that a work environment designed to inspire employees will motivate employees and thereby result in improved effort by employees. Badri et al. (2013) emphasise that the importance of considering the atmosphere, quality and style of buildings and offices, in relation to job satisfaction, should not be underestimated. The work environment should embrace working conditions such as the temperature, humidity, ventilation, lighting, noise levels, cleanliness of the workplace, and adequate tools and equipment (such as public address systems, computers and resource materials for teaching, as well as good offices). Decent working conditions permit educators to work at ease and thereby with greater confidence (Raziq & Maulabakhsh, 2015)._  

_Extremely poor conditions harbour frustration and regret, and consequently a high sense of dissatisfaction (Zahoor, 2015). Concurring with the previous statement, Alikhani, Langerodi and Ahmadpour (2013: 244) note that ‘many teachers in public schools lack motivation and job satisfaction because of poor salary and the poor condition of the environment of their workplace’._

_Shabbir and Wei (2015) suggest that for a teacher to attain full satisfaction in their school there must be adequate facilities, proper instructional materials, sound security measures, fair contract conditions, and a functional school community. A good school environment involves key personalities who are supportive of the welfare of teachers – like administrators, students and parents. These attributes help create assertiveness and positivity in educators, which are traits associated with employees experiencing job fulfilment and satisfaction (Abdullah & Hui, 2014). The ambience of the workplace is vital, as it impacts on teacher output (Zahoor, 2015). It is imperative for managers to establish solid and conducive platforms in the work environment to facilitate the delivery of instructions (Raziq & Maulabakhsh, 2015). Teachers ought to be catered for if African countries want quality personnel that can compete in the global village of education – especially in relation to science and technology (Obineli, 2013)._

- **Employee training programmes**

_To be competitive and profitable, a company must include education, training and employee development as an essential part of its strategy (Bercu, 2017). According to Haider et al. (2016), employees that are_
offered learning and training opportunities by the organisation are more likely to perceive the organisation as being one that values its employees and regards employee job satisfaction as crucial. These employees would generally display greater commitment and devotion to the organisation.

- **Team-work and relationship with colleagues**
  According to Mafini and Dlodlo (2014), most employees in the workplace thrive on social interactions at work and regard this as a vital factor with regard to job satisfaction. Synergy and cohesion within departments results in enhanced job satisfaction. Close-knit teams are more likely to learn new things, as well as job enlargement elements that have been found to be positively associated with job satisfaction. Having friendly and helpful colleagues also contributes towards job contentment among employees. The state of relationships between co-workers in an organisation, including those between supervisors and subordinates, could be a significant pointer of job satisfaction or dissatisfaction (Veldman et al., 2013).

- **Rewards and recognition**
  Zeb et al. (2015) explain that employees should be regarded as assets to an organisation. In order to motivate employees, an effective system of rewards and recognition should be in place. The idea of reward and recognition has become prominent in recent times, as many managers and researchers have become intrigued by the notion that reward and recognition could be presented to employees as material (cash) or non-material (non-cash) benefits, for specific desirable actions. According to Haider et al. (2016: 343) ‘many research studies have been conducted regarding reward and recognition such as Maslow’s Theory (1943, 1954), Herzberg’s Theory (1959), Alderfer’s Theory (1972) and Vroom’s (1964) ERG Theory’. Based on the aforementioned theories, it is contended that there is a strong relationship between reward, recognition, and employee job satisfaction.

- **Job security**
  Kraimer et al. (2005: 390) define job security as ‘a psychological state in which workers vary in their expectations of future job continuity within an organisation’. Organisational benefits such as job security may induce in employees a sense of reciprocity and a perception of obligation to commit to an organisation. In contrast, employee loyalty and intention to stay with an organisation decrease when employers are unable to provide job security (Wang et al., 2014).

- **Leadership**
  Zahoor (2015) states that the impact and type of effective leadership has a significant role in improving organisational performance. Bercu (2017: 68) clearly states that ‘leadership has a specific place in influencing job satisfaction’. Bayram and Dinc (2015) suggest that of all leadership types, transformational leadership has been one of the most successful, as it provides an opportunity that enriches and supports successful cooperation between the leader and follower.

**Importance of motivation in relation to job satisfaction in education**
Gkolia et al. (2014) suggest that there are several diverse considerations that have to be taken into account prior to evaluating employee job motivation or one’s attitude towards one’s job. These considerations may include, but are not limited to, the financial, psychological or emotional position of the employee, at any given point in time. Managing human resources is fundamental to organisational success, and whether employees are motivated to make a positive difference. Motivated staff could bring about significant positive change within the school environment (Van Maele & Van Houtte, 2012).

**RESEARCH METHODOLOGY**
This was a cross-sectional quantitative study conducted at a private school in KwaZulu-Natal. Since the population size was relatively small, the sample included the entire population, i.e. 50 employees consisting of educators, managers and support staff.
Self-administered questionnaires have become a common method of gathering information, especially due to their efficacy (Kothari, 2008). Given that the variables in this study were clearly defined, a survey questionnaire was, therefore, deemed to be the most appropriate method for data collection.

The design of the questionnaire was based on how it was to be administered, particularly as the researcher anticipated having only a single contact with respondents. The questionnaires were personally handed to each respondent and then collected two hours later.

A pilot study was conducted as a precursor to the research study using five respondents. The questionnaire was issued to respondents excluded from the chosen sample to establish appropriateness, time factors and levels of interest in relation to participation in the survey. This enabled the researcher to ensure that the tool, to a large degree, was free from errors before it was actually administered to the target group.

For this study, the researcher used structured, closed-ended, pre-coded questions, as well as a single open-ended question, to collect the data. The first part of the questionnaire sourced biographical information, including gender, age category, years of service at the school, post held, and race group. The second part of the questionnaire focused on various aspects relating to job satisfaction. These included: working environment and culture, relationships with colleagues, job security, recognition, advancement, and leadership. The last part of the questionnaire contained the only open-ended question which sought to obtain recommendations from respondents on ways to possibly improve job satisfaction at the school. It also ended the questionnaire with an opportunity for respondents to comment on how satisfied they were about their jobs.

Marshall and Rossman (2011) explain that the Likert scale involves the use of a special rating scale that asks respondents to indicate the extent to which they agree or disagree with statements or questions (strongly agree, agree, neutral, disagree and strongly disagree). A matching five-point Likert scale was used, given that it had the ability to facilitate robust statistical analysis. Ethics clearance was obtained from the Ethics Committee of the University of KwaZulu-Natal.

Permission was obtained from the management of the target school to address members of staff and to conduct the study survey immediately after one of the weekly staff meetings. Participation in the study was voluntary. Anonymity and confidentiality were maintained at all times.

Analytical methods and procedures
Questionnaires were examined thoroughly in terms of whether instructions were followed. Those that appeared compromised were excluded from the analysis. The data analysis was facilitated through the predetermined coding of variables and statements. Both qualitative and quantitative techniques were applied for data analysis. This integration enhanced the analysis by ensuring that the limitations of either type of data did not take prominence. The investigator used version 24.0 of SPSS software to analyse the data. Quantitative analysis was performed through descriptive statistics, including frequencies, percentages, tables and figures to illustrate the various distributions. The exact form of illustration depended on each individual data set.

RESULTS AND DISCUSSION
This study was undertaken to distinguish factors influencing job satisfaction at a private school with the intention of furnishing the institution with proposals on how staff fulfilment could be increased. The results of this study could also be utilised for additional research around the area of diminishing employee fulfilment, and in addition, could provide the school with astute suggestions to enhance the working conditions within
The institution. A total of 47 participants completed the questionnaire. The reliability analysis confirmed that the data were reliable with a Cronbach’s Alpha value of 0.725.

Socio-demographic variables
As illustrated in Table 1, the socio-demographic variables indicated that of the 47 participants, 70% were male, 77% were older than 35 years, two-thirds had worked for four to six years, 72% were teachers, and 77% were Indian.

Table 1: Summary of socio-demographic variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>33</td>
<td>70.2</td>
</tr>
<tr>
<td>Female</td>
<td>14</td>
<td>29.8</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-35 years</td>
<td>11</td>
<td>23.4</td>
</tr>
<tr>
<td>36-45 years</td>
<td>26</td>
<td>55.3</td>
</tr>
<tr>
<td>46-55 years</td>
<td>10</td>
<td>21.3</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
</tr>
<tr>
<td>Years in service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>6</td>
<td>12.8</td>
</tr>
<tr>
<td>4-6 years</td>
<td>31</td>
<td>66.0</td>
</tr>
<tr>
<td>7-9 years</td>
<td>10</td>
<td>21.3</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
</tr>
<tr>
<td>Post level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Support staff</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Deputy principal</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>HOD</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Teacher</td>
<td>34</td>
<td>72.3</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>11</td>
<td>23.4</td>
</tr>
<tr>
<td>Indian</td>
<td>36</td>
<td>76.6</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most respondents were Indian males, older than 35 years of age, and had at least four years of service at the target school. The respondents were predominantly teachers. This information could imply that most of the respondents in the survey were experienced educators who more than likely had previously taught at other educational institutions. Their responses in this survey could therefore have been influenced – either negatively or positively – by their prior work experience.
Working environment and culture

Six Likert-type statements asked the participants to comment on the environment and culture of the organisation. The majority of participants agreed with most of the statements. For example, more than two-thirds (68%) agreed that teachers receive satisfactory salaries, and 64% agreed that teachers receive satisfactory benefits. More than a third (38%) negatively reported that departmental working conditions are acceptable, and 31% disagreed that their Head of Department (HOD) was a good mentor. A summary of all the statements is shown in Figure 1 below.

The results of the survey indicated that most (71%) respondents had positive views regarding working conditions and culture at the school. Approximately two-thirds revealed that they were satisfied with the benefits and salaries they were receiving. This is significant since both Cizek (2012) and Zeb et al. (2015) suggest that financial rewards are a factor that enhances workplace motivation. Raziq and Maulabakhsh (2015) emphasise that a conducive working environment has a positive impact on job satisfaction. However, it is also notable that about one third of the respondents had a negative view of departmental working conditions and mentoring provided by management. The latter findings should be of concern, as working conditions and supervision were observed by Mafini and Dlodlo (2014) as being extrinsic motivation factors that had statistically significant relationships with job satisfaction among employees.

Relationship with colleagues

With regard to determining the relationship with colleagues, five statements were asked. More participants positively responded to all the statements (see Figure 2 below). For example, 70% agreed that their colleagues always communicate with one another in relation to academic issues, and 62% positively indicated that teachers work together as a team. However, more than a third of the participants negatively reported that they plan and coordinate their efforts together as a team (36%), and that they had a good relationship with other teachers (38%).
The overall scores showed that 60% of participants scored 16 or more – meaning they had positive views about the relationship with their colleagues. The analysis of the responses to the questions in the survey regarding relationships with colleagues illustrates that most respondents expressed that they have good relationships with their colleagues, who were also educators. Zahoor (2015) supports the notion that good interrelationships amongst colleagues promote psychological wellbeing, and, could therefore help sustain workplace job satisfaction. It is also noteworthy that more than one third of all respondents highlighted that there was inherent concern around the staff not working together as a team to strategise and plan efforts. According to Mafini and Dlodlo (2014), teamwork is another important extrinsic motivation factor that is known to have a statistical correlation with job satisfaction.

There seems to be a high level of collegiality at the school, but this is not necessarily being translated into work-related activities. Veldman et al. (2013) suggest that teachers who enjoy cordial relationships within the school environment tend to feel more secure in their jobs. This aptly explains the significant positive correlation between environment and culture and relationship with colleagues, as well as the significant positive correlation between relationship with colleagues and job security – as indicated by Spearman’s Correlation Analysis.

**Job security**

More than two-thirds (70%) agreed that they feel free to express their opinions without worrying about negative actions/responses, and 64% agreed that they had job security as educators. On the other hand, 51% negatively reported that their job is important for the overall output of the school, and 52% disagreed or strongly disagreed that there is a sense of stability and continuity in their department (see Figure 3 below).

---

**Figure 2:**
Relationship with colleagues

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The morale in our department is high</td>
<td>8.9</td>
<td>13.3</td>
<td>8.9</td>
<td>55.6</td>
<td>13.3</td>
</tr>
<tr>
<td>I have a good relationship with other teachers</td>
<td>8.5</td>
<td>38.3</td>
<td>43</td>
<td>44.7</td>
<td>43</td>
</tr>
<tr>
<td>We plan and coordinate our efforts together as a team</td>
<td>43</td>
<td>36.2</td>
<td>19.1</td>
<td>34.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Teachers work together as a team</td>
<td>19.1</td>
<td>12.8</td>
<td>61.7</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Our colleagues always communicate with one another in relation to academic issues</td>
<td>10.6</td>
<td>8.5</td>
<td>70.2</td>
<td>10.6</td>
<td></td>
</tr>
</tbody>
</table>

The morale in our department is high

I have a good relationship with other teachers

We plan and coordinate our efforts together as a team

Teachers work together as a team

Our colleagues always communicate with one another in relation to academic issues

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
The findings indicate mixed perceptions among respondents with respect to job security. The overall tally indicates that 59% of respondents ultimately reported positively about job security at the target school. This is in keeping with Bercu (2017), who found that 58.33% of all employees surveyed had positive responses regarding job security.

Most respondents from the target school felt they could communicate openly without repercussions. According to Hossen and Latif (2016), open communication between staff members helps keep staff motivated. Approximately two-thirds of all respondents indicated they felt that, as educators, their jobs were not at risk. However, half of the participants responded that their jobs did not significantly contribute to the overall performance of the educational institution. This could indicate a mismatch between the viewpoints of the employee with regard to the role they played within the larger organisational structure – as opposed to their job description in their department. Wang et al. (2014) explained that if not addressed, over the long term, such thoughts could cascade into job dissatisfaction, decreased motivation, and, ultimately, total loss of job security.

In addition, it is worth noting that half of the respondents indicated they perceived a lack of a sense of stability and continuity within their respective departments. The relationship between the job security of the educator and stability within a certain department could be investigated in the future (teachers indicate they feel safe as an employee of the school, but feel unstable and lack certainty over their continuity within their designated department).

**Recognition**

To determine if recognition is a factor in satisfaction, the researcher asked four statements. More than half of the participants agreed that hard work is usually rewarded at their school (53%), and they receive enough recognition for the work they do (51%). It was found that 55% of participants disagreed that if they did a better job, they had a better chance of getting ahead, and 46% negatively reported that recognition of their work motivates them to enhance their achievements (see Figure 4 below).
Summing up the scores from the four statements, it was found that 57% of participants scored 12 or less – meaning they had a negative perception about recognition. Analysis of related recognition factors revealed mixed viewpoints of survey participants. Most respondents acknowledged that hard work was rewarded at the target school. This is an important finding, as Haider et al. (2016) found that gratification of staff would unequivocally lead to motivation. There is a general belief that motivated staff have job satisfaction, which in turn positively affects performance and thereby enhances overall organisational productivity (Mafini, 2014). It must be emphasised that rewards are however not necessarily limited to financial rewards, and could include any kind of non-financial benefit that the organisation could offer, which might be seen as valuable by the employee (Haider et al., 2016).

While most employees felt recognised for the work done at the target school, more than half indicated that this did not necessarily make them feel that they were in the better position of moving into a superior role. This is a potential concern in terms of employee motivation and job satisfaction at the school – particularly since a significant percentage of participants also indicated that recognition of work performed did not necessarily translate into motivation for enhancing achievements. Das and Choudhury (2014: 106) echo this concern: ‘job satisfaction is employees’ sense of achievement and his success in a particular job and is directly linked with productivity and personal wellbeing’.

**Advancement**

In this study, the researcher asked four statements to determine if advancement is a factor in satisfaction. The results highlighted that more participants disagreed with the following statements: Opportunities exist for training and development of teachers (62%), and there are opportunities for teachers to be promoted (51%).
Adding up all the scores, it was found that 79% of participants scored 12 or below from the four statements. This meant that most participants had a negative perception of advancement. An overall assessment of the responses suggests that there is a negative outlook towards employee advancement at the target school. The results revealed a correlation between the lack of avenues for advancement of employees and working conditions that were non-supportive of teacher advancement. This therefore could result in increased risk of potential employee dissatisfaction (Gkolia et al., 2014).

Almost two thirds of employees indicated the lack of training and development opportunities for teachers – even though teachers were encouraged to undertake research. Bercu (2017) discusses the empirical results of a study carried out to assess the satisfaction of employees at work utilising a series of questions, including those pertaining to training and professional development provided by the employer, and found that 89.58% of 132 participants indicated they were supported by their company for professional development and this directly contributed to them feeling satisfied in their jobs at the company. This should be utilised as a cue for the target school to rectify the current situation with respect to the lack of training and development opportunities offered to staff members. It is also important for institutions to tailor training to the needs of employees. Bercu (2017) highlights that people are more satisfied and perform better if training has a direct effect on their performance.

Furthermore, just over half the respondents indicated uncertainty with respect to future possibilities of promotions for teachers at the school. This statistic is also worrying, since Zeb et al. (2015) highlighted that job promotion is one of the key forms of reward that supports continued job satisfaction of employees.

**Leadership**

To determine if leadership is a factor for job satisfaction, eight statements were presented. The frequency distribution of the answers showed that more participants responded negatively to most of the statements. More than half of the participants disagreed that management does not guide as a friend but as a dictator (54%), and that the school management team invites teachers to participate in the decision-making process.
(51%). However, 62% agreed that teachers have enough freedom to make their own decision within the given responsibility, (see Figure 6 below).

![Figure 6: Leadership](image)

Respondents indicated a negative perception with regard to the overall leadership and decision-making at the target school. Even though almost two-thirds of the respondents indicated they had the liberty of making independent decisions within their specific job descriptions, most respondents indicated they were excluded from decision-making within the broader context of the organisation by the school’s management. Bayram and Dinc (2015) revealed that those managers who make decisions pertaining to organisational issues in a more inclusive manner, were more likely to enjoy a motivated work team.

In addition, the respondents’ perception of the management style at the target school was negative. More than half the participants (54%) did not agree with the statement that management guided staff in a friendly manner. The responses indicated agreement that management at the school resembles dictatorship. Lazaroiu (2015) states that there is a positive correlation between transformational leadership and job

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not hesitate to discuss any school problem with the school management team</td>
<td>21.3</td>
<td>23.4</td>
<td>10.6</td>
<td>17.0</td>
<td>27.7</td>
</tr>
<tr>
<td>School Management acts without consulting the staff</td>
<td>6.4</td>
<td>19.1</td>
<td>14.9</td>
<td>12.8</td>
<td>25.5</td>
</tr>
<tr>
<td>School leadership delegates some of their responsibilities to his teachers</td>
<td>6.4</td>
<td>21.3</td>
<td>10.6</td>
<td>14.9</td>
<td>42.6</td>
</tr>
<tr>
<td>The school management team invites teachers to participate in the decision-making process</td>
<td>6.4</td>
<td>23.4</td>
<td>17.0</td>
<td>21.3</td>
<td>51.1</td>
</tr>
<tr>
<td>Management do guide as a friend not as a director</td>
<td>8.7</td>
<td>23.9</td>
<td>10.9</td>
<td>8.7</td>
<td>54.3</td>
</tr>
<tr>
<td>Teachers are involved in the planning process in our school</td>
<td>6.4</td>
<td>27.7</td>
<td>25.5</td>
<td>21.3</td>
<td>17.0</td>
</tr>
<tr>
<td>There are various channels of communication in our school</td>
<td>8.5</td>
<td>55.3</td>
<td>38.3</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Teachers have enough freedom to make their own decision within the given responsibility</td>
<td>4.3</td>
<td>61.7</td>
<td>25.5</td>
<td>2.1</td>
<td></td>
</tr>
</tbody>
</table>

Lazaroiu (2015) states that there is a positive correlation between transformational leadership and job.
satisfaction. At the core of contemporary management is transformational leadership, which advocates the guiding and teaching of staff in a friendly manner.

The survey item ‘school leadership delegates some of their responsibilities to teachers’ could have been structured or worded differently, as it might have been misinterpreted. The statement was designed to describe management in a positive light (leadership willing to share tasks to empower subordinates) and ascertain if respondents agreed or not. Some respondents might have understood the statement to mean that management is possibly lazy and delegates their responsibility to subordinates.

The last item under the section on leadership in the questionnaire revolved around the openness of staff with management, in relation to discussing school problems. It is interesting to note that the responses to this item revealed an almost equal split in terms of those agreeing and those disagreeing that there are communication problems with management. This could be investigated further in the future, given that more than half the respondents had agreed that there were various channels of communication at the target school.

The Spearman Correlation Analysis (Table 2) highlights that leadership had a significant correlation with advancement. More than 70% of respondents had negative views or perceptions regarding both factors. A similar association between these two factors is evident in a study by Naseem and Salman (2015). The manner in which leaders manage employees therefore impacts on employee advancement.

### Table 2:
Association between job satisfaction with environment and culture, relationship with colleagues, job security, recognition, advancement, and leadership

<table>
<thead>
<tr>
<th></th>
<th>Satisfied</th>
<th></th>
<th>Chi-Square</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment and Culture</td>
<td></td>
<td></td>
<td>Chi-Square</td>
<td>p-value</td>
</tr>
<tr>
<td>Negative Count</td>
<td>2</td>
<td>10</td>
<td>0.246</td>
<td>0.620</td>
</tr>
<tr>
<td>% Satisfied</td>
<td>20.0%</td>
<td>27.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Count</td>
<td>8</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>80.0%</td>
<td>72.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship with Colleagues</td>
<td></td>
<td></td>
<td>1.577</td>
<td>0.209</td>
</tr>
<tr>
<td>Negative Count</td>
<td>2</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>20.0%</td>
<td>41.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Count</td>
<td>8</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>80.0%</td>
<td>58.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Security</td>
<td></td>
<td></td>
<td>0.674</td>
<td>0.412</td>
</tr>
<tr>
<td>Negative Count</td>
<td>3</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>30.0%</td>
<td>44.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Count</td>
<td>7</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>70.0%</td>
<td>55.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td></td>
<td></td>
<td>0.063</td>
<td>0.802</td>
</tr>
<tr>
<td>Negative Count</td>
<td>6</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>60.0%</td>
<td>55.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Count</td>
<td>4</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Satisfied</td>
<td>40.0%</td>
<td>44.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Satisfied

<table>
<thead>
<tr>
<th>Variable</th>
<th>Count</th>
<th>% Satisfied</th>
<th>Chi-Square</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advancement</td>
<td>Negative</td>
<td>9</td>
<td>90.0%</td>
<td>1.035</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>27</td>
<td>75.0%</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>1</td>
<td>10.0%</td>
<td>2.520</td>
<td>0.112</td>
</tr>
<tr>
<td>Leadership</td>
<td>Negative</td>
<td>9</td>
<td>90.0%</td>
<td>2.520</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>23</td>
<td>63.9%</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>1</td>
<td>10.0%</td>
<td>36.1%</td>
<td></td>
</tr>
</tbody>
</table>

While a global view of the statistical analysis by means of the Chi-squared test, did not indicate any strong correlation between the various factors investigated with job satisfaction – the Spearman Correlation Analysis was highly indicative of a correlation between certain of the variables investigated in the survey conducted.

### CONCLUSION

This study highlighted several issues within the private education context. Firstly, although most participants expressed satisfaction with the general working conditions and culture of the school, a significant number expressed dissatisfaction with working conditions in their specific departments, particularly with respect to supervision and mentoring received from their superiors. This dissatisfaction did not extend to their relationships with colleagues of the same rank; in fact, there appeared to be a high level of collegiality in terms of interpersonal relationships. Of concern, however, was that this collegiality did not appear to translate into work-related activities, and this could suggest future loss of job satisfaction.

This study has highlighted that the major areas of potential job dissatisfaction at the school are related to relationships with management, as well as the inability of respondents to take advantage of avenues for skills development within the current structure of the school. This could be resolved by examination of current work policies at this school, as well as the implementation of a revised and more inclusive communication strategy between staff and management. This will in turn benefit all employees at the target school, as well as employees at similar private education institutions, and could potentially contribute to increased job satisfaction.

**Recommendations to private education institutions about the research problem**

The following recommendations can be made:

- Private education institutions should strategise to incorporate regular team building activities to ensure a better working relationship between staff and management.
- Policies should include the implementation of systems to facilitate better and easier communication between staff at all levels. This system could be adapted to suit the latest technological trends.
- Working conditions should be regularly addressed to accommodate the capacity building and skills development of staff.
- Policies in relation to promotion, advancement, job security and staff transformation should regularly be developed, amended or updated through collective discussions with all relevant stakeholders.
REFERENCES


Reconceptualising teacher professionalism to address school violence: a quest to end corporal punishment

Vusi Mncube, University of Fort Hare, South Africa
Bekithemba Dube, University of the Free State, South Africa

The aim of the article is to argue for a need to reconceptualise teacher professionalism as a strategy to mitigate school violence, as manifested with corporal punishment. The article draws data from participatory action research, with a focus on teachers’ use of corporal punishment, despite it being outlawed in South African schools. The study found that a lack of teacher professionalism through corporal punishment is a form of school violence. The implication drawn from the researchers’ findings is that failure to address the lack of teacher professionalism – especially regarding the use of corporal punishment – derails all other attempts to combat violence in schools. It is against this background that the authors propose a reconceptualisation of teacher professionalism to end corporal punishment. The article concludes with the argument that for school violence, teachers need to put an end to corporal punishment and adhere to basic of teacher professionalism.

Keywords: democratic schooling, school violence, teacher professionalism

School leaders find themselves in the unenviable position of not only having to deal with school violence, but also with inadequate educator professionalism, learner underachievement (Davids & Waghid, 2016) and the continued use of corporal punishment (Cheruvalath & Tripath, 2015). Part of the cause of unstable school conditions emanates from the level and quality of teachers’ work, as well as their attitudes (De Clercq, 2013), which appear to be far from professional leading to school violence manifested through the continued use of corporal punishment despite being outlawed. Certain narratives around school violence, however, indicate that the learners are the ones who are violent, ill-disciplined and problematic (Nthebe, 2006; Magwa & Ngara, 2014; Jinot, 2018; Freire & Amado, 2009), without necessarily conceding that the lack of teacher professionalism – as reflected in the use of corporal punishment – is one of the contributing factors to school violence. Cognisant of this, the paper does not intend to give an impression that teachers are the only ones to be blamed for school violence through the use of corporal punishment. It is common knowledge that South Africa is increasingly becoming a violent society (Zulu et al., 2004). Thus, through the paper we address an often taken for granted cause of school violence, which is the lack of teacher professionalism.

1 Date of submission 13 September 2018
Date of review outcome 10 January 2019
Date of acceptance 29 March 2019
Most strategies or suggested solutions focus on how to circumvent schools-based violence from the learners’ perspective (Dube & Hlalele, 2018). The argument of this article, however, is that focusing on schools-based violence solely from the learners’ point of view narrows attempts to address such violence and also negates the impetus to end the violence, by failing to address factors such as a lack of teacher professionalism. Lack of teacher professionalism, as an understudied phenomenon in school narratives, needs to be reconceptualised with the need to end corporal punishment.

**Locating the lack of, and need for, teacher professionalism**

Globally, violence in societies is endemic. It is a serious problem which has a negative effect on virtually all education systems especially when some teachers are seen to be perpetrators through the use of corporal punishment. Corporal punishment in South Africa, despite being outlawed, is still prominent in certain schools; its continued practice has become a refrain of many scholars specialising in school violence (Makhasane & Chikoko, 2016; Mashau, Mutshaeni & Kone, 2017; Gershoff, 2017; du Plessis, 2015; Cheruvalath & Tripath, 2015). In addition, the South African media are replete with reports of cases of violence, verbal abuse of learners by teachers, and physical abuse in the form of corporal punishment (van Niekerk, 2019). Similarly, a spokesperson for the Department of Education KwaZulu-Natal Province, Kwazi Mthethwa, elaborated on the lack of professionalism portrayed through teachers’ use of corporal punishment:

The department was concerned that teachers continue to “dish out” corporal punishment despite it being banned more than 20 years ago... Children have the right to be free from all forms of violence, to enjoy their education, and not to be treated or punished in a cruel, inhumane, and degrading way... (Mthethwa, 2016: 1).

In light of the above, Mncube and Harber (2013) argue that the use of corporal punishment is indeed unprofessional, and aggravates violence in schools, thus there is a need to relook at how teachers behave and emancipate teachers to use alternatives to corporal punishment. Social media (especially videos taken on cell phones) has exposed the lack of teacher professionalism. In one incident, learners are seen being lashed with an object which looks like a stick. One student is lashed several times on the hand by a male teacher, while in another video clip a female teacher beats a schoolgirl and a schoolboy on their backs. The female teacher appears to be laughing during the violent act, with the learners clearly enduring pain as their classmates snicker in the background (Wicks, Olifant & Naidoo, 2017). At Mdlamfe High School in Esikhawini in the Richards Bay area, a teacher is in hot water following a video of an educator violently beating two girls in a classroom. In the clip, the educator is seen repetitively lashing at the girls with what appears to be a cane, while other students laugh in the background. The second student, who receives markedly more lashings, is heard pleading to be rescued, but instead of helping her, her classmates just laugh – such beatings are seen as a joke or as entertainment (Wicks et al., 2017).

The harshness of teachers’ actions against their charges has led some South African learners to commit suicide or abscond from school due to the fear of corporal punishment (The Guardian, 2018). Vilakazi (2017) reports that an 11-year-old grade 6 learner was found hanging from the ceiling of the garage at his home, in his school uniform. This learner chose death rather than having to face his mathematics teacher. A learner from Richards Bay Primary hanged himself because he was scared to tell his mathematics teacher that he had lost his textbook. According to Health24 (2015) a boy at Leandria Laerskool was allegedly slapped with an open hand by a teacher and refused to go back to school as the teacher was no longer attending to his school work. In addition, 13 learners were assaulted for not writing homework at Neo Primary school in the Free State and such learners are scared to return to school (eNCA, 2015). Citing these examples does not imply that teachers are not victims, they are, however, the focus of the paper is not on them as victims but as perpetrators.
Trajectory of parental involvement in corporal punishment

The involvement of parents in the corporal punishment narratives presents trajectories. Parental involvement concerning corporal punishment has pursued two diametrically opposed goals. In the 1980s, a grouping of parents, teachers and students created an organisation, Education without Fear, to campaign for an end to corporal punishment (Morrell, 2001). In the late 1990s, in a country where corporal punishment was now illegal, several parents and teachers, through Christian Education South Africa (CESA), challenged the banning, claiming that their parental (and constitutional) right to give ‘biblical correction’ is being infringed by this ruling (Pete & Du Plessis, 1999). Despite the contested terrain of corporal punishment, the National Education Policy Act, 27 of 1996 (RSA, 1996: A-47) states that ‘no person shall administer corporal punishment or subject a student to psychological or physical abuse at any educational institution’. This policy has, however, divided opinion since according to Masitsa (2008), learners are believed to have become ill disciplined to the extent that they openly challenge their teachers’ authority because they know nothing will be done to them. While this may be true in some cases, we problematise the use of corporal punishment because as argued by Gershoff (2017), it may interfere with children’s learning in that children may avoid or dislike school because it is a place where they are in constant fear of being physically harmed by their teachers.

Theoretical framing: Critical emancipatory research

Cognisant of the need to address lack of teacher professionalism as one of the causes for the continued use of corporal punishment, we couch this study in critical emancipatory research (CER). There are various debates on the origin of the school, with some attributing it to Emmanuel Kant (McKernath, 2013), with others attributing it to Karl Marx (McLaughlin, 1999). Despite debates surrounding the theory, Frankfurt scholars in Germany made the CER popular (Schmift, 2007). The mandate of the Frankfurt scholars was clear, which was to change oppressive structures by engaging in research (Dube & Hlalele, 2018). The desired change to eliminate oppression was underpinned by championing values such as social justice, emancipation and social transformation. In terms of social justice, the theory evokes the need to ensure justice is evident in all social structures as a means to lessen school violence, which in this case, is manifest with the use of corporal punishment. Thus, social justice as used in this theory is ‘a learned response fostered by progressive human and faith development, which values inherent human dignity of every person, social justice involves working together to establish a just society’ (Brady, 2010). Through this, collaboration towards a just society, issues of teacher (un)professionalism, learner discipline and strategies to create safe schools are discussed in mutual respect. This is because as stipulated by Argyris and Schon (1974: 44), CER provides

a theoretical basis for a view of planning that emphasises widespread public participation, sharing of information with the public, reaching consensus through public dialogue to improve relations rather than exercise of power, avoiding privileging of experts and bureaucrats, and replacing the model of the technical expert with one of the reflective planner.

CER is relevant for this paper based on the view that ‘it provides the society with common languages through which to address people’s hopes and discontents’ (Mandieta, 2003: 80), which when not addressed within the school context, there is likelihood for conflict, which propels the need to engage in violence, manifested through use of corporal punishment. In addition, CER is relevant to this paper in that it ‘exposes and questions hegemony, traditional power assumptions held about relationships, groups, communities, societies, and organisations to promote social change’ (Given, 2008: 140). The change in this case is to ensure professionalism is adhered to by teachers, which will lessen or eradicate use of corporal punishment.
RESEARCH DESIGN AND METHODS

The researchers undertook a qualitative study located within the critical or transformative paradigm, a research approach that advocates that power relations must be addressed at each stage of the research process with the purpose of ensuring positive change in problematic contexts (Mertens, 2007). In line with this paradigm, participants from various social structures were selected to be part of this research with the aim of putting an end to corporal punishment. Data were generated from several workshops on the prevention of violence in schools, presented in two provinces of South Africa, namely Mpumalanga and KwaZulu-Natal. The data were generated through participatory action research (PAR), where 24 respondents partook in research and these included school governing bodies, educators, learners and principals. We chose this approach to research because it is emancipatory, critical or transformative in nature, and values social justice as an underpinning factor to guide relations with the school contexts. To ensure the success of using PAR as an approach, we asked the participants to contribute freely and negate any forms of power deferential through understanding that the goal of research is not to expose political and educational muscles but to ensure equality towards achieving safe schools for all stakeholders. Since the researchers and participants are equally involved in the process, they take shared responsibility for the outcome of the research endeavour. In other words, participation, research and action are of major importance in such a partnership. PAR is mainly about relationships between the stakeholders involved in the research process, and the use of research as a tool for action (Kemmis & McTaggart, 2007). Thus, collective action is taken to bring about long-term solutions – in this instance, putting an end to schools-based violence and the use of corporal punishment in particular. PAR thus creates a democratic system that enables stakeholders to become actively involved in finding solutions to identified problems (Mahlomaholo, 2010).

Data collection methods and procedures

The participants responded to questions such as the following: What are the causes of school violence related to teacher professionalism, and the absence of democracy in schools? How can teacher professionalism be reconstructed in an attempt to mitigate violence in South African schools? The responses to these questions enabled the researchers to distil several themes for discussion. These themes emanated from subjecting the generated data to the analytical lens suggested by Laws, Harper and Marcus (2003), which involves the following steps:

Step 1: Reading and rereading all the collected data: the data from both the interviews and the questionnaires were read and reread to obtain the views of the participants.

Step 2: Drawing up a preliminary list of themes arising from the data: major issues and themes were identified and arranged according to the two main research questions pertaining to this study.
Step 3: Re-reading the data: this compelled the researchers to verify whether the identified themes aligned with the participants’ comments, and corresponded to the research questions.

Step 4: Linking the themes to quotations and notes: the themes emerging from the data were linked to various scholarly views.

Step 5: Perusing the categories of themes to interpret them: in interpreting the data, the researchers remained cognisant of the research questions.

Step 6: Designing a tool to assist in discerning patterns in the data, in order to triangulate these during the data analysis process.

Step 7: Interpreting the data and deriving meaning: this mainly related to highlighting the research findings and arranging material according to categories premised or guided by the research questions.

The data were coded independently by the researchers, before they met with the participants to ascertain whether the findings, as analysed, indeed reflected their views. Such verification confirmed the trustworthiness of the findings, and ensured the transferability thereof to other contexts (i.e. environments in which schools-based violence is induced by a lack of teacher professionalism and failure to act democratically).

Ethical considerations
The participants in this research were assured that their identities would not be revealed, and that their responses would not be used on any other platform without their prior consent (Fritz, 2008). The participants were at liberty to withdraw from the research at any stage, without suffering the consequences. The University of South Africa (Unisa) as part of the broader project ethically cleared the study: ‘Putting an end to corporal punishment’. In the spirit of PAR that ensures social justice and recognition of the contributions of participants, we did member checking to ensure that our analysis corresponds to what they had said during the research (Birt et al., 2016; Bygstad & Munkvold, 2007; Gunawan, 2015). The following section, which focuses on a discussion of the research, is divided into various themes in response to the research questions.

**PRESENTATION AND DISCUSSION OF FINDINGS**

This section presents findings that relate to causes of school violence linked to lack of teacher professionalism.

**Autocratic handling of learners**

One of the causes of violence in South African schools, which depicts a lack of teacher professionalism and democratisation, is the autocratic manner in which learners are treated. To shed light on this claim, two learners noted the following:

Teachers do not take our position, our feelings and expectations and as such we end up finding ways to make our voices known which sometimes include rebelling.

Another learner noted that

this school learners are not treated as people, we are just told things to do without explanation, when you seek explanation, you become a target for teachers, thus I leave my own way which often results in clashes.

In addition, learners noted that

some teachers lack skills, be it interpersonal or intra-personal skills. They lack strategies in improving their performance or that of their learners.
they are not a life-long learner
they disregard [ ] the rights of others
[they are] anti-social and disregard [ ] authority, when confronted they resort to use of corporal
punishment.

The learners’ sentiments speak to the extent to which teachers are not prepared to engage with them,
certainly not as professional educators working towards the democratisation of our schools, consequently
resorting to the use of corporal punishment. What emerges here that there is a need to reconceptualise
how teachers are trained with the aim of infusing strategies to democratise classrooms as a way that can
lessen the use of corporal punishment by the teachers.

Buttressing the views of the learners (Harber, 2004; Mncube & Harber, 2013) argue that the dominant
or hegemonic model globally remains authoritarian, rather than democratic. Unfortunately, education for,
and in, democracy, human rights and critical awareness, are not primary characteristics of the majority
of schooling systems. In most schools, power over what is taught, and how, where and when it is taught
and learned, and what the general learning environment is like, is not in the hands of learners and when
this abnormality is questioned, teachers resort to the use of corporal punishment. In an attempt to address
this challenge there is a need to cultivate a culture of tolerance and respect for others, having a voice
(participating and expressing views), sharing and disseminating knowledge, valuing equity and equality,
and granting learners the opportunity to make their own judgements and choices (Harber, 2004). This
should be infused in the initial teacher education and inculcated through various workshops aimed to
enhance and foster teacher professionalism.

Lack of giving feedback to learners
The data revealed that a lack of professionalism in many South African schools may be evident in teachers
failing to give learners feedback on their work. There is a general tendency amongst teachers not to mark
learners’ work, which frustrates the learners and is a breach of teachers’ professional ethical standards
(SACE, 2011). A school governing body (SGB) member noted that

some teachers here are betraying us as parents, just imagine, for the whole month a child’s work is
left unmarked yet learners need to prepare for matric examination, this just frustrates the learners and
incite violence and enmity between educators and learners.

In supporting the observation, one principal noted:

I am always up in arms with some of my teachers who are exhibiting lack of professionalism by not
marking learners’ work. Marking learners’ work is the only constant communication that the school has
with the learner and the parents, failure to do; frictions are created unnecessary in schools.

In light of this, du Plessis (2015) argues that displaying children’s artwork, posting academic work
prominently throughout the building, respecting students’ diversity establishes a climate that demonstrates
care and a sense of community. A principal who participated in the focus group described an unprofessional
teacher as someone

not willing to assist, [who] does not have work ethics, does not respect, [is] not duty conscious, not
committed to their work.

Feedback is one of the most powerful influences on learning and achievement (Hattie & Timperley, 2007),
without which learning is meaningless – that causes frustration among learners and creates tension
between them and their teachers. When learners challenge the lack of professionalism, which is evident in their work not being marked, teachers tend to resort to using corporal punishment, rather than addressing their own negligence.

**Teacher absenteeism**

Apart from failing to give learners feedback, it also emerged from the focus group discussions that another contributing factor to school violence was teacher absenteeism. A parent noted that

> in one school I cannot name, we as parents have a problem with two teachers that are always absent, we have tried to report the issue to the district but it seems it doesn’t work since it appears the teachers are always protected. Because of their absence, learners are left alone to engage in various activities which often results in violence.

In supporting this observation, a teacher noted, that

> the department is to blame for teacher absenteeism because they do not have effect punishment measures on teachers that are always absent in schools, beside issues of absenteeism in schools depends on how you are close to the principal. So teacher absenteeism affects us teachers as we are confronted with load that we cannot carry, thus learners are left unattended, opening ways for violence.

Commenting on teacher absenteeism, Musyoki (2015) notes that it is one of the most serious transgressions of ethics facing institutions worldwide. Much attention has been focused on learners’ school attendance and the impact that frequent absences have on student learning (Finlayson, 2009), with little attention being given to how teacher absenteeism affects schools-based violence. Teacher absenteeism presents significant barriers to equitable and effective instruction, by undermining stable learning environments and inhibiting student success – the implications of this can be profoundly detrimental and far-reaching (Knoster, 2016). When challenged, many teachers resort to authoritarian means which, when resisted, result in corporal punishment being meted out – despite the fact that it is unconstitutional – and such punishment becomes a means to silence learners, consequently, causing physical harm, mental and behavioural health problems, and impaired achievement (Gershoff, 2017). Thus, with the lens of CER, it is critical that school conditions are transformed and it can only happen if the reality is named and problematised (McLaren, 1995).

**Love relationship with learners**

Romantic relationships between teachers and learners constitute one of the leading causes of school violence, and are emblematic of a lack of teacher professionalism. Love relationships create competition between learners and teachers, which often ends to teachers resorting to corporal punishment, as a counter strategy to deal with social issues under the disguise of addressing delinquency at school. A learner noted that

> teachers use money to entice our girls, they end up dating teachers because they offer them money, yet we can’t. So as a result, we clash with teachers so that we can win back our girls.

Another student echoed these sentiments:

> I notice that most of the problems we have in schools are linked to love relationships. Once a teacher proposes or sleep with a learner, respect ends and in order for the teacher to gain control, violence becomes an option.
Such relationships reproduce and perpetuate violence (Harber, 2004). The main fault in a teacher-learner relationship is the lopsided power equation: the teacher occupies an influential position (KwaZulu-Natal DoE, 2016), which creates an undemocratic environment, where conflict arises, teachers have the upper hand and resort to the use of corporal punishment. This negates those power negotiations which Foucault (1995) proposes as a means to end school violence. Hence, the authors concur with the suggestion that, because of power imbalances, it is a risk for students to enter into any kind of romantic or sexual relationship with teachers (Davis, n.d.).

Aggressive language and verbal abuse
Teachers’ use of derogatory or aggressive language was noted as one of the factors contributing to school violence. The art of responding in an adult way to learners’ misbehaviour has a great impact on the democratisation of schools—and more so on the promotion of safety in schools. Power relationships, when not managed well, have sufficient impetus to spark violence. In buttressing this observation, Davids and Waghid (2016) note that the aggression, which some teachers display, appears to be especially problematic. One principal of a KwaZulu-Natal school noted,

The problem I have in my school is the failure by some teachers to handle learners. Many teachers think being vocal or use of intimidating language solves [the] problem, which in the contrary propels violence.

Similarly, one learner noted,

we end up fighting with teachers because they use language that reduces learners, especially on learners that become pregnant in school. So such learners often want to prove that they are also adults, and eventually violence erupts.

In addition, a parent participating in the focus group discussion noted that undemocratic teachers are seen to be

busy with private ventures…[they indulge in] alcohol abuse…[such a teacher] lacks leadership and strategic direction…lacks commitment…[is] involved in tenders…[there is a] general decay of the moral fibre in society and teachers are a reflection of this…over-politicisation and lack of understanding of unionism…[there are] unqualified teachers…teachers suffocating under financial debts…teachers frustrated by too many programmes.

In support of the foregoing arguments, Leoschut and Bonora (2007) contend that increased exposure to, and the reinforcement of, aggression and violence serve to normalise such behaviour, thus contributing to an increasingly violent society. This negates the observation by Tdole and Mmankoto (2014) that communities and societies hope teachers can show learners that their lives and futures can be different, by modelling behaviours that are oriented towards promoting peace.

When a language of violence is answered with a language of violence, then society disintegrates under the weight of languages that are devoid of humane engagement and caring (Davids & Waghid, 2016). The problem is that the majority of teachers have deeply ingrained negativity and scepticism towards their jobs and towards developmental programmes aimed at their teaching practices, as they have mostly experienced these as seriously inadequate (De Clercq, 2013). In the quest to democratise schools and mitigate schools-based violence and informed by CER, we agree with Davids and Waghid (2016) that when learners are exposed to a language of mutual engagement, instead of corporal punishment or exclusion from the classroom, they will learn what it means to engage with the other in a language that is not necessarily constituted by disregard, ignorance and harm.
Reconceptualising teacher professionalism in South Africa, in response to violence

This section of the article attempts to respond to the research question by investigating how teacher professionalism in South Africa can be conceptualised to respond to violence in schools. First, it appears an apt moment to begin by defining what is meant by ‘teacher professionalism’. According to SACE (2011), they are tasked with a sociological project (that centres on the work and status of teaching as a profession) as well as a pedagogical project (that centres on the internal quality of teaching as a profession), with its relative control in making autonomous decisions regarding teaching practices. In addition, Talbert and McLaughlin (1994: 126) view professionalism as being built on a specialised knowledge base and shared standards of practice; a strong service ethic and a commitment to meeting the client’s needs; a strong personal identification with, and commitment to, the occupation; and collegial versus bureaucratic control over entry to, and performance evaluations and retentions in the profession.

In this paper, corporal punishment as an indicator for the lack of professionalism is defined as administering ear twisting; ear pulling; slapping; beating; whipping with a cane or rod; forcing students to stand outside the classroom, in a corner, with hands up, holding ears, in the sun; and forced sit-ups (Cheruvalath & Tripath, 2015). It is also used to indicate the way that teachers think about their profession, why they should be professional, and how they behave and implement their knowledge and skills which are related to their profession to create a conducive learning environment (Wardoyo, Herdiani & Salika, 2017). In addition, teacher professionalism includes adhering to ethical standards set by the South African Council of Educators (SACE), which prohibits the use of corporal punishment. Unfortunately, some educators, teacher unions and other quarters of the profession do not deliver adequately on its mandate to ensure teacher professionalism (SACE, 2011).

The challenge posed by a lack of teacher professionalism in this country is arguably a remnant of the colonial era. Post 1994, a new socio-political and educational configuration emerged, with implications for the professionalisation of teaching, as well as the social construction of teacher professionalism (De Clercq, 2013). Echoing these sentiments, Msibi and Mchunu (2013: 19) state that the ‘challenges of the present education system are largely rooted in the historical apartheid construction of teachers, which positioned white teachers as professional while casting black (African) teachers as mere technicians’. Maphosa et al. (2012) argue that teachers often hide behind the education department, the standards, the examinations and the (lack of) resources, when taken to task about their poor instruction, their lack of adequate care for the learners and their limited commitment to duty. In responding to the research question underpinning this section, four issues were raised as ways in which teacher professionalism in South Africa can be conceptualised to mitigate school violence and bring about the greater democratisation of schools. The four discussed below are: teachers charged for neglecting duty, infusion of professional studies in initial teacher education, in-service training to promote professionalism, and formation of parent, teachers and learners associations.

Being charged with neglect of duty

The second aspect of reconceptualising what it means to be a teacher, is for the Department to take measures against teachers who deliberately violate the ethical and professional standards of their profession. This will make educators value their work and strive to ensure that teaching as a profession is respected. During the workshop, one respondent noted that the challenge is that the department is taking light penalty for the teachers that are neglecting their duties because of the fear of teacher unions, so the solution to enhance teacher professionalism is to charge misguided teachers so that others will learn.
Another respondent noted that

punishing teachers who show wayward behaviours is the only way to bring sanity in teacher professionalism, without that our schools in the near future will be warzones because of misguided teachers.

Stricter control is possible if the Department develops various monitoring tools to deal with such shortcomings or any neglect in showing professionalism. Wayward teachers can and should be charged if uncompromising monitoring systems are in place. Such monitoring, as suggested by Prew (2009), will compel teachers to adhere to ethical standards. Oversight can be in the hands of external, independent bodies, as well as the community in which the school is located. While this may contribute to teacher professionalism, it is imperative to remain cognisant of the role played by governments and teacher unions, which may complicate efforts to reconceptualise teacher professionalism in this country. The authors concur with De Clercq (2013) that the social construction of teacher professionalism continues to be monopolised (albeit also being contested) by education departments and unions, with their conflicting agendas. Lunenberg, Dengerink and Korthagen (2014) note that because teacher education is ubiquitous and an integral component of education systems worldwide, concentrating on the organisation of teacher education has overshadowed the development of deeper understandings of those who work in the system.

Infusion of professional studies in teacher training
Zimbabwe, which has arguably maintained a level of ethics and professionalism among its teaching cohort, has infused in teacher training colleges and university courses teacher professionalism as a way of instilling the strict ethical values that make someone a good and valued teacher. By emulating this example, South African universities and teacher training colleges will generate deep changes in the intellectual knowledge, mindsets and values of teachers (De Clercq, 2013). Bear in mind that Creasy (2015: 23) defines professionalism as an art of ‘preparing aspiring educators to possess and demonstrate the knowledge, skills and dispositions needed to be an effective instructor’. During the workshop, one participant noted that for

teacher professionalism to be instilled in teachers, it must be taught as a major subject to all teachers.

Through professional studies in teacher training, as suggested by Hutchings (2016), there is a possibility of producing teachers who exhibit caring demeanours, a willingness to go above and beyond the time spent in the classroom to help their learners, the ability to reach children who are not engaged, and a personal knowledge of each student which will enable the educator to help them find their passion as individuals.

In-service workshops to promote professionalism
The issue of teacher professionalism cannot be left to teacher training colleges and universities, but has to cascade down to various districts by engaging in more frequent teacher professionalism refresher courses, as a way to enhance this attribute. Workshops allow teachers to address problematic issues as they arise, for instance violence involving cell phones. Such interventions allow teachers to share their experiences and the solutions they reach. The issue of constant workshops was raised by one principal, who noted that

workshops allow us to be in touch with the realities that happen in the contemporary classroom and through workshops we share ways to address school violence, lack of teacher professionalism and democratisation of schools.

Through in-service training in teacher professionalism there is a possibility that teachers will no longer need to champion their vocation as a professional line of work, or to resort to physical violence to maintain
discipline. Through related in-service experiences, teachers can discover the negative impact of using corporal punishment, especially when it transpires that it can lead to their dismissal from service.

**Teacher, parents and learners’ associations**

Teachers and learners are the end users of the curriculum, thus it is important that within schools associations are formed where learners, parents and teachers can enter into dialogue to find the best ways of overcoming the challenges confronting them as educational stakeholders. In the process, they will be promoting democracy. The result will be democratic schools that foster the values of peaceful conflict resolution and decision-making through discussion and participation – among all stakeholders (Harber, 2004). Such an approach is important since change happens when people collaborate to solve a common problem. One focus group participant (a parent) noted that

"all we need to address school violence is for us teachers and learners to form associations in each and every school, to discuss problematic issues such as discipline that arise in our schools."

Another parent added that a democratic teacher is someone who is

- consultative, promotes delegation without abdicating their authority, a problem solver [who] promotes information exchange and teamwork as opposed to an authoritarian. An authoritarian is prescriptive and instructional.

The value of associations which give voice to all stakeholders is that the power of the dominant figures (in this case the teachers) is negotiated towards striking a balance in relationships that evoke democracy and mutual respect. That is the essence of a Foucauldian notion of power dynamics. If schools are to educate for democracy, then they must practise what they preach. They must be organised in such a way as to develop democratic skills and values through experience (Harber, 2004). As suggested by Harber (2004), this amalgamation will establish a culture of non-violence, which requires citizens to be committed to peaceful conflict management through discussion, negotiation, cooperation and compromise, based on mutual respect among differing parties. The reconceptualising of teacher professionalism in order to make schools more democratic, must also involve working to avoid a lowering of expectations and a deprofessionalising of teaching, which simply convert schools into factories where the workers (teachers) merely have to follow a set manual (curriculum) to produce a particular product (learners) (Msibi & Mchunu, 2013). Despite the pitfalls exhibited by a lack of teacher professionalism, Harber (2004) believes there are powerful arguments for greater democracy and teacher professionalism, in particular in ending the use of corporal punishment.

**CONCLUSION**

This article has addressed the causes of school violence, which are associated with a lack of teacher professionalism and democracy. Several researchers have pointed out that learners are at the forefront of championing school violence, yet the contention put forward here, is that school violence is (in part) attributable to a lack of teacher professionalism and their negligence in recognising that democracy must be a key element of contemporary schooling. The authors suggested ways in which teacher professionalism can be conceptualised to put an end to corporal punishment. The argument made here is that for schools-based violence to end in South Africa, the focus must not only be on the learners but also on teachers who, through lack of professionalism and democratic approaches, fuel such violence. The authors therefore recommend that teacher professionalism and democracy be prioritised in schools as a means of creating safe learning environments. In addition, power relationships in schools should be negotiated, to avoid resistance and any counter-hegemonic strategies that have the impetus to promote violence in our classrooms.
REFERENCES


A curriculum design framework for alternative access programmes that supports student success in graphic design

**Name:** Dr Yolandi Burger  
**Supervisors:** Dr S.P. van Tonder  
Dr J.H. van Schoor  
**Institution:** University of the Free State  
**Year of Award:** 2018  
**Qualification:** PhD

**ABSTRACT**

The South African higher education (HE) landscape has undergone many changes since the country’s first democratic election in 1994. Among these changes, is the inclusion of alternative access programmes (AAPs) in the programme mix of higher education institutions (HEIs). One of the purposes of AAPs is to act as a student success mechanism in HE; however, this is not evident from the low graduation rate in South African HE which is way below the ideal rate of 25% for contact education. This may be due to limitations of AAPs noted in the reviewed literature of this study. The research was aimed at investigating features of competencies developed through and/or factors related to successful AAPs for graphic design in order to derive a curriculum design framework that embeds critical elements in AAPs so that it can support student success in graphic design education.

Four research objectives were derived in support of the investigation of the stated problem, the first of which necessitated a literature review and empirical exploration of the constitution/design of existing AAPs and mainstream graphic design programmes, as well as the generic and discipline-specific competencies that are cultivated through these programmes. The second research objective called for the exploration of ways in which AAPs for graphic design might ensure student success, which also required a literature review and an empirical investigation. The third research objective required an empirical analysis of the status of one South African private HEI’s existing AAP for graphic design in order to identify the specific AAP’s strengths, opportunities, aspirations and results (i.e. a SOAR analysis). The fourth and final research objective involved the comparison, convergence, synthesis and integration of the findings obtained through the investigations pertaining to the first three research objectives in order to compile a curriculum design framework in line with the aim of this study.

The overarching research design for this study was a mixed-methods design with both explanatory and embedded components aimed at research objectives 1, 2 and 3, and which were triangulated to achieve
the fourth and final research objective. Data collection techniques that were employed in this study were a literature review; three self-structured, web-based questionnaire surveys, as well as a paper-based questionnaire survey among the student participants of the specific private HEI. The population sample for the first self-structured web-based questionnaire survey (aimed at achieving research objectives 1 and 2) consisted of 756 HE teachers in AAPs for graphic design, AAPs in general, and mainstream graphic design programmes at HEIs in South Africa. One hundred and fourteen (114) HE teachers and 86 students from eleven of the private HEI’s campuses were recruited for the SOAR analysis survey. In accordance with research objective 4, the findings of the literature review, the SOAR analysis survey and the questionnaire survey among HE teachers finally culminated in a preliminary curriculum design framework.

The preliminary curriculum framework subsequently was reviewed and validated by a panel of 10 invited experts in the field of curriculum development/design, AAPs and/or graphic design, who were selected through purposeful and snowball sampling procedures. Only nine of the 10 expert participants eventually completed the expert validation questionnaire in which they were requested to rate the importance of 338 activities included in the preliminary framework, as well as to provide comments and suggestions about the features of the framework. The results of the expert survey eventually led to the addition of eight new activities to the proposed framework, the amendment of six of the originally listed activities in the preliminary framework, as well as the exclusion of 10 activities from the final framework. The goal of the final framework proposed in the last chapter of the thesis is to provide guidance to curriculum/programme designers and/or HE teachers regarding curriculum design for AAPs for graphic design students. Since this curriculum design framework for AAPs also encompasses many generic curriculum design activities for improving student success, it is hoped that it will not only support student success in graphic design, but may ultimately also serve as a starting point for other curriculum designers and HE teachers who wish to improve the AAPs in which they are involved.

Recommendations for future research include similar investigations, but with larger quantitative and qualitative data sets which may result in findings that are even more generalisable and trustworthy; investigations of discipline-specific features and competencies pertaining to other disciplines, and an in-depth investigation of success mechanisms that will support students in any AAP.

**Keywords:** higher education, curriculum/course/programme design, design framework, alternative access programme, extended programme, bridging programme, competency/competencies, graphic design, (student) access, (student) success, success mechanism

The full thesis can be found at Schoor: http://hdl.handle.net/11660/9273
RESEARCH TITLE

A framework for enhancing the design skill sets of Foundation Programme Landscape Architecture students

Name: Dr Gerhard Griesel
Supervisors: Professor Magda Fourie-Malherbe
            Professor Liezel Frick
Institution: University of Stellenbosch
Year of Award: 2018
Qualification: PhD

ABSTRACT

Every person has the potential to be creative, but this often only happens if the conditions for developing creativity are favourable. Hence, it can be argued that educators are responsible for creating a teaching and learning environment that fosters and encourages creative expression. Subscribing to the view that creative potential is a combination of various skills that can be learned and taught, and using the theoretical perspective of Multiple Intelligence (MI) Theory, this Design-Based Research (DBR) study endeavoured to develop a design skill set enhancement framework to improve access to and success in Landscape Architecture studies. The context for the study was the Cape Peninsula University of Technology (CPUT), South Africa. The research was conducted during 2017 with the student cohort registered for the Foundation Programme in the Diploma in Landscape Architecture at CPUT. The study comprised iterative cycles of design, implementation, analysis, and review. During each iteration, pre- and post-intervention data gained from design assignments, Participatory Action and Learning (PAL) projects, as well as informal and unstructured interviews were analysed and compared. The rigorous in-depth interpretation of the data, and more specifically the data of three randomly selected student participants, produced encouraging results. The interpretation delved deeply into the design skill set heuristics that emanated from the multiple intelligence conjecture-driven teaching experiment. Importantly, the design skill set framework merged the two components, i.e. the design knowledge semiotic process and the design skill set modal agencies, into the modal agency meaning making process. Exposing the participants to the different modalities, through the approach of teaching to, for and through their preferred skill sets, not only supported them to experience learning in ways they are most comfortable with, but also challenged them to learn in other ways, thus enhancing their underdeveloped design skills. Multiple modal entry points shifted the attention away from underdeveloped skills as barriers to teaching and learning to engage the interest of students and facilitate the development of design skills of students with disparate abilities. The implementation of the modal agency meaning making process in an authentic, domain specific environment facilitated the participants’ skills and knowledge development, by bridging the gap between the understanding of
theoretical knowledge concepts and the real life application of those concepts. Extending learning beyond the physical architecture of space into a psychosocial, collaborative learning environment that encourages a diversity of approaches to identify and solve problems, demonstrated that both skills acquisition and information processing reinforce and expand a student’s creative ability and perceptions. In addition to the primary contribution of the study in the form of the proposed framework, five design principles were identified, providing insight into the function and key characteristics of the design skill set development framework intervention, as well as the procedural conditions guiding implementation. It is clear that the design skill set framework is a feasible and effective teaching and learning strategy that can be adapted for application in various contexts.

**Keywords:** Landscape Architecture, Design Education, Design-Based Research, Design Knowledge Semiotic Process, Multi-Modality, Design Skill Sets, Multiple Intelligence Theory, Design Skill Set Modal Agencies, Access to Higher Education, Creative Ability, Semiotic Transference, Authentic Learning, Transmodal Moments and Collaborative Learning

The full thesis can be found at http://hdl.handle.net/10019.1/104812
RESEARCH TITLE

The development of a framework for postgraduate studies in communication design

Name: Dr Ria (HM) van Zyl
Supervisor: Dr Loffie Naudé
Institution: The Da Vinci Institute for Technology Management
Year of Award: 2018
Qualification: PhD

ABSTRACT

The aim of this study is the construction of a framework for the development of postgraduate communication design education in South Africa, and, as a workplace challenge to develop and improve course contents and delivery for postgraduate studies. Design is part of a widening domain and a fast changing environment that challenges all levels of design education and presents opportunities. The problem is framed by the general lack of postgraduate capacity in communication design in South Africa, a shortage of lecturers with a one-up qualification, limited local research capacity and the potential to innovatively create opportunities.

The study qualitatively explored the local communication design education landscape and identified the structures, nature, challenges and role players. This exploration included a closer look at the three leading higher education institutes in the South African postgraduate design space.

Theoretical models with the potential to guide the development of postgraduate design education were analysed. These are the Mode 1, 2 and 3 models, Innovation Triple-, Quadruple- and Quintuple Helix models, as well as research approaches that have the potential to better align academia with industry, such as practice-based and practice-led research, recognition of prior learning and work integrated learning.

One of the possibilities to increase capacity at postgraduate levels is to work closer with the design industry, and the study therefore gauged the perceptions, attitudes and needs of designers about postgraduate education. The findings confirmed a gap between industry and academia, with industry seeing the main role of academia as the provider of entry-level designers. No alignment between postgraduate degrees and designer’s career paths exist and academic research is not seen as a valid or accessible source of knowledge.
Key findings and insights about the educational landscape, the theoretical models and the perceptions and needs of designers in industry formed the foundation for the development of a conceptual framework. The Frame Innovation approach, a problem solving method based on the processes used by expert designers, was used to direct the development of a framework that offers various possibilities. These possibilities take the widening domain of design into consideration through the conceptualisation of an open, collaborative space that would allow for the different interests of academia, industry, society and ecology and flexible research approaches.

The original contribution of the study is therefore the creation of an evidence based consolidated framework, that is systemic and has practical value for future development and implementation; that may increase capacity and align industry and academia beyond entry-level supply.

Keywords: development, framework, postgraduate studies, communication design

The full thesis can be found at http://www.openthesis.org/documents/development-framework-postgraduate-studies-in-603930.html
RESEARCH TITLE

The development and implementation of an effective mentoring programme to improve job satisfaction among beginner teachers at primary schools in the Mpumalanga Province of South Africa

Name: Dr Jean-Pierre Hugo
Supervisors: Dr Paul Triegaardt
            Professor Nico Botha
Institution: University of South Africa
Year of Award: 2018
Qualification: DEd

ABSTRACT

Teachers leaving the profession is an ongoing problem; fewer teachers enter the profession each year and the number of teachers leaving the profession has increased. Many teachers listed job satisfaction as a reason for leaving the education profession, whilst citing the lack of mentoring as a cause of job dissatisfaction. Mentoring is known as the planned pairing of a more experienced person with a lesser individual to help with the professional development of that individual and reduce teacher turnover.

The aim of the study is to explore the impact of an effective mentoring programme at primary schools by developing and implementing such a mentoring programme to support and improve job satisfaction among beginner teachers in the province of Mpumalanga entering the profession for the first time. The following quantitative techniques were used during this study: document analysis and Likert-scale questionnaires, completed by 1 000 male and female teachers (principals, deputy principals, heads of departments, teachers and student teachers) from different races and cultures (20 teachers per school) from 50 randomly selected rural primary schools, private primary schools and Quintile 4 and 5 primary schools in the province of Mpumalanga.

The analysis of data enabled me to identify a series of factors that were utilised to develop a mentoring programme that school management can implement in their schools to help beginner teachers to cope in their new work environment in order to improve job satisfaction and improve teacher retention. The factors identified include: aspects of job satisfaction that support learners in achieving their goals; aspects of school management; the contribution of mentoring programme on the job satisfaction of beginner teachers; the responsibility of a mentor in developing a mentoring programme; the responsibility of a mentee in developing a mentoring programme; the responsibility of schools in developing a mentoring programme and characteristics that should be demonstrated by a mentor. From the data gathered, a mentoring programme was developed, namely the Hugo mentoring model. This model outlined the roles...
and responsibilities of mentors, mentees and school management throughout the mentoring process. The model also provided steps that should be taken into consideration when organising meetings between mentors and mentees.

**Keywords:** mentoring, job satisfaction, job dissatisfaction, private primary schools, rural primary schools, Quintile 4 and 5 primary schools, school leadership, school management, support, teacher empowerment, work environment, role of the mentee, role of the mentor, role of the school, Hugo mentoring model

The full thesis can be found at http://hdl.handle.net/10500/24842
List of reviewers

The editors wish to express their gratitude to the following experts who offered their knowledge and insights in the double-blind peer review process, thus ensuring all authors received valuable feedback:

- Dr Sue Armstrong, University of the Witwatersrand, South Africa
- Professor A. Bayaga, University of Zululand, South Africa
- Professor E. Chiware, Cape Peninsula University of Technology, South Africa
- Professor S. Darwish, Kingdom University, Kingdom of Bahrain
- Professor P.H. Demana, University of Limpopo, South Africa
- Professor J.G. Ferreira, University of South Africa, South Africa
- E. Harris, North West University, South Africa
- P. Kriel, The Independent Institute of Education, South Africa
- S.D. Makhasane, University of KwaZulu-Natal, South Africa
- Dr A. Makhene, University of Johannesburg, South Africa
- T. Matingwina, National University of Science and Technology, Zimbabwe
- S. Mlambo, The Independent Institute of Education, South Africa
- T. Mofana, The Independent Institute of Education, Vega School of Brand Leadership, South Africa
- Dr G. Mooney, The Independent Institute of Education, South Africa
- Dr M.C. Motitswe, University of Pretoria, South Africa
- Dr K. Ontong, Stellenbosch University, South Africa
- S. Pitikoes, University of KwaZulu-Natal, South Africa
- C. Selepe, University of the Witwatersrand, South Africa
- Dr E. Spangenberg, University of Johannesburg, South Africa
- D. Steenberg, Nelson Mandela University, South Africa
- Dr D. Steyn, University of Pretoria, South Africa
- Professor G.M. Steyn, University of South Africa, South Africa
- Dr S. Strydom, University of Stellenbosch, South Africa
- T. Takane, The Independent Institute of Education, South Africa
- W. Thompson, University of the Witwatersrand, South Africa
- Dr C. Uleanya, University of KwaZulu-Natal, South Africa
- Dr A. Van Den Hoek, United Kingdom
- Dr M. van Huyssteen, University of the Western Cape, South Africa
- J. Weber, The Independent Institute of Education, Varsity College, South Africa
- Professor C. Wolhuter, North West University, South Africa
Manuscripts should be submitted online at https://ijtl.iie.ac.za. They should be typed in one and a half spacing Times New Roman font size 12, in A4 format, in MS Word and should generally not exceed 6000 words in length, excluding tables, figures and references. The overall style for abstract, title, headings, figures and references should be in accordance with the Harvard reference style. Tables and Figures should be numbered by Arabic numerals. Each manuscript should be accompanied by all the requirements on the checklist that appear on the journal website. Click on the publish with IJTL Tab on https://ijtl.iie.ac.za. Manuscripts that do not include these requirements will not be considered for publication.

Proofs will be sent to authors if there is sufficient time to do so. They should be corrected and returned within 48 hours of receipt. The editor reserves the right to publish without proofs having been signed-off by the author.

The journal will be published open access online at the following URL https://ijtl.iie.ac.za
The Independent Institute of Education is a private higher education institution operating across 21 sites offering more than 90 registered and accredited higher education programmes from Higher Certificate to Masters level on its Varsity College, Vega, and Rosebank College sites. The IIE also offers a range of Short Learning Programmes. The IIE is accredited by the British Accreditation Council as an Independent Higher Education Institution.

The IIE has multiple associations and endorsements with leading organisations and professional bodies and works collaboratively with several other public and private higher education institutions.

The IIE brands have sites across the country; qualifications which are offered on the sites are directly linked to their mission and target student market. This means that students on each site will be able to study with other students with similar interests and ambitions. The IIE also offers qualifications in the distance mode of delivery. The flagship programme is a Postgraduate Diploma in Higher Education.

The IIE has a strong central national academic and quality assurance team based in Sandton that provides academic leadership for the sites and qualifications across the country. The team is also responsible for the registration, curriculum, quality of delivery, and assessment and certification (graduation) of all the qualifications, meaning that students on a site in one city receive an educational experience that is guaranteed to match that which is offered in any other city; this experience includes the same access to key academic resources and facilities. Each site adds to this academic base with its own specific group of well-qualified lecturers who are subject-matter and discipline experts, and collectively have a wealth of knowledge and industry-based experience in the areas in which they teach, as well as the individualised student support that the sites give. An IIE student is, therefore, rounded both academically and socially, thus maximising student success.

The IIE is a founding member of SA Private Higher Education (SAPHE). This is an association of SA’s leading private providers of higher education which has three objectives. Firstly, to promote the understanding of the general public about the role that private higher education plays in offering choices to students; secondly to promote the quality of provision and thirdly to play an advocacy role with the regulators. The Independent Journal of Teaching and Learning, as a peer-reviewed journal that appears on the DHET’s approved list of South African accredited journals, is one of the many ways in which The IIE is ensuring academic leadership within the higher education landscape of South Africa and, in particular, in private higher education.

For more information about The IIE, its academic opportunities, qualifications offered and sites of delivery, or SAPHE, please go to www.iie.ac.za or email info@iie.ac.za