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MESSAGE FROM THE TLHEC PROCEEDINGS EDITOR: DR JAYA NAIDOO

As editor of the conference proceedings for the Teaching and Learning in Higher Education Conference (TLHEC), I wish to thank the Higher Education community for supporting the conference through the submission of over 30 conference proceedings papers. The papers feature a variety of Disciplines and topics ranging from Undergraduate Teaching and Learning to Postgraduate Teaching and Learning. International submissions also feature which suggests that the TLHEC's profile continues to progress beyond the South African borders. I offer particular thanks to the authors of the conference proceedings papers for your prompt submissions; this has allowed me to insert all accepted conference proceedings papers into this proceeding timeously. Additionally and importantly I wish to thank the Editorial Team for reviewing the conference proceedings papers and supporting the authors with revisions and suggestions. All papers were reviewed by two reviewers. I hope that you find the TLHEC enjoyable and useful to your ongoing work in Teaching and Learning in Higher Education.

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PROCEEDINGS OF UKZN's 8TH ANNUAL TEACHING AND LEARNING IN HIGHER EDUCATION CONFERENCE - 2014

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Evaluating the use of feedback in postgraduate medical education: A review

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Abstract

The transformative learning paradigm requires that Professional Medical Education implement enabling actions. A critical cornerstone is the way in which feedback is mutually given and received by faculty and students. In combining instruction with constructive criticism which incorporates a plan on how to improve performance, the process moves beyond an evaluative assessment of past performance to a correctional review. As medical training progresses from undergraduate to postgraduate specialisation, the need for constant, high-quality feedback from mentors to students to aid in the development of finely-honed competencies of the trainee in their chosen field intensifies, as it is only through the provision of feedback that strengths can be identified and amplified, and corrective measures implemented. The aim of this study was to conduct a systematic review of the literature to investigate the value of giving and receiving feedback in postgraduate medical education. A literature search was conducted across the Cochrane Library, MEDLINE, Science Direct and Google Scholar. The search was filtered to include only publications in English, written and published in the last four decades. All databases were searched using the following keywords: 'medical education, post-graduate medical education, feedback in medical education, academic success, quality of feedback, clinical competence, acquisition of skills'. Thirty-one articles were selected for the study. Feedback is regarded as an essential component of medical education and there appears to be consensus about what the elements of feedback should comprise, but there is a lack of a clear operational definition. Inadequacy of feedback, dissatisfaction with the process, training needs in feedback and responses to feedback are gaps that require further study.

Keywords: academic success, feedback in medical education, quality of feedback, medical education, post-graduate medical education

1. Introduction

"A key proposition of transformative learning theory recognizes the validity of Habermas's (1984) fundamental distinction between instructional and communicative learning" (Mezirow, 2003, pp58). Instrumental learning is the acquisition of skills and knowledge (mastering tasks, problem solving, manipulating the environment - - - the "how" and the "what"). In contrast, transformative learning is perspective transformation, a paradigm shift, whereby we critically examine our prior interpretations and assumptions to form new meaning - - - the "why." This perspective transformation is achieved through (1) disorienting dilemmas, (2) critical reflection, (3) rational dialogue, and (4) action (Mezirow, 2003, pp58-63).

Feedback may be defined as 'information provided by an agent (e.g. teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding", implicitly with the aim of impacting on improvement (Hattie & Timperley, 2007, pp88-112). In combining

instruction with constructive criticism which incorporates a plan on how to improve performance, the process moves beyond an evaluative assessment of past performance to a correctional review. Hence feedback, along the continuum of medical education, related to both undergraduate, post-graduate or ongoing lifelong learning - has been recognized as an essential component of learning, and especially transformative learning, so as to achieve and maintain a desired state of optimal performance, in line with recognised, pre-determined standards, thereby ensuring that trainees become competent physicians so as to obtain the best possible outcomes for patients (Ende, 1983, pp777-781 Archer, 2010, pp101-108, van de Ridder, Stokking, McGaghie & ten Cate, 2008, pp189-197, DeLima Thomas & Arnold, 2011, pp233-238).

The transformative learning paradigm requires that professional education and medical education in particular, implement enabling actions, including educational reforms in instruction (Mezirow, 2003, pp58-63). This would include ensuring that feedback across the spectrum of medical education is implemented, evaluated and corrected should deficiencies in the process be identified. In order to investigate the value of giving and receiving feedback in postgraduate medical education, a systematic review of the literature was conducted Hence this review explores the use of feedback as a transformative learning tool to develop and enhance clinical competence particularly in postgraduate medical education.

2. Methodology
The literature search was conducted across the Cochrane Library, MEDLINE, Science Direct and Google Scholar. The search was filtered to include only publications in English, written and published in the last four decades. The literature search also included the reference lists of included publications and theses. All databases were searched using the following keywords: 'medical education, post-graduate medical education, feedback in medical education, academic success, quality of feedback, clinical competence, acquisition of skills.

3. Results
What is Feedback?
Building on the notion of information that rocket engineers use to make adjustments to a system in order to reach a goal, Ende (1983, pp58-63), in his seminal paper defined feedback in the setting of clinical medical education as information describing students' or house officers' performance in a given activity, and regarded it as a key step in the acquisition of clinical skills, pointing out that it is often omitted or handled improperly in clinical training. Van de Ridder et al (2008, pp189-197) proposed that an operational definition of feedback should be "specific information about the comparison between a trainee's observed performance and a standard, given with the intent to improve the trainees' performance." Feedback in medical education is therefore used to promote the desired, high-quality performance in trainees through raising awareness of present skills in high-level performers and increasing the frequency with which it is used, or addressing the deficit in meeting a pre-determined standard by identifying the area of poor performance and devising a means to achieve the standard (DeLima Thomas & Arnold, 2011, pp233-238).

Feedback in the setting of medical education has been described in the literature variously as 'information about previous performance (which) is used to promote positive and desirable development' (Archer, 2010, pp101-108), 'specific information about the comparison between a trainee's observed performance and a standard, given with the intent to improve the trainee's performance' (van de Ridder et al, 2008, pp189-187), 'to identify and convey the strengths and weaknesses of the learner's performance, not

of the learner, in a constructive process designed to achieve on-going elevation in the learner's practise' (DeLima Thomas & Arnold, 2011, pp 233-238), and in Ende's landmark paper in 1983 as 'information describing students' or house officers' performance in a given activity' (Ende, 1983, pp 777-781). For the purpose of this study, feedback is defined as "information given to supervisees about present performance, together with an improvement plan, in order to achieve desired end goals".

Why is Feedback Important?
Training to become a doctor is almost like serving an old-fashioned apprenticeship, in which skills from more experienced seniors are passed on to the students in an experiential learning setting (Henderson, Ferguson-Smith & Johnson, 2005, page numbers not for citation purposes, Fluit et al, 2012, pp 893-1011). As training progresses from undergraduate to postgraduate specialization, the need for constant, high-quality feedback from mentors to students to aid in the development of finely-honed competencies of the trainee in their chosen field intensifies, as it is only through the provision of feedback that strengths can be identified and amplified, and corrective measures can be put in place to overcome deficiencies (Henderson et al 2005, pages not for citation purposes, A Lieberman, M Lieberman, Steinert, McLeod & Meterissian, 2005, pp470-472).

Many evaluations persistently reveal students' dissatisfaction with the amount and type of feedback they receive in their clinical and post-graduate training, as they perceive it to be inadequate, inappropriate or completely absent, (Boehler et al, 2006, pp746-749 McKinley, Williams & Stephenson, 2010, pp161-166, Rogers, Boehler, Schwind, Meier, Wall & Brenner, 2012, pp21-25). In order to achieve clinical competence that will result in optimal patient care and outcomes, errors of trainees must be rectified and competencies reinforced,

especially in the context of workplace 'experiential' learning that medical students find themselves in. This is what feedback, if properly provided by the supervisor and received by the student, will achieve. However, while using feedback to improve clinical competence has been the subject of many papers, the ambit of appropriate feedback extends beyond the mere acquisition of such skills. First year medical students i.e. pre-clinical medical students who are taught feedback are more capable of, and comfortable with, receiving feedback in their clinical years (Kruidering-Hall, O'Sullivan & Chou, 2009, pp721-726). Exposure to appropriate feedback skills are important to ensure that first-year students that have already firmly entrenched attitudes towards for e.g. the importance of behavior change in comprehensive management of a surgical patient do not remain immutable to necessary changes that they have to make in such perceptions (Haas & Gregory, 2000, pp 646-650).

Timeous feedback both from faculty and students with regards to type and content of curriculum allows for results of evaluation to be innovatively implemented, and for the curriculum to remain responsive to changing needs. Since effective feedback is essential to improvement in performance, feedback to tutors **about** the feedback that they give is critical to ensure that they are able to assess and rectify deficiencies in their techniques of giving feedback (Sostok, Coberley & Rouan, 2002, p 267, Hewson & Little, 1998, pp111-116, Nicholson, Cook, Naish & Boursicot, 1998, pp163-166).

Medical education should be an ongoing and continuous process of lifelong learning, and so even after graduation and specialisation, practising (i.e. licensed) physicians also benefit from feedback regarding performance. While this process may be in the form of attendance at conferences and workshops, electronic updates, record reviews etc., early

introduction of feedback comprising all required elements and delivered in the appropriate setting, time and context should ideally foster this process of continuous love of learning together with the skill of self-reflection.

It is therefore imperative to orientate students early on to the methods, types and elements of feedback, so that they are able to recognize and receive feedback appropriately, when it is being given, even in different settings and different forms and methods, particularly as their university career and learning styles mature (Murdoch-Eaton & Cottrell, 2013, pp538-540). Thus, the giving and receiving of feedback in the field of medical education may be viewed as a continuum, at which interventions may be implemented at different points.

What is Clinical Competence?
Webster's Dictionary defines being competent as 'the quality of having sufficient knowledge, judgment, skill, or experience for some purpose'.

If this simple definition were to be the only yardstick by which clinical competence in doctors was to be measured, then essentially all that medical schools and medical educators would be producing were generations of skilled technicians.

As far back as the 1960's, attempts were being made at assessing clinical competence. Initially, while the more narrow focus was only on issues around good history taking and diagnosis, the American Board of Internal Medicine recognizing that a good doctor was more than just a good scholar, listed four different areas: (1) abilities (i.e., knowledge, technical skills, and interpersonal skills), (2) problem solving skills (i.e., data gathering and diagnoses), (3) the nature of the medical illness (the problems encountered by the physician), and (4) the social and psychological aspects of the patient problem, especially those which

relate to diagnosis and management, in which a physician had to be competent. (ABIM, 1979). By 2005, the Canadian Medical Education Directions for Specialists (CanMeds), a national, needs-based, outcome-oriented, competency framework initiative of The Royal College of Physicians and Surgeons of Canada was developed, which taking into account consumerism, development of medical technology, public health awareness and activism, and budgetary constraints had further evolved. Within this framework, only the first competency is directly related to diagnostic problem solving. In addition, the physician must be able to be a clinical decision-maker, communicator, collaborator, manager, health advocate, scholar, and a professional. This framework is currently being adapted for adoption by the Health Professionals Council of South Africa to ensure that the curricula of South African medical schools remains current and sensitive to the changing needs of the student and patient population.

George E. Miller devised a pyramidal representation of the transitional process necessary in acquiring the skills and knowledge to acquire competence and clinical competence. In this model, a student knows (knowledge), then knows how (competence), then shows how (performance), and finally does (action) (Miller, 1969 p74). Inherent to the understanding of the model, and a major impact on assessment of competence is the distinction between competence (what a student is capable of), and performance (what the student does). It is in this area of crucial clinical encounters where competence and performance need to optimally meet to produce the required clinical competence that is critical to patient outcomes.

An alternative way of assessing competence is proposed by Benner, who outlines stages of clinical competence that the student

passes through – from the Novice, who has no knowledge, the Advanced Beginner, who is marginally acceptable in his or her performance, Competent, since he or she has been doing the same job for 2-3 years now, Proficient, able to see the problem as a whole instead of chopped up parts, and Expert, who is in possession of an intuitive skill set that allows for accurate honing in on the problem with fruitless alternate diagnoses being made (Benner, 1984 pp13-34).

It is therefore imperative for each teaching department to develop a set of outcomes or learning objectives that each student can be familiar with and be assessed against, in the journey from novice to expert, to acquiring competence and being able to perform. Feedback about the actual performance against meeting the desired end-points is essential in training to ensure the desired end-goal is met.

Given then that the concept of feedback is regarded as an essential component of medical education and that there appears to be consensus about what the elements of feedback should comprise, (Hattie & Timperley, 2007, pp81-112, Veloski, Boex, Grasberger, Evans & Wolfson, 2006, pp117-128, , Kruidering-Hallet al, 2009, pp721-726, Branch & Paranjape, 2002, pp1185-1188, Nottingham & Henning, 2010, pp19-21, Boehler et al, 2006, pp746-749, Bing-You & Trowbridge, 2009, pp1330-1331, McKinleyet al, 2010, pp161-166, Sostoket al,2002, pp267 Hewson & Little, 1998, pp111-116) why is inadequacy of feedback, dissatisfaction with the process, training needs in feedback and responses to feedback to name but a few areas of concern highlighted so frequently in the literature as gaps that require further study (van de Ridder et al, 2008, pp189-197 Veloski et al, 2006, pp117-128 Daelmans, Overmeer, van der Hem-Stokroos, Scherpbier, Stehouwer & van der Vleuten, 2006, pp51-58, Lieberman et al, 2005, pp470-472, Rogers et al, 2012, pp21-25)?

A starting point may be the lack of an operational definition that is reliable, clear, measurable and reproducible and which will allow for a better understanding of concept, content and process (van de Ridder et al, 2008, pp189-197, Nicholson et al, 2008, pp19-21). As a result of this lack of a definition, or differing understandings of different definitions, both trainees and supervisors have different expectations that are then not met.

Allied to this is the lack of a global model or framework for delivery of feedback incorporating the elements identified by Ende, Thomas, Archer and others (Archer, 2010, pp101-108, van de Ridder et al, 2008, pp189-197, DeLima Thomas & Arnold, 2011, pp233-238, Ende, 1983, pp777-781, Hattie & Timperley, 2007, pp81-112, Nicholson et al, 2008 pp163-166), that has led to a plethora of different frameworks being proposed, ranging from the process of feedback being described as being analogous to giving bad news, (DeLima Thomas & Arnold, 2011, pp233-238) akin to the behaviour change model, (Milan, Parish & Reichgott, 2006, pp42-47), incorporated into clinical formative and summative assessment models through the addition of specific interventions for improvement (McKinley et al, 2010 pp161-166), as well as being housed within a competency-based educational framework like the CanMEDS (Fluit et al, 2012, pp893-1011). None however have conclusively shown a definite difference in improving the process.

From the above, it would appear that the common thread is the need to improve on performance by identifying the gaps when comparing actual performance with the desired level that of a previously identified standard and conveying the information regarding what is missing to the trainee, ideally together with a plan to improve said performance.

4. Conclusion

The importance of feedback in medical education appears to be indisputable, and clear frameworks have been identified and expanded upon by medical education researchers. Nonetheless, many challenges remain to the successful giving and receiving of feedback.

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Enrolment growth, university funding and the quest for new paradigms in South Africa's Higher Education

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Abstract

In 2014, South Africa marks two decades of transition to democracy. The country needs more graduates with the ability to adapt to and function in a knowledge driven and knowledge dependent economy. The 2013 White Paper on Post-School Education and Training and the 2012 National Planning Commission's 'National Development Plan: Vision for 2030' call for massive growth in headcount enrolment in the public higher education system. South African universities have three sources of funding: (1) state (block and earmarked) grants, (2) tuition fees and (3) third stream. State grants, which account for the most income, the system's infrastructure, and the number of instruction staff, have not kept pace with the rapid growth in student enrolments amid projected further growth. The financial sustainability of South African universities is therefore of concern. Shrinking government subsidies have put pressure on institutions to increase both student fees and third stream income. This study traces university funding since 2007 in light of projected enrolment growth and the impact on universities. The state's capacity to steer the higher education system through the funding mechanisms is also discussed. This study is informed by the literature, policy analysis, focus group discussions and stakeholder consultation. It is therefore a compendium of HE stakeholders' evaluation and conceptions of post-1994 HE complemented by the author's fresh perspective. It found that enrolment growth increases costs while budget constraints increase shortfalls in state funding. South African universities are taking strain and will continue to do so in the face of insufficient government subsidies in the decade ahead, impacting both academic work and performance indicators. Furthermore the funding squeeze threatens universities' ability to meet the transformation goals and targets set by the 2012 National Planning Commission's 'National Development Plan: Vision for 2030'.

Keywords: financial sustainability, headcount enrolment growth, higher education, state funding, university funding.

1. Introduction

South Africa's primary macroeconomic objectives are sustaining economic growth to raise standards of living in the face of a growing population, full employment or a reduction in periods of high unemployment, price stability, reduced inflation, stability between imports and exports, and a socially acceptable distribution of income by fostering mass poverty alleviation and confronting rising income disparities. The World Bank has indicated that higher education (HE) is a leading instrument to promote economic growth. Since economic growth is critical in supporting employment creation, these macroeconomic objectives are intertwined and should be seen as a whole. Raising the level of HE achievement is

therefore critical for achieving South Africa's macroeconomic objectives.

In 2014, South Africa marks two decades of transition to democracy. The country is battling to revive economic growth and employment creation following a recession whose ripple effects continue to be felt across the full breadth of the economy. With a Gini coefficient estimated as high as at around 0.68, South Africa has one of the most unequal distributions of income in the world.

HE produces the skills that propel individual labour productivity and a host of social and non-market benefits (Montenegrio and Patrinos, 2013). HE in South Africa is being steered towards raising graduation and throughput rates, thus enhancing South Africa's human resources capacity. Improved education and training is an essential foundation of a more productive and inclusive economic growth path (Gordhan, 2013). The government is prioritizing investment in education and skills development to boost youth employment (Zuma, 2013). As more and more students enter universities in the hopes of increasing their skills and income potential (Ashenfelter and Rouse, 1999), it is believed that this will positively impact overall income distribution.

The vision for HE is defined by the 2012 National Planning Commission's 'National Development Plan: Vision for 2030'. The central premise that underpinned the policy framework for the transformation of HE in the 1997 Education White Paper 3: A Programme for the Transformation of HE, was that the HE system must be planned, governed and funded as a single, national, co-ordinated system (DoE, 2005, p.3). The 2001 National Plan for HE states that HE has immense potential to contribute to the formation of a socially just society, while the 2013 Education White Paper on the post-school sector lists the restructuring of an unequal society as the first of its five policy

objectives. Therefore, through its production of high-level skilled individuals, knowledge production and contribution to research and innovation, the HE system is a key player in the achievement of the goals and targets of the 'National Development Plan: Vision for 2030'(NPC, 2012). From this perspective, the development goals intertwine with the equity agenda as a more educated workforce is seen to address both economic development and social justice.

Globally, universities operate as businesses securing long term financial sustainability to survive. In South Africa, the government is driving a HE and training reform agenda with its regulatory requirement concomitant to a funding framework. The whole purpose of public university funding is to ensure the development of an affordable and sustainable HE system that is responsive to, and contributes to, the national development agenda (DoE, 2005, p. 13). The main feature of this funding framework is that it is a goal-oriented mechanism for the distribution of government grants to individual institutions, in accordance with (1) national planning and policy priorities, (2) the quantum of funds made available in the national HE budget, and (3) individual institutions' approved enrolment plans (Nzimande, 2014, p. 2).

The South African government's funding framework is therefore an important steering mechanism for achieving policy priorities, the most important of which is the overall transformation of the HE system. More specifically, government subsidies are expected to contribute to the realisation of (1) equitable access, (2) better quality research and teaching, (3) improved student progression and graduation rates, and (4) better responsiveness of the HE system to economic and social needs (DHET, 2014a).

The emphasis on planning is informed by the fact that if the HE system is to respond to the national development agenda, the size and

shape of the system cannot be left to the vagaries of the market, in particular, unco-ordinated institutional decisions on student enrolments and programme offerings (DoE, 2005, p. 3).

There are two sets of universities categorized in three clusters. The first is historically advantaged universities in cluster 1 institutions that aspire to compete globally in research, innovation and rankings. Those universities are attracting institutional leaders, high-performing teaching staff and research stars from other universities or from the profession. The other set is historically disadvantaged universities in cluster 2 and 3 institutions that aspire to catch up with those in the former set in terms of providing basic teaching and research, and infrastructure. Those universities are reconsidering the balance between permanent, temporary and fixed-term contracts staff in efforts to improve student: staff ratios. However, the financial needs of individual universities far exceed the subsidies available (DHET, 2014a, pp. 47-51).

Universities have experienced tight financial health constraints over the years owing to the difference between the actual demand for funding and the allocated state subsidies. HE stakeholders articulated the tension between increased access to HE and the need to ensure that the sector maintains the capacity to produce the type of high-level knowledge and skills required to take the country forward and compete globally. Policy formulation that could address this tension has been sought, but it has nevertheless continued to be a key issue in HE (Wolpe et al., 1993). This study is a compendium of HE stakeholders' critical evaluation and conceptions of post-1994 HE complemented by a fresh perspective from the author.

2. Methodology
Four core methodological elements informed this study: (1) a review of the literature on HE; (2) policy analysis, (3) stakeholder consultation and (4) perceptions from focus group discussions. Key policy documents, policy transformation, and initiatives that provided the blueprint for South Africa's HE sector (OECD, 2008) reviewed include *inter alia:*
- The Green and White Papers on HE (1996, 1997, 2004) - the 1997 White Paper on HE and the 1997 HE Act set out "a framework for transformation of HE",
- The 2001 National Plan for HE (NPHE),
- The 2005 student enrolment planning in public HE (DoE, 2005),
- The 2012 National Planning Commission's 'National Development Plan: vision for 2030',
- The 2012 Green Paper for Post-school Education and Training (DHET, 2012),
- The 2013 draft policy statement on the Management and Utilisation of the Teaching Development Grant in the 2014/15 to 2016/17 Funding Cycle (DHET, 2013),
- The 2013 White Paper for Post-school Education and Training (DHET, 2013), and
- The 2014 Report of the Ministerial Committee for the Review of the Funding of Universities.

This study traces developments affecting university funding since 2007, both block and earmarked grants. The study also sourced the most recent audited data compiled from HEMIS data run by DHET. These data provide the statistics required for the monitoring and evaluation of the HE system by researchers and other interested stakeholders (CHE, 2013b, p. i). Focus group discussions ensured diversity and an amalgamation of perceptions to represent society at large as well as consultation with HE stakeholders.

3. Findings
Projected enrolment growth
In general, there was strong demand for places in HE during the transition to democracy in the early 1990s that was later

supported by the 1997 HE White Paper's commitment to equity of access (DoE, 1997). The capacity of the HE system therefore needed to be expanded since there is a relationship between HE participation and economic development (DHET, 2014a). The total head count enrolled increased from 587,000 in 2000 to 718,000 in 2003 (DoE, 2005, p. 7). Audited headcount enrolment increased from 741,380 in 2005 to 938,200 in 2011 (CHE, 2013b, p. 31). The 2013 White Paper on Post-School Education and Training and the 2011 National Planning Commission's 'National Development Plan: Vision for 2030' both call for massive growth in headcount enrolment in the public system. The government aims to increase the Gross Enrolment Ratio (GER) at universities from the current 17.3% to 25%, from just over 938,200 students in 2011 to about 1.6 million by 2030, and for at least 5,000 students to graduate with doctoral degrees each year.

Of major concern is whether such straightforward enrolment growth is possible, given that, the South African HE system is currently losing half its student body before graduation (CHE, 2013b; DHET, 2014a). Increased enrolments are possible because of high student attrition (assuming that the system is operating at full capacity with creaking infrastructure and that, for example, laboratory spaces and Lecture theaters are limited, there will simply not be big enough laboratories and lecture theaters to accommodate these students (Vithal, 2013, p. 3).

Shifts in the teaching and learning demands of the student body as a result of including a broader spectrum of socio-economic groups have serious long term financial implications. In the past 20 years, the growth of the student population has not been matched by growth in the academic body. For the period 2005 to 2011 audited headcount enrolment in the HE system increased by 27.63% whilst the headcount of the academic staffing base (instructional and research) increased by

22.94%, increasing the student: staff FTE (fulltime equivalent) ratio from 24 in 2005 to 28 in 2010. Only 33% of academics in the public HE sector have doctorates and only 37% of the country's HE academics held doctorates in 2011 (DHET, 2014a, p. 80).

In the private sector, only about 9% of academics have doctorates. About 33% of academics in the private HE sector have only a diploma or less as their highest level of qualification (CHE, 2013b, p. 44). A fifth of academics will retire within a decade; 32% of these are professors (Zuma, 2013). The system will need more and better-trained academics to meet this need. A prerequisite for the acceleration of knowledge and research outputs is the improvement of the qualification levels of academic staff. The target is that 75% of permanent academic staff should have a doctoral degree by 2030 (DHET, 2014a).

Comprehensive financial health projections indicate that it would be much more expensive to achieve an increased number of graduates through increased intake. If student numbers are simply increased, millions of Rands of subsidy funding for students who fail, are excluded from the system, or drop out will be wasted. The increase in the number of students and academic staff including NSFAS is expected to raise total costs by 25% to 39.5% (Sheppard, 2013, p. 30). Questions therefore arise as to how well the plan for massive future growth has been conceived and how comprehensively it speaks to the present. Dhunpath (2013, p. 4) asks whether South African universities are able to produce, develop and retain the required demographically representative generation of academics and raises concerns regarding the luring of talent to private sector and state opportunities which are thwarting this goal.

University funding
Government is steering the HE system to meet national goals and priorities using a

combination of instruments, namely, planning, funding and quality assurance. The allocation of resources in the HE sector is underpinned by the 2003 funding framework, which is built on the principle of shared costs between (mainly) government and students (DHET, 2014b, p. 22). The Minister of HE is responsible for determining the division of different categories and sub-categories for the funding. Universities have three sources of funding. The first is direct public funding which takes the form of a block grant based on a funding formula, together with targeted funding or earmarked grants for specific activities such as the NSFAS to support poor students by providing their upfront fee payments, infrastructure and output efficiencies, and foundation programme provision and teaching development grants. Block grants are a University Council's discretionary funds and earmarked grants are government controlled funds. The other two sources of funding are tuition fees and third stream income. The current direct public funding framework and its categories were introduced in 2003 and came into effect in the 2004/05 financial year. The new funding framework was phased in over a period of three years during which only a certain percentage of change to the subsidy allocation of a university was implemented to avoid the impact of sudden drops or increases in a specific financial year. Thus, the state funding was only fully functional from the 2007/08 financial year to the 2011/12 financial year (DHET, 2014a).

Universities in South Africa received on average about 43% of their budget for general operations from direct public funding which remains the most important source of income. Universities received on average about 29% of their budget for general operations from student tuition fees. Third stream income is defined as accessing, securing and generating income from sources other than government subsidies and student tuition fees and represents about 28% of universities' budgets for general operations (Craig and Abrahams, 2009). When government subsidies as a percentage of total income drops, the expected responses are raising student tuition fees, or increasing third stream income. In addition, since government subsidies are increasing below the inflation rate, the growth in real Rands in block grant allocations has been declining. While overall funding for universities increased in nominal terms from R24,280.762 billion in the 2012/13 financial year to R30,338.205 billion in 2015/16, government reported that its funding per full-time equivalent (FTE) enrolled student fell by 1.1% annually in real terms between 2000 and 2010 (DHET, 2014a, p. 8).

About 65% of the block grant budget, which is a "rolling" three-year budget framework, is allocated to institutions for teaching inputs based on FTE student enrolments, which have been weighted by subject category and by course level (DoE, 2005, p. 6). The teaching input units essentially function as a distributive mechanism, which disproportionately increases or decreases the flow of government funding of universities. Some universities, including UKZN, experienced a fall in the nominal value of the teaching input unit over this period. Hence, growth in enrolments did not guarantee increases in the Rand values of the grants generated by these teaching inputs.

It should also be noted that because block grants for a given funding year (n) are generated by a university's the performance in year n-2; the affordability and sustainability of its strategic planning are ongoing issues. Sharp changes in universities' shares of system-wide funding unit totals are having detrimental impacts on the finances of those who grow at below average rates or exceed their caps for registered "non-funded" students. The issue of how universities' shares of funding unit totals can be stabilised over reasonable

periods of time (DoE, 2005, p. 22) is an ongoing concern that needs to be addressed.

The state grants which have the heaviest weight in universities' income, the HE system's infrastructure, and the provision of instruction staff have not kept pace with the rapid growth in student enrolments amid projected further growth. There are also perceptions that earmarked grants such as the funds solicited by university foundation and teaching development grants, infrastructure and output efficiencies are impermanent and thus unpredictable; there is no guarantee they will be available beyond the funded cycle. Shrinking government subsidies have put pressure for both student fees and third stream income to be increased. To maintain long term financial sustainability, tuition fees per FTE student increased by 2.5% annually, in real terms between 2000 and 2010 (DHET, 2014a, p. 9).

However, owing to public outcry over rising costs, the government has warned universities to limit fee increases. Unable to raise fees in line with inflation and confronted by rising costs, universities would need to generate more third stream income to maintain their current, already insufficient, income levels. The budgetary and financial crises are impacting on universities in South Africa in various ways. They are exacerbating pre-existing strains on finances while the prospect of cuts in public spending on universities as a result of an economic downturn is of great concern (Macgregor, 2008). Economists worry that the coming years will bring more examples of financially squeezed states which will curtail state spending, including on universities; all these factors will significantly thwart universities' efficacy.

The capacity of the state to steer the higher education system through the funding mechanisms

Looking back on the path travelled since 1994, changes to HE policy have not had the desired effect once again highlighting the theme of increased state steering and tension with notions of institutional autonomy and system governance. Twenty years into democracy, HE stakeholders are asking questions about the extent to which the system has been responsive to the social justice agenda. This study questions the state's capacity to steer the HE system to achieve the set goals through the funding mechanisms.

The NPHE, which makes the case for increasing the GER, emphasizes that if the quality and sustainability of the system are not to be compromised, the size and shape of the HE system must be determined in the context of available resources. Despite these cautionary remarks, the HE system has grown more rapidly than the available resources. The resultant funding shortfall has put severe pressure on institutional infrastructure and personnel, compromising institutions' ability to discharge their teaching and research mandate. The DoE (2005) observed that this could not continue if the HE system is to contribute to the national development agenda by generating, transmitting and applying knowledge in general and human resource development in particular. The main concern in the future will be the relationship between enrolment growth and government funding in the new policy framework, more specifically, what effects changes in enrolment growth will have on the distribution of government funds to universities.

Nzimande (2014) acknowledges that South Africa is confronted by financial constraints and backlogs in the expanded HE sector owing to broader participation in recent years. Local stakeholders acknowledge that by international standards, the level at which universities are being funded is low and they are consequently experiencing budgetary strain (NPC, 2012). It is therefore not

surprising that, without exception, all of the country's universities cite inadequate funding as the main cause of the HE system's failure to measure up to its potential, fully realize the country's transformation agenda, and compete at the global level (DHE, 2013a). Universities are undertaking strategic planning to identify possible sources of cost savings, restructuring, and other factors that can be altered in their institutions and in the system to adapt to the changing circumstances and bring funding in line with available state resources.

Many universities are in a weak financial health position that necessitates immediate action. Given projected growth, the coming decade will be one of austerity for universities in South Africa, impacting on academic work and performance indicators. Locke (2013, p. 12), reports that where the austerity has hit hardest universities have decreased outlay for operations, reduced infrastructure and capital investment increased market discipline, and restructured the academic workforce, not to mention other impacts on individual academics as illustrated in Table 1 that follows.

Table 1: Effects of the state funding squeeze on South African universities

Increased	Reduced
• Class sizes; sstudent: staff FTEs ratios. • Differentiation between and within institutions and among staff. • Fragmentation; segmentation; disintegration of academic roles. • HR function; rationalisation of the academic offer; shared services and outsourcing. • Market discipline; new business model; managerialism. • Performance management and metrics • Promotion criteria • Redundancies; severances • Reorganisation; restructuring • Whittling down of conditions of service • Workload allocation of remaining staff; para-academics	• Benefits; reward packages; Default retirement age. • Capital investment; infrastructures; facilities; labs; LANs. • Curriculum; research; teaching • Income; funding for operations or per student. • Salaries; salaries schemes; senior staff pay arrangements. • Staffing; academic recruitment; turnover of staff. • Staff expectations (especially younger entrants to the academia). • Student services; student support functions • Numbers of professional and support staff • Contribution and merit-based pay systems • Overtime arrangements • Technological changes

Source: Author.

The table shows that a reduced academic staffing base is subjected to a whittling down of conditions of service. The HE system is hobbling along inefficiently at great cost to all (Vithal, 2013). Since the full implementation of the current HE funding framework in 2007 and its review in 2013, various stakeholders have identified a number of weaknesses and limitations that call for a further review of this framework. Critics of the pressure to increase student numbers argue that the quality of degrees will not be maintained if government does not allocate universities a bigger slice of the education budget (Vithal, 2013). The reality is that more money will not be forthcoming from government and, in the current economic climate, it will also not be available from third stream income; this is of major concern. The funding squeeze therefore threatens universities' ability to meet the transformation goals and targets set by the National Development Plan: vision for 2030.

A 20-year quest for new paradigms in higher education in South Africa
While it is acknowledged that the funding framework, among various other factors, did contribute to improvements with regard to transformational goals, the system remained very incoherent, inefficient and dysfunctional, performing way below most of the transformational goals for HE envisaged in the Education White Paper 3 and the NPHE (DHET, 2013). Both the 2013 White Paper on post-school education and training and the 2011 National Development Plan (NDP): Vision for 2030 portray the current education and training landscape as incoherent and dysfunctional.

South Africa aims to build an expanded, effective, and integrated post-school system. Existing paradigms have failed to achieve the national goals and new paradigms continue to be sought; this underlies the ongoing quest for answers to many questions.
Key issues flow from the above analysis that impact on and should be considered in

assessing the affordability and sustainability of the HE system (DoE, 2005, p. 3). Universities continue to admit predominantly poor and cognitively weak students. However, the academic staff required to teach these students grew at less rate of the increase in student enrolments. The inefficiencies in the system with regard to low levels of student outputs need to be addressed, in order to deliver the skills required for development (DHET, 2013). The imperative is to match enrolments plans with available resources in order to enable the HE system to deliver on its mandates (DoE, 2005).

4. Conclusion and policy implications
The current HE and training landscape is described as incoherent, inefficient and dysfunctional. While enrolment growth is important, it is accompanied by a complex conundrum of persistent challenges and seemingly intractable crises in South African HE. State funding lags behind the increase in enrolments and the consequences have been slow growth in the academic staffing base and creaking infrastructure. Inadequate state funding has been identified as a factor hindering the development of the next generation of academics. It is imperative to guard against rapid enrolment growth in the absence of additional resources. Furthermore, there is a disjuncture between the academic year at universities (January – December), over which teaching development activities can be implemented, and the state's financial year (April-March), over which funds become available and the period over which funds need to be managed and monitored.

Government has pointed out that while adequate funding of HE is important, in itself this is not sufficient to ensure a well-functioning and quality HE system. Another major obstacle to improved efficiency and quality of HE is leadership or managerial capacity to strengthen both accountability and incentives. There is a case to be made

for improving the efficacy of the system for the existing intake of students, half of whom leave without a qualification. Hence, significant policy reforms in HE approaches and concomitant changes in the university funding framework are required if South Africa is to meet the demand for enrolment growth, particularly if such growth includes all those who are willing and able to attend university. Questions therefore arise as to how well the plan for massive future growth has been conceived and how comprehensively it speaks to the present. The DoE (2005)'s view is that enrolment growth must be dampened.

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The Change Laboratory as a classroom

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Abstract

This paper outlines the theory and practice of the Change Laboratory, and suggests that this form of research intervention could be applied in a novel way to teaching small classes of students at the higher education level. Conventionally the Change Laboratory is used by workers in collaboration with researchers to develop new forms of work practices and tools within their organization. It is based on cultural-historical activity theory (CHAT) and makes use of a specifically organised venue in the work place for conducting these workshops. In this paper, however, it is suggested that the specific setup of the Change Laboratory with its three wallboards, collective engagement and the archiving of information, are conducive for establishing a learning environment in which students with the guidance of the lecturer can collaboratively critique and construct theoretical tools and practices in a manner which is appropriate for the dynamic nature of modern knowledge. The paper shows that this innovation of the Change Laboratory benefits from combining the agency and transformative powers of Vygotsky's method of double stimulation and the expansive learning process. In addition, as a method of teaching it explicitly encourages the participants to learn the important skills of democratic participation, gathering evidence, the historical development of concepts and reflection.

Keywords: Change Laboratory; cultural-historical activity theory; expansive learning; mediation; Vygotsky

1. Introduction

It is true that change is inevitable and essential for learning; after all, learning implies a change in understanding. Thus, it is not unreasonable to contend that those learners and educators who embrace change rather than simply accommodate it, stand a better chance of doing well in learning environments.

However, too often change and innovation within education is understood in narrow terms. As technological change, particularly the kind that introduces modernised tools and approaches. While such technologies invariably imply the acquisition of a new set of skills and attitudes, they often also assume access to material resources.

However, as Allen, Brown, Karanasios and Norman (2013) point out "things possess causal powers by virtue of their intrinsic structures" (p.837) which we need to be aware of if we wish to avoid the aggravation or perpetuation of inequalities within an organization. "Social structure and culture are said to be inscribed within the material components of IS (hardware, software, etc.) in a way that may help sustain these structural and cultural relations through organisational change, thereby impacting upon that change" (ibid).

This resonates with my findings from teaching and research about the experiences of postgraduate students at an international master's programme at a

Scandinavian university college. The students came from mainly Norway, Sudan, South Sudan, Zambia, Ghana and South Africa, as well as from Lithuania, Russia, Iran, Afghanistan, Bangladesh, Nepal, amongst other countries. Their access to and experience with technological resources such as laptops, electronic libraries, internet and intranet resources, and even word processing and PowerPoint programmes varied greatly, and severely disadvantaged those who had the least access to them. The disadvantage extended not only to their personal capacity to obtain literature, engage in online discussions, produce, present and submit assignments, and inform themselves about relevant activities relating to their studies, it also established them, in their own view and that of others, as less resourceful compared to their classmates. This often occurred despite them having decades of experience of living and working with the very issues on which the programme's courses were based. Am I hereby suggesting that we limit the introduction of new technologies, or enforce more collaborative learning amongst students? Not exactly!

However, I do believe that such elements, namely, collaborative learning, new technologies and critical engagement, can be introduced into the higher education classroom in an interesting, unintimidating manner that is driven by the needs and abilities of both the students and the lecturer. What I have in mind here is an innovative use of the Change Laboratory as a method of teaching in higher education classrooms. I believe that the unique setup of, and main principles behind this research tool offer rich possibilities for developing democratic, critical and transformative practices for teaching and learning at the tertiary level. In making this proposal, I will briefly describe the setup and principles of the Change Laboratory and outline how I envision its application as a pedagogical tool.

2. The Change Laboratory as a methodological template

The Change Laboratory is essentially a research intervention developed by Yrjo Engeström and the Finish branch of cultural-historical activity theorists at the Center for Activity Theory and Developmental Work Research of the University of Helsinki. As Engeström and some of his colleagues explain: "The idea is to arrange on the shop floor a room or space in which there is a rich set of instruments for analysing disturbances and for constructing new models for the work practice" (Engeström, Virkkunen, Helle, Pihlaja & Poikela, 1996, p.10). Conventionally, then, it is used for research and for developing tools to facilitate changes in a workplace. However, I want to suggest here that it may be as fruitfully employed for teaching in a classroom situation.

Firstly, the Change Laboratory takes place in a room or space that is part of the work or activity that is being examined. Its embeddedness is important for the flow of ideas between the specially created space of the Laboratory and the everyday reality of the activity (Engeström, Batane, Hakkarainen, Newnham, Nleya, Senteni & Sinko, 2014). In the case of the Change Laboratory being used as a classroom, this refers to the possibility of bringing in and developing new practices and ideas in the Change Laboratory setting at the higher education institution, while remaining in touch with what is being practiced and expected by the traditionally conservative academic world outside of the Laboratory. In this way, one may consider the Change Laboratory to be "conducted as boundary-crossing laboratories with representatives from two or more activity systems engaged in collaboration or partnership" (Engeström, 2011, p.612).

Secondly, the Change Laboratory is set up with three learning surfaces summarised as

follows: "a) a mirror that relies for the most part on ethnography, b) models for analysing activity as a historically constructed system, and c) emerging ideas and new tools" (Engeström et al., 2014, p.132). Thus, in Figure 1, surface (a) would be on the right, surface (b) on the left, and surface (c) in the middle, with the surfaces conveying increasingly abstract forms of information when viewed from right to left.
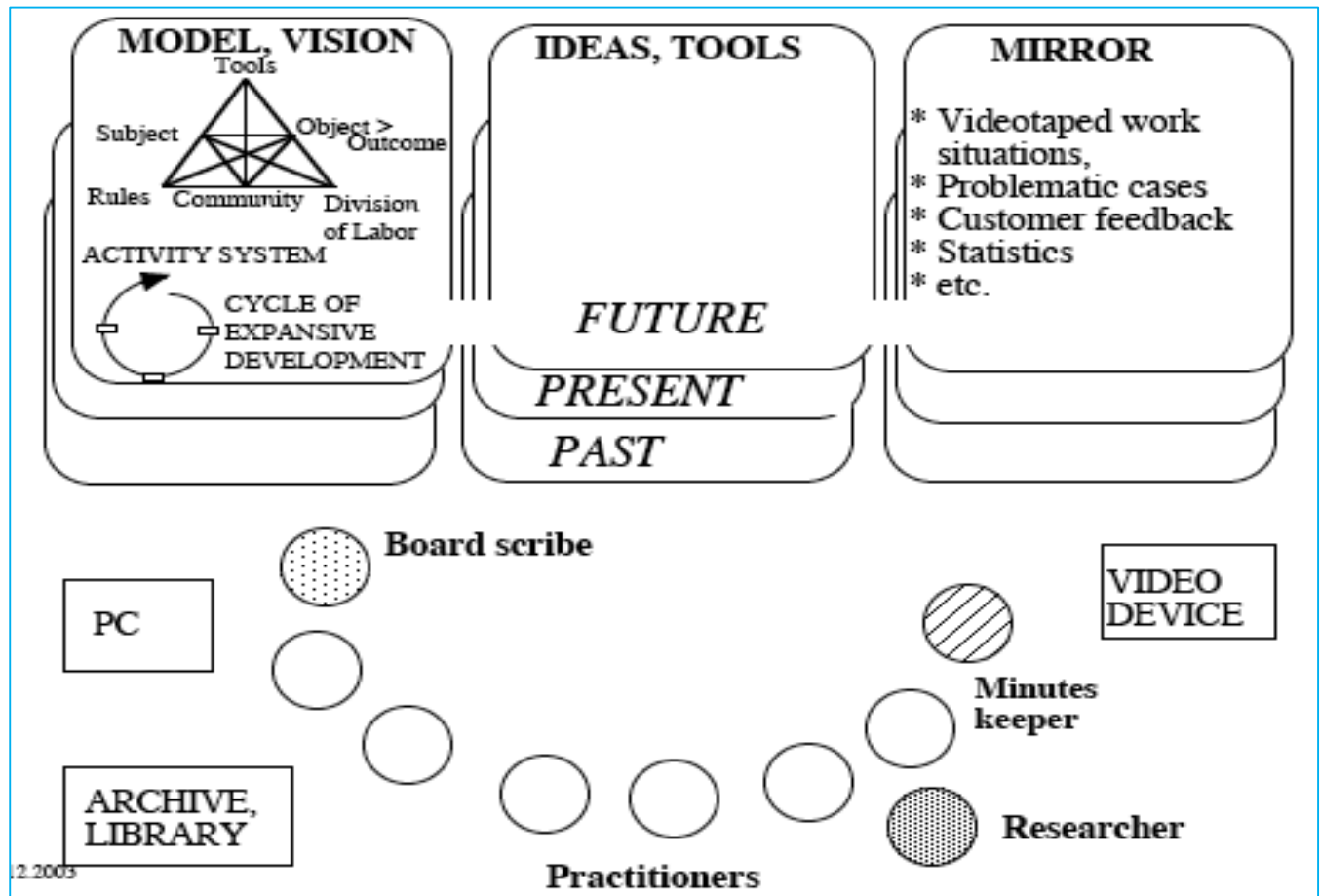
Figure 1: The Change Laboratory

In conventional Laboratories the information would relate to the organization and its activity being examined and changed by the researchers and practitioners in the organization. However, I am suggesting that as a classroom application the information represented on these surfaces would relate to the topic under investigation in the course. Thus, the mirror may still have ethnographic material such as interviews, videos, statistics, and so forth, but they would be about the lecture topics, and may be derived from internet sources, course literature, group discussions, and so forth.

Surface (b), the model/vision surface, usually contains theoretical models and concepts for analysing the connections and processes of change occurring at the organization being investigated. These theoretical tools generally consist of activity system models and expansive learning cycles, and they are prepared by the researcher. It is not difficult to see how, in the teaching application of the Laboratory, the lecturer could play the part of the researcher by suggesting theories and concepts for initiating and facilitating the analysis of the information that students have collected about a given topic.

Ideally, the third surface, the one in the centre, is reserved for new ideas and tools

developed primarily by the participants, in this case the students. This is where, as Engeström puts it, "the conceptual models offered by the interventionists are replaced or combined with mediating conceptualisations and models formulated by the participants" (2011, p.612). On this surface the academic maturity, critical capacities, and knowledge of the students become evident and can be nurtured and directed as required. Rather than passive students domesticated through a banking style of teaching (Friere, 1970) it is now possible, or rather necessary, to encourage students to see themselves as knowledgeable, resourceful and active creators of their learning.

Before elaborating on the third element to the Change Laboratory, namely, the participants, it is important to mention the historical dimension of the three surfaces described above. What is being referred to here is the unfolding over time of the information accumulated on the surfaces. This is represented by the vertical or top-to-bottom arrangement from future to present to past of the ethnographic material, emerging ideas and theoretical models on the three categories of surfaces. In a typical intervention the participants would historicise the problem areas of their organization in this way in order to understand the historical roots of the challenges they face, and anticipate future obstacles to their envisioned activity. Similarly, the students and lecturers in the proposed classroom application would be able to trace their successful and unsuccessful learning paths by following them through their development over time.

This brings us back to the element of the participants. In the adaptation that I am proposing these would basically consist of the students and the lecturer. At the senior levels of tertiary education for which this innovation is ideally intended, the students would not number much more than twenty or thirty in a course. At this stage they should have experience with doing research, taking notes and participating in group work, and therefore should not have problems taking turns to act as the scribe who records information on the relevant surface, as well as research assistants who assist in the collection and preparation of materials for the mirror surface. Their main role, however, is to actively engage with each other, the lecturer, and the information presented on the three surfaces, so as to generate solutions or concepts required by the lecture topics and tasks. The emerging ideas are then selected with the guidance of the lecturer, and placed onto the central surface for further elaboration.

One further aspect to the Change Laboratory is that the sessions are videotaped. For the conventional application the video material is used by the researcher to analyse and identify contradictions and other sources of disturbance which can lead to and drive the changes desired by the organisation and participants. The material is presented on the mirror surface along with other recordings and collected data. In the envisioned Teaching/Change Laboratory it is also possible for the lecturer to make use of the video material in this way. She could study it and use it as a basis for introducing or drawing out ideas that have been hinted at by the students, thereby also supporting the idea of them as knowledgeable learners. Additionally, the video recorded lectures could be made available online on the internet or intranet for review or analysis by the students.

3. Theoretical principles from Vygotsky's method of double stimulation

The learning process upon which the Change Laboratory is based is that of Lev Vygotsky's method of double stimulation. According to Vygotsky (1987), an experiment could elicit higher psychological processes rather than simple responses if it offered a second series

of stimuli with which the subject can accomplish the task set by the experiment. Sannino (2010) explains this use of two sets of stimuli in relation to the Change Laboratory: "In Change Laboratory interventions problematic practices represent first stimuli for the practitioners and are discussed and redesigned with the help of theoretical models used as second stimuli" (p. 841).

If we adapt this to the proposed Teaching/Change Laboratory, then the problem statements of the lectures or assignments would be the first stimulus. Furthermore, presenting the topic as a problem or challenge is especially relevant if one identifies with the idea of learning through "problem-posing" education (Freire, 1970) which values critical reflection and dialogue. With regard to the second stimulus, it is basically the same as the conventional approach, where "the second set refers to the mediating means proposed or designed in the process of solving a task' (Engeström et al., 2014, p.131). In practice it could be the theoretical concepts provided by the lecturer on surface (b), and would take the form of definitions, concepts, ideal types, and all kinds of models and theories relevant to the lessons' tasks. It should also be pointed out that the participants/students may reject the interventionists'/lecturers' second stimulus and suggest their own (Sannino, 2010).

As artifact-mediated action, the method of double simulation elicits the participants' agency when it allows them to take control over their behavior (Engeström, 2011) – in this case, mastering the information and knowledge-making processes offered through the lectures. Engeström goes on to present four ways in which the formative interventions based on Vygotsky's method of double stimulation differ from conventional research interventions, and these can also be applied to the comparison between the Change Laboratory as a teaching method

and conventional lecturing at higher education institutions:

1. *The starting point* – is not detached but embedded in the life activity of the participants.
2. *The process* – expects resistance and contestation because it is driven by the agency of the participants who decide on its final shape.
3. *The outcome* – is not a standard solution but the generation of concepts or tools with which to design locally appropriate solutions or address similar problems.
4. *The researchers'/lecturers' role* – is not to completely control the process, but to provoke an expansive learning process. (Engeström, 2011, p.606)

Before taking this discussion further by elaborating on the expansive learning process, I wish to point out that, while any or all of the above four points may be part of an innovative pedagogical programme, the value of the Teaching/Change Laboratory which I am proposing is that it provides a concrete setup through which to achieve a creative and critical process of learning. That is, it takes the guesswork out of teaching in a democratic, cooperative and reflexive manner and it may elicit novel ideas from the students even with a minimum of creativity on the part of the lecturer. However, perhaps its greatest advantage is that it is built upon the principles of cultural-historical activity theory (CHAT) and expansive learning which are oriented toward the understanding that, in modern contexts, learning is seldom about acquiring a static body of knowledge from an all-knowing expert (Engeström, 2001). Rather, knowledge is dynamic and even experts have to accommodate for its uncertainty. Yet, as may be apparent from the next section, CHAT and expansive learning embrace such questioning and dilemmas.

4. Contributions from CHAT and expansive learning

Cultural-historical activity theory (CHAT) can very broadly be described as a way of analysing learning as a culturally mediated activity that has to be considered from an individual, inter-personal and systemic perspective. Furthermore, and of particular relevance for the focus of this study, CHAT is also considered to be "a general paradigm to study transformations and social processes of innovation through expansive learning" (Kerosuo, Engeström and Kajamaa 2010, p.112). Its five major principals may be summarised as follows:

1. The investigation should consider the entire activity system. That is, "a collective, artifact-mediated and object-oriented activity system, seen in its network relations to other activity systems, is taken as the primary unit of analysis" (Engeström 2001, 136).

2. The activity system is made up of multiple actors, thus the principle of multivoicedness alerts us to the diverse points of view, traditions and interests within the communities being researched.

3. Historicity is a key element of this approach. It demands that activity systems be understood in relation to the way in which they were produced over time – their objects and activity have to be situated in their local (critical) history.

4. The fourth principle states that contradictions are a source of change. Thus, CHAT operates from the assumption that contradictions within and between systems create disturbances and conflicts and the search for their resolution leads to innovation and change.

5. An equally important principle is the possibility of expansive transformations in activity. This is realised when "the object or motive of the activity are reconceptualised to embrace a radically wider horizon of possibilities than in the previous mode of the activity" (Engeström 2001, 137). Expansive development is perceived as a journey through a 'zone of proximal development' so that new forms of cultural activity result.

The Change Laboratories in both the conventional and proposed forms, therefore, would attempt to embrace the diverse and emerging ideas, practices and tools within its activity system, and in so doing pull them in all directions. The conflicts and contradictions which arise can then be mobilised to generate new rules, tools, practices, and so forth as the various actors try to piece together solutions that are broad enough to accommodate all of the systems' demands.

Expansive learning, then, is basically a process of learning whereby an individual questioning of conventional practices grows in a step by step manner into a collective movement that incorporates new forms of cultural activity. It has been developed from Gregory Bateson's concept of Learning III, "where a person or a group begins to radically question the sense and meaning of the context and to construct a wider alternative context. Learning III is essentially a collective endeavor" (Engeström 2001, p. 138). Very briefly, the spiral of expansive learning starts with the act of questioning the accepted practice or knowledge; then analysing it in order to understand its working; thereafter the explanatory relationship is modeled so that it can be examined and experimented with by the group. A new model is produced as a fifth step and this is practically tested in various applications. The next steps involve reflecting on and evaluating the process, and finally consolidating the outcomes into a new stable form of practice. It is therefore not difficult to imagine this process as occurring in a Teaching/Change Laboratory where the lecturer or a student questioned a concept, theory or practice related to their subject area.

The above expansive process is clearly conducive with the complex nature of concepts, especially those of knowledge communities in the higher education sector. As Engeström points out, concepts are "inherently polyvalent, debated, incomplete, and often 'loose'. Different stakeholders produce partial versions of the concept. Thus, the formation and change of concepts involves confrontation and contestation as well as negotiation and blending" (2011, p.611). As an environment specifically designed for collaboratively reconceptualizing a community's knowledge and practices, the Change Laboratory in its conventional and proposed forms seem ideal for the expansive concept formation described here.

5. Concluding remarks

In our modern society it is not just technology that is constantly changing at a rapid pace; our conceptual tools are undergoing radical metamorphoses as well. In such a fluid and uncertain epistemic climate it is not enough to simply adopt the latest technologies in the hope that the practices and attitudes upon which they depend will automatically follow. We have to position ourselves as creators and innovators of knowledge. In this regard, the adaptation of the Change Laboratory suggested here is well-structured for engendering the kind of mediated engagement that nurtures progressive learning skills. While similar setups may have been put forward elsewhere (see for example Hakkarainen, Engeström, Paavola, Pojhola & Honkela, 2009) the above utilization of the Change Laboratory as a method of lecturing explicitly connects the theory and practice of these activities. Within these connections lay the seeds for not only enhancing our capacity for learning, but also our capacity to control this activity.

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'HABITUS' and taste formation: ELT students' views on their introduction to English Literature courses.

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Abstract

The reading of Pierre Bourdieu provides insight in habitus formation in Turkish Schools and teachers' roles. Such, there is the possibility of change in their outlooks related to creative teaching and learning environments, and to produce original learning outcomes and the possibility of change in teachers and students attitude towards education at Education Faculties. Going to a university and studying for a degree can be seen as a game with very definite rule in Turkey, a young man or a young woman of 18 has to be a ''university student'' and in order to gain respect and to be accepted in the society the teenager is programmed right from the primary school to be trained in taking the endless multiple choice question tests that would prepare him for the ''final destination'' the university entrance exam. From this perspective the literature classes in ELT Departments and the student's attitudes toward these classes will be examined based on students' feedback.

Keywords: ELT, field, Habitus, literature, reflexive Sociology.

1. Introduction

The ELT students come to the ELT Department with diverse needs and English literature classes seem to provide awareness and make the discussion of these needs possible. The aim of this paper is to analyze the views of ELT students on Introduction to English Literature II course and to understand their reading habits and tastes. Thus, their feedback is analyzed in the light of Pierre Bourdieu, Guattari and Deleuze's views and to open up a space for the creation of new concepts related to life and teaching philosophy. The habitus prevents the students' reading habits and makes them reluctant in taking responsibility for their presentation assignments. Thus, it is important to understand the ELT context in which the students and teachers' habitus are shaped.

2. Literature Review

The reasons for ELT teachers using literature in ELT classes are:
   a. to broaden students' horizons by giving them a knowledge of the classics of literature;
   b. to improve student's general cultural awareness
   c. to stimulate students' creative and literary imagination and to develop their appreciation of literature;
   d. to introduce students to masterpieces in British and American literature as an educative experience, and to add to students' knowledge of the world at large (Akyel and Yalçin, 1990, p.175).

Unfortunately, the teaching is to feed student heavy, repetitive and somewhat redundant literature, which has little or no relevance to their immediate problems and needs. This provides little opportunity for creativity. The students are told of literary

terms and the meaning of words, and are asked to analyse the subject of literary piece, which is often too abstract a task for the non-native speaker. The process of analysis is therefore repeating the material understanding mostly by memorisation and at best, partly by rephrasing (Turker, 1991, pp. 299-305).

Teaching Foreign Language Literature to non-native speakers is not always easy, where linguistics is at the focal point in the ELT Departments. As Turker (1991) states, Topping (1968) excluded literature from the foreign language curriculum, because of its structural complexity, lack of conformity to standard grammatical rules, and remote control, because literature does not contribute to foreign language student's practical goal of achieving linguistic proficiency.

For Povey, the linguistic aspect is overstated, because there is no need to understand the whole text and Widdowson adds, the focus of literary study should not be limited either to language usage or cultural content and literature should be viewed as discourse (Turker, 1991) and discourse is a way of life (Deleuze, 1990) and the study of ELT discourse is a necessity. Teaching is a part of the dominant ideology and education policy. Therefore, literature as a discourse must be studied in order to be deconstructed in Turkish ELT context and concepts like "success," "competition," "difficult," "good," "standard" must be deconstructed and decentralized in dominant thought.

As a result of global education reforms in Europe, curriculum standards in many countries place too strong emphasis on system world of knowledge, like structural knowledge of system, technical skills and cognition (Habermas, 1972). In order to be competent and respected in the capitalistic society, Turkish students are required to be "successful" and curriculums are designed accordingly. Therefore, even the obligatory

fourth year courses like Drama Analysis and Teaching and Poetry Analysis and Teaching are removed from the ELT department curriculum at Anadolu University with the decision of the head of the Department, because the majority of the students did not want to take these" time consuming", "difficult" and "unnecessary courses." They had to prepare for the YOK (Higher Education Institution) exam consisting of multiple choice questions (Mathematics and Turkish analysis and synthesis questions and no field knowledge) for a teaching position in a State school, which they had to pass to be competitive and the "difficult" content of remaining Literature classes should be transformed into a "student friendly" one.

To change these views related to literature among both Turkish students and teachers via literature in ELT Departments and high schools is a very difficult task. Teaching is a process and it requires time and patience. The materials should be chosen carefully to provide extended themes and concepts to be discussed. They should be ''interesting'' and open the way for questioning life problems and requires a wide schemata. So, the focus should be on the needs and expectations (enlarging the schemata) of the students, who have been trained in multiple choice questions tests starting from primary school till entering the university exam (YDS) (Foreign Language Test), followed by state job (teaching) placement exam (KPSS), academic degrees (multiple choice question test ALES) and so on as a profit sector (students attend private school like institutions ('Dershane').

3. **Theoretical and Conceptual Framework**

But what do the students need in order to form self-identity and to become competent self-reliant individuals in a competitive capitalist system to make their own decisions in life (job choice, career making and seemingly irrelevant theme in ELT context is the partner choice). Teaching is mainly

considered to be "a woman's job" in Turkish society and a female teacher candidate will have the opportunity to make a "good marriage." Parents usually decide for job choice. Teaching is one of the top jobs providing a secure position at a State school with two months summer holiday and 5 half working days. It is also fashionable for male students, who do not have the formation to study engineering, medicine or law.

Reading Turkish society and culture through Pierre Bourdieu

So, the reading of Bourdieu provides insight in habitus formation in Turkish Schools and teachers' roles. Such, there is the possibility of change in their outlooks related to creative teaching and learning environments, and to produce original learning outcomes and the possibility of change in teachers and student's attitude towards education.

Bourdieu being influenced by structuralism asserts the idea of 'genetic structuralism' saying that power relations are embedded in the everyday life. He sees power as culturally and symbolically created, and constantly delegitimized through interplay of agency and structure. This happens through 'habitus' or socialised norm and tendencies that guide behaviour and thinking. Habitus is not fixed or permanent and can be changed under unexpected conditions and over a long historical period. Social practice, cultural signification and class status are the consequence of meaning construction (Bourdieu, 1996, p.179). His Reflexive Sociology (Bourdieu, 1996, p. 242) aims at understanding of the way people read, understand, and interpret and live their everyday lives. It is an objective analysis of the structure which frame, limit, control and influence social life. Bourdieu aims at breaking down the traditional sociological dualisms arguing that people's activities as being simultaneously shaping and being shaped by the social world.

Behaviour is socially constructed and signs show status. The 'field' of social relations refers to the areas of social life where strategies are used in the struggle for resources:

> A field of possible forces exercised on all bodies entering it, the field of power is also a field of struggle, and may thus be compared to a game: the dispositions, that is to say the ensemble of incorporated properties, including elegance, facility of expression or even beauty, and capital in its diverse forms - economic, cultural, social -constitute the trumps which will dictate both the manner of playing and success in the game - in short, the whole process of social ageing which Flaubert calls 'sentimental education.' (Bourdieu, 1996, p.10).

Sociological methods have to observe both of these dynamics together. And with reflexive sociology, Bourdieu is concerned with the different power relations between researchers and researched as he rejected the divide, because the researcher is part of the social world and must adopt a critical attitude to own practice. Practice is neither unconscious nor conscious as people know how to act in daily activities. People draw from 'doxa' their 'taken granted world beyond reflection' (1997). The social World, in which people are born, is already structured. Each area of social life has its own social order. There is the need to unpack the nature of social rules, practices and strategies in an intuitive, automatic way people read and understand the social world in which they operate. People engage in the social world using a combination of the 'practical sense' and 'doxa' (Bourdieu, 1996, p. 184). Agency involves individuals strategically engaging in and manipulating the rules of the social situations by playing a game. Going to a university and studying for a degree can be seen as a game with a very definite rule and teachers can be seen as agents manipulating the rules.

For example, in Turkey, a young man or a young woman of 18 has to be a university student in order to be 'accepted' and 'respected' as an individual in the Turkish society and so secure the position and prestige of the parents. The test taking process continues although the schooling career sometimes until the age of thirty in the search for the most 'desirable job,' which is a vague concept and remains as a matter of taste. As a result of this demand in turn, the teachers prepare the education environments by giving the students what the majority want.

So, the students come short in becoming autonomous and independent creative learners and a wish of conducting original research (they are also not given the opportunity to come up with original ideas and good research). The teacher spoon feeds the students and the students who memorise the given information do not want to challenge the prevalent system (leading to capitalistic 'success'). Accordingly, the curriculum and school programmes are designed to maintain the old order. With the help of the parents and teachers, the candidates develop a wrong sense of taste in which they ignore reading long texts like novels and anything they think is 'difficult' and develop no taste for artistic creations. They also do not want to write long essays that require critical reading and academic writing skills as also evident in their essays and paragraphs. They are aim oriented (M.A. or even Ph.D. to gain 'signs').

Unfortunately, in the recent years there is no guarantee for teaching positions at (State Schools). The center of the political discourse becomes "university" centered and the slogan is opening "as many universities as possible" to provide new career and job opportunities for young people and to delay their job needs. University teaching positions are more prestigious. So, the students develop a 'feel for game'; what are inappropriate, good and bad moves. They

develop skills to play the game intuitively. There is an unending demand for 'Dershane' (teaching test strategies only- it is another job possibility) and the parents pay willingly.

In case of being "unsuccessful" the system will devour the individual. The fear of losing their job will make the individual submit and obey. Ironically, the unqualified university student, too, is the subject to the same threat. It is a game to be played in Turkish society, but neither the university graduate nor the parents (teachers, even Professors) question the 'fair play' of the staged game.

Understanding of what is happening becomes crucial to understand social life (habitus). So, how is habitus formed and why are they unchallengeable as they are a set of dispositions resulting in particular practices, improvisations, bodily attitude, gestures, etc., which provide the 'feeling for the game.' Teachers show a stereotypical behaviour in their attitudes, codes of behaviours, related to teaching and social life. 'With a deeper analysis of the meaning of cultural signs and meaning formation and strategic action and class power Bourdieu tries to show habit formations.

University life and career is planned and designed according to approved and accepted social order, for example, a title is gained for material profit (for Bourdieu educational degrees are a form of cultural capital and are 'traded' for money and used in personal relations). The possessors of symbolic capital are not only able to justify their possession of other forms of capital, but are able to change the structure and rules by which the field operates. Higher education is valued commodity, which reproduces the three different elements of capital (economic, cultural and social). Bourdieu also attempts to understand social inequality and why it is that people acquiesce to power and being dominated without resisting.

It is the culture and ideology not the economic classes or state that promotes that particular education policy, because the policy makers are also from the same society and the same culture. Poverty is taken as the primary reason for not reading books in Turkish society, but in reality people do not have a reading habit. Social classes are reproduced through symbolic domination and the education system (via teachers), because the teachers are the power holders in classrooms and it is up to them to develop taste. Unfortunately, the parents want less art and music lessons and the teachers design their syllabus or school curriculums likewise. An art or a music teacher may be criticized for having graded low by the student's mother the following day. Many Turkish people (even in possession of enough money and status) would be reluctant for going to the theatre and read in analytical way that would provoke to think (a tendency to read for entertainment) and follow the fashion or buy technological devices (iPhone) as signs.

By being both objectivist and subjectivist and realizing the role as both being researcher and the researched, signifier and signified, the teachers and students can become aware of their two sided contribution to the field and structure in the Turkish culture and ideology. Leading to self-awareness, personal growth and enhancing critical abilities beside language competency should be the focus.

'' Experiential Learning'' and ''Nomadic Thought"
The discussion of the various concepts from various different texts of literature (poems, short stories, novels or movements) in an interactive and communicative way seems to make this aim possible. Unfortunately, the afore mentioned habitus prevent them to indulge in the thinking process actively. This habitus discourages both the students and the instructors, so that the content of the course and style becomes a great subject of debate. Everybody comments on the content of the course (like texts should be short, uncomplicated, interesting and entertaining and so on). This view is also sometimes reflected on the students. So, the deconstruction and decentering of these particular concepts and false ideas about literature classes are necessary to open up a new plane for teaching "thinking" in the sense of Gilles Deleuze via literature as "thinking" is not the job of philosophers only, this can be achieved through literature:

> The interaction of philosophy and art should create difference and divergence, rather than agreement and common sense. Philosophy has to do with creating concepts; while art has to do with creating new experiences, but the two can transform each other . . . new concepts in philosophy can also provoke artists into recreating the boundaries of experience. For this reason Deleuze drew upon all sorts of texts, insisting on their difference from each other and on their power to transform each other. His work does not provide a theory of literature so much as a way of forming questions through literature, questions that should challenge life... Opinion is a very inertia or failure of thinking, opinion is laziness... (Colebrook, 2002, pp. 7- 16)

So, students and future teachers' ideas about literature must be challenged through the discussion of concepts via literature as a tool in order to redefine and create new concepts instead of internalizing clichés (like the difficulty of literature). Unfortunately, the students insist (misbehaviour-ignoring what the instructor says) on teacher centered classes and coming to the class unprepared and creating a negative atmosphere in the classroom. The high anxiety about the midterm and final grades bring high expectancy for ready answers that they can memorize for the exam (rather than relying on their own analysis and synthesis abilities and reading capacities).

Instead of generating their own flexible ideas, the students tend to write the given answers in hope of high grades. The presenters, too, are reluctant in taking the responsibility of their own presentation tasks, even though they are told to be graded for midterm (correct and hand in their presentation reports after the teacher's feedback in class and to distribute them to their classmates the following week). Some of the students copy pasted (plagiarism) and prepared superficial power point presentations (although instructed what and how to do). The ways for changing the notions of the students should be thought about. Although the students have taken autonomous learning, listening and note taking, critical reading and academic writing in the first year many remain passive.

4. Method
Syllabus design and materials used during the semester
Due to some students' weakness in critical thinking abilities and reading/ writing/ speaking skills, poems and short texts, which are easy to handle, but dense in meaning are chosen. The following romantic and realistic poems "*The Tiger*," " *The Lamb*", "*The Sick Rose*'' by Blake, "*I wandered Lonely as a Cloud* " by Wordsworth, " *Ozymandias*" by Shelly are chosen to discuss, religion, environmental aspects and nature and human relations, power relationships in context of capitalism, industrialization, technology, progress and patriarchy. And the poem "*Oh Captain, My Captain*" by Whitman to discuss the concepts of "democracy", "tolerance", "equality," "individual power" and "self" and "identity" are chosen. The poem "*Ah Are you Digging on my Grave*" by Hardy to discuss "the place of woman," "the role of woman", "love," "marriage," "betrayal" and "exploitation" in context of colonialism is chosen.

Naturalistic or modern short stories (3 to 4 pages) are chosen to overcome reading anxiety. *Trifles* (8 pages drama) by Susan Glasspell is used to discuss the concepts of "crime" (visible and invisible), "violence," "sanity," "insanity," "normal," "abnormal," "justice" and the "place of woman," "sisterhood" and "feminism." Bernard Shaw's play *Pygmalion*, which is assigned for out of class reading to display drama of ideas.

A short poem " is discussed in the first class and the students are asked to figure out the connotations and denotations of the words, the figures of speech and the imagery that they have learned in the previous semester. After the first class the film *The Dead Poets Society* (educational and literary aspect) is assigned to make them draw parellelisms with all the other texts.

The analysis of the concepts is activated by the teacher's schemata mainly based on the views of existentialist anti- psychiatrist R. D. Laing, Foucault and Deleuze and Guattari's views of "nomadic thought," (wandering thought) / shifting ideas) and androgynous way (students coming from different regions) of perception.

Teaching style and tasks assigned to students
In the first semester approximately 200 students take the three hours obligatory course *Introduction to English Literature I* in eight groups (25-30 students). The courses are conducted by two instructors (as decided by the head of the department) in two major divisions (six groups (exhausting- tiring experience) by one instructor and two groups by another instructor). The teaching style in the first six groups is lecturing (easier to handle with), where students are memorizing the transferred information. In the second two groups the students are required to take part at the class discussions, but the lesson is mainly carried out by the instructor.

The subject of this study is the *Introduction to English Literature II* course. Seven groups with the similar number of students take the

course from the researcher whereas the instructor with the two groups took only one group she knew from previous semester.

Students' presentations

The students are required to make 10-15 minute presentations on the assigned topic in the first lesson (each week three students are asked to volunteer for the next week). The topics may vary from historical events to literary movements that are related to the back ground of the literary text. When discussing the text the following two lessons, the instructor elicits and prepares an atmosphere for brainstorming and activation of schemata to foster student-teacher interaction and a "thinking process".

By close reading of the text, students are required to concentrate on the title, the keywords and important lines and they are guided to express their own opinions. The instructor conducts the discussion and gives spare ready answers, so that they are left with some questions in mind to lead them to research. They should read the text before coming to class to overcome language difficulties and to make research about literary, historical, biographical background.

5.   Feedback and Findings

The students are asked to write feedbacks and hand them in right after the final examination to evaluate the whole semester. In order to avoid fears about grades they are assured not to be marked by their feedbacks and asked to be sincere. They were told that they did not need to write their names if they did not want to. 100 randomly chosen feedbacks are evaluated and the findings can be summarized into negative and positive feedback.

Negative feedback

For some students, the student centered nature of the classes is annoying and literature classes were difficult and useless. They also found the presentations unnecessary, claiming that they were copy-

paste and they preferred lectures. The result of the process is the lack of ready notes and material for studying for the exams (as they tend to study in the last week- the last day). They also critisised the teachers' shifting (disconnected ideas)' ideas displaying nomadic thought (the teacher is jumping from one idea to another). They also had difficulty in restricting and presenting their topics in front of their classmates (they are not like the instructor).

Positive feedback

On the other hand, the majority of the students think that despite its difficulty the literature classes are useful and thought provoking. They have gained different perceptions and sensations related to many fields of life. They developed a taste for artistic creations and a feeling for perceiving abstract ideas and the teacher with her different teaching style and teaching philosophy and use of humour becomes a new model. The presentations are useful because they gained self-confidence and became aware of their own capacities as well as opportunity to practice and present what they have learned (many interrelated information) in front of the class, so that they can overcome presentation anxiety.

6.   Discussion and Conclusion

Whereas some students resist changing, the majority of the students show willingness despite their habitus (the classes were thought providing). Some of them showing misbehaviour in class (which is dealt by the teacher with sarcastic language - student feedbacks) which is a big problem in EFL classes, where students make fun of the teacher' s tone of voice (the first semester's lecturing instructor) or pronunciation or language insufficiencies.

A research done by Neşe Cabaroğlu and Zeynep Altınel (2010) at Çukurova University (ELT Department) also revealed that teachers did not use a particular systematic approach in dealing with misbehaviour (teachers do

not know how to cope with). Thus, the research suggested that during pre-service education student teachers should be made familiar with proactive and preventative management concepts and approaches. Additionally, they should be required to try out some of classroom and behaviour management skills during their teaching practice (the ability to use humor and make fun of oneself gained at presentations). As for the teachers, in-service training courses should be provided and certificates given (this would be artificial training and giving certificates is a new fashion in Turkey) in order to refine their classroom management skills and these courses or seminars can be organized in cooperation with universities and psychological counsellors in schools (this would also be problematic- teachers tend to get rid of the ''problem student'' by sending them to psychological counsellors (same habitus) rather than investigating the real causes of the problem and the labeled student ends up taking countless treatments and pills). This model would also label the teacher candidates.

Anti-psychiatric approach, flexibility, nomadic thought and the use of humor (the teacher's ability to make fun of oneself) and teacher as a guide would be useful. Self-awareness (knowing real capacities) and the use of a broad schema would solve the problems. Despite self-criticism some of the students still have much expectancy from the teacher. The pressure of the competitive system and their inability to cooperate and establish real friendships make them work in isolation (habitus). Lack of organization abilities and selfishness prevented them from sharing their slides on time, so that they could not study regularly. Even though, having not read the material on time they expected the teacher not to get angry. The students think that the system is unchangeable as there are limitations. Their effort would not be enough and they are not ''responsible'' for their own behaviours (despite a democratic and flexible learning environment - open to creation and productivity). Despite the negative feedback the effect on the students is hopeful (take selective literature courses).

The studying process for the final examination (which they postponed till the exam time) was also useful in consciousness raising. The '' unusual final exam '' consisting of analysis and synthesis questions (tests or fill in the blank questions in other courses are common among ELT instructors) to challenge them. They were required to write a paragraph for each question (6 questions / & 6 paragraphs to check what they have internalized although it is a time consuming activity to read 4x 200= 800 exam pages in ten days) related to the texts discussed in class. Fifty six students out of 200 had to take the resit exam and about 30 of them passed with just the average marks. The second instructor (M.A. thesis in literature on D.H. Lawrence- Deleuze) with the remaining one group is also shocked, because although the group was good at presentations and class discussions 10 out of 30 students had to take the resit exam as they handed in blank exam papers (high expectancy of teacher centered class and memorisation).

Despite the difficulties and rejections of the students and instructors (in the first semester the instructors excluded students' presentations, because of the above mentioned problems) there should be presentations in literature classes to make the students autonomous and the texts should be thematically interrelated and the teacher's role is great in introducing the text as a tool. The focus should be on producing ''thinking process'' and to make them speak out. They should also be given philosophical papers or quotes from various thinkers (beside their conduct of research on the internet).

Ways to prevent plagiarisms should be thought about (students' projects are done by their parents at primary and high school –

also known by the teacher). On the other hand the great number of young people in Turkey and the lack of the qualified instructors (mass production of teacher candidates at countless Education Faculties established overnight), the game will go on and can hardly be changed and requires a long period as the ÖYSM (a center for exams providing money for the instructors and teachers conducting the sessions) which is viewed as the ''only solution'' for 'fair' choice (no personal relations). As stated by Deleuze, all forms of art, literature, theater, cinema and philosophy should be integrated in the Turkish education system to do philosophy (life and education), which is a task for everybody, especially teachers (as a guide).

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The concept of teacher resilience: A contribution towards professional development

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Abstract

Retaining teachers in South Africa during and after their early stage of teaching has become a problem of concern to the government and institutions involved with teacher professional development in higher education. So far the solution has been to double the graduation rates of new teachers in order to meet this shortage. Whilst the underpinning approach is to adequately prepare the teachers with pedagogical and content knowledge essential to be a teacher. This approach seems not to solve the problem of teacher leaving the profession a couple of years after their professional preparation. In order to understand the problem a qualitative in-depth interview was used to investigate the problem. Five multi-grade teachers [minimum of nine years' experience] from remote teaching contexts participated in the study. The reasons behind why they have stayed in the profession were examined. The findings of the study reveal that teacher resilience accounts for their longevity. These teachers have demonstrated their commitment to the field and have acquired sustainable professional tenacity through the challenges posed by the multi-grade teaching context. Their stories give valuable insight into the issue of teacher commitment in difficult conditions. Although teacher resilience is a relatively recent area of investigation in professional development, it has nonetheless provided a way of understanding that which enables teachers to persist in the face of challenges and offers a complementary perspective to studies of stress, burnout and attrition. This paper therefore reveals that if the concept of teacher resilience is developed and taught as a professional responsibility to pre-service teachers who are potentially vulnerable to the reasons that may lead them to leave the profession before maturity. This could serve as a reliable solution to the problem of teachers leaving the profession few years after inception.

1. Introduction

South Africa is exactly at the end of the second decade since her first democratic election. In spite of great progress in education [policy], its education system still faces serious objective difficulties, which have presented some challenges in meeting the high expectations of the South African society. It is disturbing to realise that each year thousands of new teachers enter the profession, only to leave a few years later.

Though some teachers stay until retirement, others leave earlier for reasons within the teaching environment and personal reasons. Although teacher attrition has always been a problem in the education systems around the world, central to this article is the argument that attrition may be reduced by introducing resilience into the teacher development programme for initial teacher preparation at universities. In presenting the argument, the paper is divided into the

following subheading; literature review, theoretical framework, methodology, data presentation and discussion and finally conclusion.

2. Literature review

A concerned picture painted by teacher attrition and a look at the pre-service programme

A noticeable number of teachers leave the teaching profession after a relatively short period of service; a majority of these teachers are usually at the initial stage of their professional serve and are otherwise referred to as novice teachers. According to Barrett, Jones, Mooney, Thornton, Cady, Guinee, and Olson (2002) a novice teacher is one with less than 3 to 4 years of teaching experience and one whose teaching tends to focus on survival. A review of literature (Department of Education, 2009; Gordon, 2009; Pitsoe, 2013) suggests that South Africa will need between 20 000 and 30 000 new teachers every year for the next decade.

This is nonetheless in relation to the learner to teacher ratio of 38:1. The Minister of Basic Education, Angie Motshekga, revealed that 24,750 teachers left the profession between 2005 and 2008 because of resignation, death, dismissal and early retirement due to ill-health. However, the number of graduates entering the profession from the initial teacher education system is far lower; estimated to be at the rate of 6,000 annually. Furthermore, it had long been suggested that by 2015 there will be a shortage of approximately between 15,000-22,000 teachers (DoE 2005, p. 75). That notwithstanding this number would only be true if the estimated 36% of the teachers aged 40-50 would have reach retirement around 2013-2014. Inevitably, this number will eventually go out of the system even after 2014, therefore their replacement is imperative and a concern for teacher education institutions and the department of education.

The rate of teachers leaving teaching owing to retirement, medical incapacity and death has increased steadily in South Africa (Pitsoe, 2013). One reason is the HIV and AIDS pandemic, where low socio-economic status and living in rural areas may expose teachers, and particularly women, to the risk of infection (Gordon 2009). Unfortunately enough, the highest rate of attrition usually occurs early in the teachers' career and this could be related but not limited to job changes, further education and childbirth. It is also noticeably high at the end of the teachers' career and could either be retirement, illness or death. Taking nothing away from the data, it should be noted that the accuracy and consistency in obtaining statistical data on teacher attrition is still difficult in South Africa (South African Council of Educators, 2011).

Teacher attrition is not a problem experienced in South Africa alone; as other countries are experiencing a decline in the supply of teachers –though not on equal proportion. For example, it has been reported that a global total of 10, 3 million teachers should be recruited between 2007 and 2015 with a severe shortage of teacher in sub-Saharan Africa required (UNESCO Institute for Statistics, 2009). According to the Tanzania Education Network (2008), low salaries and poor conditions of service are the main cause of attrition. The low salaries and terrible conditions of service have contributed to a general decline in the status of the teaching profession. Suell and Piotrowski (2007) note that in the United States, about a third of all teachers leave the profession, half of them within five years.

Although the report did not suggest the exact reasons, it however related them to stress and learner behaviours. Coughlan (2014) reports that a major study by OECD reveals that less than a third of teachers in developed countries feel their profession is undervalued. This also paints a gloomy picture of teacher recruitment and retention.

Research on attrition and retention shows that conditions in the work environment such as school working conditions, work assignment factors and teachers' affective reactions to their work have a significant effect to the teachers' job satisfaction and subsequent career decisions (Utah Foundation 2007). Recent research evidence from South Africa also revealed that low salaries, work load, professional incapacity to cope with curriculum changes, stress, working conditions and student discipline problems, administrative support, and lack of professional development support have contributed for teacher attrition (Crafford & Viljoen, 2013 and Pitsoe, 2013).

To balance the demand and supply equation, higher education institutions and the department of education in South Africa have resort to double the graduation rate of teachers to meet this shortage. It is therefore of no doubt that most reports on teacher shortage rarely address quality issues. One of such measures is the availability of funding for teachers such as the Funza Lushaka bursary scheme created with a purpose to increase graduation rates for education students, and to attract more grade 12 graduates to choose teaching (Brynard, and Netshikhophani, 2011). These sponsored students are required by contract to serve in South African public schools for an equivalent period the bursary has paid them to complete their studies. Unlike other professions, the high demand for teachers seems not to reflect their remuneration when compared to their counterparts with the same qualification such as engineering and law. Nonetheless, South African teacher earn more than other developing countries, this is in relation to the per capita income of South Africa.

An evaluative analysis of the approach used by most teacher education institutions seems to suggest that their attention is oriented towards the preparation of a teacher with professional competency within the frames of pedagogic content knowledge. Arguably, this approach seems to underpin the main concept of teacher education curriculum at universities in the preparation of pre-service teachers. Although pedagogic content knowledge is appropriate in its own right, the entire teacher education programme appears not to address the problem of teacher attrition and retention. A study carried out by the Human Science Research Council in 2005 found that 55% of teachers would want to leave the profession if they could. The curriculation of the human component specifically personality development seems not to be given enough attention within the entire teacher development for teachers within South Africa and perhaps in most part of the world.

Why do other teachers stay? The need for resilience

The variety of stresses faced by teachers is of no doubt that some teachers respond with common physiological, and/or emotional manifestations of stress and are sometimes compelled to leave the profession altogether. Authors (Crafford & Viljoen, 2013; Pitsoe, 2013; Arends, 2011; Egu, Nwuju, and Chionye, 2011) have focused much of their attention on the teachers who leave the teaching profession and not much is being written about the teachers who stay in the profession until retirement comparatively.

Therefore the reasons behind why some teachers are able to continue are yet to be fully documented. Presumably, it could be correctly argued that the teachers who stayed were exposed to the same circumstances that their colleagues who left have been exposed to (Lantieri, and Malkmus, 2011). The reasons behind how they went back to the classroom day after day and year after year portray the personalities that seem to cope with stress and thrive in its face as 'stress-hardy personalities' (Lantieri, and Malkmus, 2011).

Kyriacou, (2001) argues that those who stay are at risk of developing: teacher burnout, a multidimensional construct that consists of emotional exhaustion, depersonalization, and reduced personal accomplishment. Ideally, burnout occurs when teachers have attempted unsuccessfully to cope with stress over 'long' periods of time. A research by Lantieri, Kyse, Harnett, and Malkmus, (2011) suggest that stress management skills used by more resilient people can be taught to those at risk allowing them to learn to manage their stress successfully.

The study proposes three personality component; firstly commitment –having a sense of purpose, secondly control –being able to incorporate stressful events into one's life plan and finally challenge –responding to stress as an opportunity to grow. These components were also attributed to account for one to be resilient. Furthermore, recent studies in psychology suggest that people are able to acquire a resilient mind-set rather than an inborn personality trait (Harvey & Delfabbro, 2004). From this perspective, a sense of urgency and achievement can be learned rather than an innate characteristic consideration. Some researchers have further theorized that certain temperamental characteristics may prepare some people to best handle stressful environments better than others.

3. Theoretical framework

The theory of resilience was used as a lens to understand how some teachers are able to continually endure in times and milieu of difficulties. Unfortunately, there is a lack of consensus regarding the definition and importance of resilience with issues associated with its concepts, and assessment. As noted by the American National Research Council, "the meaning of 'resilience,' is far from clear. Numerous definitions of 'resilience' exist, and the term is often used loosely and inconsistently" (NRC, 2011, p. 27). Notwithstanding, resilience was considered to be the capacity to maintain

competent functioning in the face of major life stressors (Van Breda, 2001).

Martin-Breen and Anderies (2011) argues that the capacity of an individual to cope during difficulty is central to their resilience. Teacher [in multi-grade classrooms] are often faced with a career threatening circumstance that leads to stress in their combined classroom coupled with sometimes adverse leaving conditions which often results to an individual's vulnerability.

According to Van Breda (2001), there are four patterns of resilience; dispositional pattern which relates to physical and ego-related attributes of a person. The relational pattern is then concern with an individual's role(s) in society and his/her relationship with others. The situational pattern links the individual and a stressful situation and begins to depict an individual's problem solving ability, the ability to evaluate situations and responses, and the capacity to take action in response to a situation. Finally, the philosophical pattern refers to an individual's world view which may include but not limited to his/her beliefs, which could promote or inhibits the person's resilience. The four patterns have the potentials to promote an individual's disposition towards life stressors which could be measured.

Two concepts underpin the theory of resilience [individual] which are adaptation and coping. Adaptation being the adjustment in the face of challenges could be positive, negative or neutral. According to Van Breda (2001) an individual's decision in the face of challenges could be based on an immediate condition, their past knowledge or newly acquired information. On the other hand, coping can be seen as the process of an individual's intentional actions towards change in response to a stressor (ibid).

Although the applicability of the theory of resilience is relatively new in the construct of teacher professional development, Martin-

Breen and Anderies (2011) reports that the construct of resilience has become increasingly accepted in education. Therefore in an attempt to understand why some teachers do not quite their profession, the theory of resilience was necessary to best interpret the realities of the teachers. An understanding of the participant's reality will significantly contribute to the professional development of pre-service teachers. Reasons being that a majority them could be predisposed to vulnerability in the face of professional challenges and frailty being the only reason for them to quite the profession before maturity.

4. Methodology

In order to understand the reasons why some teachers do not leave the profession, five teachers –from multi-grade schools, were selected. Multi-grade school refers to a school that consist of two or more grade levels placed in the same classroom, with one teacher given the responsibilities of teaching these different grades (Little, 1995). However, not all the classrooms in a school may have such a combination of grades but at least such a classroom combination must be found in the school; for it to be called a multi-grade school. The professional life of teachers in mainstream schools is interwoven with challenges on and off their school environment; the daily reality for multi-grade teachers are comparatively enormous due to their uniqueness of school and teaching context (Brown, 2008).

These schools are prevalent in areas of low learner enrolment and/or in schools with a shortage of teacher supply and in KwaZulu-Natal; they are predominant in deep rural areas (Doh Nubia, 2013). Besides the remoteness of context these teachers face an ongoing challenge teaching in a multi-grade classroom and the reasons why they have continue in such an environment was behind their selection. At the time of the study, these teachers (participants) were teaching in a multi-grade classroom.

The participants were purposively selected although two participants were selected through snow balling; a referral technique usually implemented when the desired participants are rare (Cohen, Manion, & Morrison, 2011). All five participants were black, female and between the ages of forty to fifty-two. Three of them were primary school teacher while two were teaching at the secondary level.

The lowest had a minimum of nine years teaching experience in a multi-grade classroom while the rest were between fourteen to twenty years of experience. The participants' schools were from Umgungundlovu, uThungulu and ILembe education district respectively. Using a qualitative approach, participants were interviewed to explore an in-depth into the reasons they have been teaching for such a time. The interview sessions were face-to-face after a careful explanation of the study and the ethical aspects involved. The interview required the participants to introspect in retrospect of their personality as far back as they could. The nature of questions required sufficient time for reflection and to achieve this objective participant were well informed prior to the interview.

5. Data presentation and discussion

After a careful analysis of the data, with an understanding as to why some teachers have managed to successfully stay in the profession over the years was the focus in the analysis. The following themes emerged from the data; commitment and challenging the challenged.

Commitment was a personality trait all the participants exhibited. Commitment was taken to mean having a sense of purpose for career and learner achievement. Having a sense of purpose in a multi-grade teaching context requires an extreme dedication to teaching. Commitment was seen from

several positions. One of the participants, [the only natural science teacher in the school] said that 'I'm still here because I'm the only natural science teacher ... my absence will be a problem'. This teacher under the current circumstance have over time reconcile with the stressors of being the only teacher for years with more than one grade learners to teach in the same classroom. Her continuity in the service indicates that she have successfully adapted to the situation. Furthermore, the prolong unavailability of a natural science teacher in the school also goes to show on the one hand how some teachers are compelled not by training to become committed and resilient while on the other hand they run a risk of teacher burnout as suggested in literature (Kyriacou, 2001).

Moreover a general sense of commitment was found with all the teachers and interesting enough the commitment was not on their job per say but on the learners. These teachers found the interest in their learners' future and were then determine to contribute into their future as much as they could and this according to them account for their commitment. One of the participants expressed her satisfaction thus far and was proud for being committed in teaching. She stated that, '...being this long some of my pupils are now medical doctors, lawyers and even principals'. Her understanding of job satisfaction (and the other participants) was as a result of continues commitment and determination to their learners achievement. Such understanding of professional commitment needs to be given some attention in the curriculum of teacher education than its currently being given.
There were other reasons for their commitment such as the pleasure of being the first teacher to teach pupils how to write their names [an early childhood teacher]. Such optimism had a huge contribution to her commitment. Interesting enough, all the participants made it clear that their sense of commitment was not as a result of the

training they received years ago but rather they have acquired these ability through a successful process of adjustment in the face of challenges in their career therefore have adapted to the realities of their professional demands.

Although teaching in a multi-grade school context is of greater challenge than in mainstream schools; the teachers have over the years challenged the challenge rather than quitting for an alternative teaching context or leave the profession entirely. This personality is suggested to be acquired through mentorship and school support systems as revealed by the participants.

Mentorship was through more experienced teachers that nurture them and inculcated the ability to stay in the profession as said by a participant. 'when I just started [teaching] many times I felt like to quite, I'd many learners in my class but I received help from this experienced colleague.... If not I would have left' collegiality seems to have played a part in her willingness to stay though she however confess that she still feels the nudge to leave emanating from the spontaneous violence that usually occur in and around the school community. Mentorship through collegial relationship needs to be emphasized in pre-service teacher education curriculum to have a national and robust impact in teacher attrition and retention.

One of the teacher's ability to face the challenge came from the absence of available and preferable options besides teaching. She explains that, 'I never wanted to be a teacher and I still don't want to be, I'm only here because of the general curriculum I went through before 1994'. The limitations of her curriculum have benefited the profession although she is not willingly but have over the years successfully stayed. In spite of the successful stay, these participants are in continues battle with the challenge of being a teacher and the type of school they do teach makes it more

challenging for them. Judging from their longevity it would be understood that they are coping with the problems and are growing in their response to them. This therefore suggests that their internal locus of control is adequately responding to the challenge through their attitude, preparation and effort.

Despite this strong personality shown by these participants about their work, the participants nevertheless claimed that a strong sense of duty informed their general attitudes towards teaching and that they tried throughout, to deliver quality teaching on a professional basis irrespective of the large class size and the presence of more than just one grade of learners in their classroom. In doing so, their subjective construction of reality was essential for their commitment and in facing the daily challenge in-side-out. There by acquiring sustainable professional tenacity not being provided for by their initial teacher education training but rather through a self-motivated learning in the midst stress, too much paper work, school violence, absence of corporal punishment and learners' right. The changing role of teachers today was perceived to be a hindrance for some novice teachers to become as resilient as their more experienced counterpart of who according to

them is more than just impartation of knowledge today.

6. Conclusion

The current approach to double the graduation rate while preparing pre-service teachers with pedagogic content knowledge essential for teaching seems to have a shortfall in keeping the teachers in classrooms. This approach appears not to solve the problem of teacher leaving the profession a couple of years after their professional preparation and presumably, some teachers do leave the profession willingly to join other profession.

Although teacher resilience is a relatively recent area of investigation in professional development, it has nonetheless provided a way of understanding that which enables teachers to persist in the face of challenges and offers a complementary perspective to studies of stress, burnout and attrition. if the concept of teacher resilience is developed and taught as a professional responsibility to pre-service teachers who are potentially vulnerable to the reasons that may lead them to leave the profession before maturity. This could serve as a reliable solution to the problem of teachers leaving the profession few years after inception.

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Evaluating a short Biostatistics course for improving statistical knowledge of Biomedical researchers: A pilot study

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Abstract

This study was designed to establish whether a short-course on basic biostatistics and computer based statistical software has the capacity to improve knowledge and performance of statistical analysis by biomedical researchers. It is established that knowledge of biostatistics is essential for understanding and interpretation of modern scientific literature and active participation in the global research enterprise. Unfortunately, it has been observed that the training of South African scholars is deficient in applied mathematics including biostatistics and its research applications. A cohort of 40 biomedical researchers volunteered for a four-day course in basic biostatistics in 2011. Participants were exposed to lectures on descriptive and inferential biostatistics and practical training on use of computer based statistical software in data analysis. A quantitative questionnaire was used to evaluate participants' statistical knowledge and performance pre and post course. Changes in knowledge and performance were measured using objective and subjective criteria and analyzed using descriptive and inferential statistics. Baseline testing of statistical knowledge and terminology showed a median score of 0, with a 75th percentile of 28.6%, and a maximum of 71.4%. Post-course evaluation showed overall improvement in participants' core knowledge with the median knowledge score increasing to 28.5%; and the 75th percentile score to 85.7%; with a trend towards improved understanding of statistical concepts and ability to carry out basic data analyses. This pilot study supports recent reports that most South African students have deficient knowledge in science and mathematics including biostatistics. This may impact on their ability to apply proper statistical knowledge in research design and interpretation of scientific data. We conclude that similar short courses in biostatistics may assist in improving core knowledge of biostatistics and applied mathematics for postgraduate students and biomedical researchers in South Africa.

Keywords: Africa, biostatistics, knowledge, researchers, short-course.

1. Introduction

Statistics may be defined as that branch of mathematics that involves the collection, analysis and interpretation of data (Moses, 1986; Hayes, 1973). In this context statistics has been described as the science of learning from data, and measuring, controlling and communicating uncertainty, therefore it represents an essential tool for controlling the course of scientific and societal advances (Davidian & Louis, 2012). Based on this concept, statistical methodology is applied to almost all fields of human endeavour ranging from astronomy to biology, education, medicine, psychology and public health, etc. (Davidian & Louis, 2012; American Statistical Association, 2014). Davidian and Louis (2012) have argued that expertise in statistics will become even more important and critical in the future as the

fields of academia, business and governments come to rely on and demand more data driven evidence to inform decision-making. Biostatistics on the other hand, is that branch of statistics that is applied to a wide range of topics in the biological sciences including medicine and the allied health professions. Knowledge of biostatistics is essential for designing scientific experiments in the medical sciences e.g. clinical trials, as well as the accurate analysis and interpretation of results obtained from such experiments.

It could be argued that knowledge of basic biostatistics and common statistical software packages is essential for all biomedical researchers and students in the 21st century (Lee, 2001; Manyika et al., 2011; Sahai & Ojeda, 1999). Further it has been suggested that all healthcare workers especially doctors and allied health professionals must have a basic knowledge of biostatistics and critical appraisal skills in order to be able to interpret current biomedical and scientific literature in the era of evidence based medicine (Guyatt, Cook, & Haynes, 2004; Taylor, Reeves, Ewings, & Taylor, 2004). Altman (1994) has suggested that lack of proper biostatistical knowledge maybe responsible for the publication of unethical research, including research articles with statistical errors leading to misinterpretation of research results, which could ultimately have a negative impact on the practice of evidence based medicine and global healthcare. Such erroneous publications may lead to derogation from the responsibilities of academic medicine which is ultimately the improvement of global health (Schmidt & Duncan, 2004; Sewankambo, 2004).

The problem with mathematics and biostatistics education in South Africa
Some studies from South Africa have reported that trainee medical practitioners and allied health professionals are required to study courses in biostatistics as part of their professional training, based in part on

the requirements of the Health Professions Council of South Africa (HPCSA), the regulatory body for healthcare professionals in South Africa (Dommisse & Joubert, 2009; Kamanzi-wa-Binyavanga, 1998; Mostert, 2006). However it has been suggested that the training in biostatistics provided to current students and trainees maybe deficient because of overemphasis on general purpose and descriptive statistics (Kamanzi-wa-Binyavanga, 1998).

Further it has been reported that courses in biostatistics and epidemiology are the subjects most despised by South African medical students in the medical curriculum (Mostert, 2006). This has been blamed partly on the teaching approach by teachers of biostatistics who are not medically qualified or appropriately trained in biostatistics (Dommisse & Joubert, 2009). This observation in South African medical schools is in contrast to reports about medical students from other developing countries such as Malaysia (Daher & Amin, 2010), and Iran (Barzagan & Vallai, 2006); where the medical students have reportedly displayed a keen interest in the study of biostatistics and statistical methodology. Another study from Zagreb, Croatia, showed a positive attitude towards biostatistics amongst second year medical students who had recently completed a mandatory course on scientific research in medicine (Hren et al., 2004).

This aversion to biostatistics maybe related to the reported deficiency in mathematics and sciences education of South African students prior to entry into tertiary institutions and medical schools (Bansilal, Brijlall & Mkhwanazi, 2014; Maharaj, Brijlall & Molebale, 2007; Brijlall & Isaac, 2011; Spaull 2011). The above studies reported that the content knowledge of mathematics by high school and primary school teachers was so deficient, that it would be impossible for them to be able to impart the appropriate level of knowledge to high school students,

thereby leading to a sometimes insurmountable level of knowledge deficit, which may be carried over to higher education and professional endeavours by many students. By contrast the common core state standards for mathematics education in the USA require that students be started on elements of mathematics and statistics as early as 6-8 grades (middle school), because it is believed these are preparatory years for entrance into tertiary education and professional life (Common Core State Standards, 2014, p.84).

Impact of South African student's difficulties in mathematics

South Africa is a middle income country with a history of racial segregation during the apartheid era till 1994. During this period there was a systematic discrimination in the funding of black students and historically black educational institutions even up to the tertiary level because it was argued that black students and the black majority had no need for training in the sciences and mathematics (Graven, 2014; Sooryamoorthy, 2010). One of the consequences of the long years of marginalization and neglect of black institutions under apartheid is that, post-apartheid the educational system is dysfunctional and struggling to cope with the demands of the era of globalization (Graven, 2014; Janks, 2013). A recent report by the World Economic forum (WEF) on South African mathematics and science education, ranked South Africa 143 out of 144 countries globally in 2013, (Holborn, 2013), and 146 out of 148 countries in 2014 (WEF, 2014). While these rankings have been disputed by South African government authorities because it was based on the opinion of business leaders, more scientifically acceptable studies have confirmed these findings (Bansilal et al., 2014; Brijlall & Ndlovu, 2013; Human Sciences Research Council (HSRC) South Africa, 2008; Sorto & Sapire 2011; Spaull, 2013).

These deficiencies in mathematics education have been partly blamed on the deficiency of content knowledge and teaching methodology applied by teachers amongst other socio-cultural factors (Feza-Piyose, 2012; Graven, 2014). Other studies have shown that South African science and mathematics teachers are not properly trained or prepared in basic statistics or applied mathematics when compared to teachers from neighbouring African countries like Botswana (Sorto, 2010). The sum total of these observations is that based on analyses of many international comparative datasets on educational achievement, it appears that most South African students graduate from high school with an almost insurmountable knowledge deficit in mathematics and science (Spaull, 2011, 2013). These knowledge deficits in mathematics and science maybe carried forward to tertiary or postgraduate studies in the universities, resulting in aversion to mathematics and biostatistics, thereby requiring some form of remedial action such as continuous professional development or special study modules to remedy.

This study was designed to answer the question of whether a short-course aimed at postgraduate health science researchers will achieve the objective of increasing participants' theoretical knowledge of biostatistics as well as improving their competency in using computer based statistical software for data analysis. The specific objectives of this study were to measure baseline knowledge of biostatistics and competency in the use of Statistical Package for Social Sciences (SPSS) in analysis of data. Also to evaluate using subjective and objective measures whether, the course has brought about a change in these outcomes among biomedical researchers at the College of Health Sciences (CHS), University of KwaZulu-Natal (UKZN) Durban, South Africa.

2. Methods

Study design

This was an evaluation of a teaching and learning programme using pre and post course self-administered questionnaires. The course was offered within the CHS and took place during and after office hours at a campus computer laboratory. The target populations were postgraduate students and biomedical researchers at UKZN.

Study sample

There were 40 course participants. All participants attending the four-day course in basic biostatistics and SPSS during February 2011 were invited to participate in the study. Those who did not complete either the baseline or follow-up questionnaires were excluded from analysis.

Measurement instruments

A questionnaire designed to measure participants' level of knowledge on biostatistical theory and practice, was administered at two time points, before the course and two months after the course. The questionnaire included objective questions addressing knowledge of which statistical test to use in given situations and questions on self- reported understanding of statistical theory (measured on a five point Likert scale). Questions regarding competence with computer-based statistical software packages were also included. Baseline questionnaires were completed by participants before initial lectures. These were identified with unique study numbers which the participants were asked to memorize or record. Two months after the course, participants were emailed the same questionnaire and asked to compete it using the same study number which they were allocated previously. Repeated follow-up attempts were made to encourage completion of post-course questionnaires, however completion was entirely voluntary.

Course presentation

The course was conducted as a four-day training course in February 2011 facilitated by two CHS biostatisticians (TE and NM). The format consisted of 45-minute theory lectures followed immediately by one-hour facilitator guided practical sessions in the mornings. Another one-hour practical session was allocated in the afternoons for students to work through exercises covering the content from that day, with facilitators available to answer any questions. Participants were encouraged to bring their own research datasets for practice and assistance with analysis during the practical sessions. Participants received 10 theoretical lectures covering topics from hypothesis testing to descriptive and inferential biostatistics, including correlation and linear regression. The practical training focused on the use of SPSS in the analysis of raw data.

Data analysis

Quantitative data from evaluation questionnaires assessed objective and subjective knowledge and competency of respondents. Data from completed questionnaires were captured and analyzed using SPSS version 20. Responses to objective knowledge questions were scored by allocating a point to each correct response, summing-up the scores and expressing the score as a percentage of the total number of questions. Participants' pre and post course data, linked via unique study numbers, were compared using non-parametric Wilcoxon signed ranks tests for non-normally distributed variables. A p-value <0.05 was considered statistically significant.

Ethical issues

Ethical approval was obtained from the Biomedical Research Ethics Committee (BREC), UKZN. Informed consent was obtained from all participants.

3. Results

There were 40 eligible participants of which 34 (85%) completed the baseline questionnaires. Sixty-five percent of

participants were female, while 55% were qualified researchers including research supervisors. The rest were postgraduate students or healthcare professionals. Follow up response was poor, with only 6 respondents (17.6%).

Baseline evaluation of knowledge

Baseline statistical knowledge and terminology was assessed using the seven questions shown in Table 1. Respondents showed very poor understanding and content knowledge of basic biostatistics terminology and methodology at baseline. Scores for core knowledge revealed a median score of 0% (53% of baseline respondents), with a 75th percentile of 28.6%, and a maximum score of 71.4% (Table 1). Self- reported knowledge and confidence required in carrying out simple data management and statistical procedures were limited (Tables 2 & 3). Knowledge and skills on general epidemiological and data management aspects was slightly better than that of more theoretical and applied statistical concepts. Less than 20% of

participants had attempted or succeeded in carrying out simple statistical procedures prior to registering for the course.

Post course evaluation of knowledge

Post-course evaluation of the 6 participants who completed follow up questionnaires showed a trend of overall improvement in statistical knowledge with the median knowledge score increasing from 7.1% to 28.5% and the 75th percentile score from 14.3% to 85.7% (Table 4). This change was not statistically significant (p=0.109). However, the power of the study was low as this comparison was based on 6 respondents. There was a trend towards improved understanding of statistical concepts and improved ability to carry out basic analyses using statistical software. Figure 1 shows that for most constructs measured, there was an increase in the proportion who reported good and excellent understanding. Figure 2 also mirrors this trend regarding self-reported ability to carry out procedures using statistical software.

Table 1

Responses at Baseline to Objective Knowledge Questions

State the name of the statistical test you would use in the following situations:	incorrect answer		correct answer	
	n	%	n	%
There are currently two slightly different definitions for Metabolic Syndrome. You do a study to classify participants as negative or positive for metabolic syndrome using both methods and you want to compare the two methods of classification.	32	94.1%	2	5.9%
A study examined whether level of physical activity (3 categories: none, moderate, or high) was associated with cost of healthcare over the period of a year. Data on healthcare costs were provided by a medical aid company which also surveyed its members with regard to level of physical activity. Assume that healthcare costs are normally distributed.	28	82.4%	6	17.6%
You have data on psychological test scores across a wide range of children's ages and you want to be able to predict a child's test score based on his/her age. Assume test scores are normally distributed.	29	85.3%	5	14.7%
A randomized controlled trial to compare CD4 counts between two treatment arms in HIV positive Kaposi's sarcoma patients. Assume CD4 counts are normally distributed.	26	76.5%	8	23.5%

| | 29 | 85.3% | 5 | 14.7% |

A study on school learners' knowledge about HIV/AIDS before and after an intervention teaching session. You want to assess whether the intervention changed knowledge score (measured quantitatively and normally distributed). All learners in the sample are given a questionnaire before the intervention and again after the intervention. — 29 — 85.3% — 5 — 14.7%

You want to assess the presence and strength of relationship between age (measured quantitatively in years) and duration of untreated psychosis (in months) in HIV positive patients. Both variables are normally distributed. — 28 — 82.4% — 6 — 17.6%

You want to assess the association between gender and presence or absence of gallstones. — 32 — 94.1% — 2 — 5.9%

Table 2

Responses to Questions on self- reported Understanding of Epidemiological and Statistical theory at Baseline

Statistical procedure	None		Poor		Average		Good		Excellent	
	n	%	n	%	n	%	n	%	n	%
Study design	2	5.9%	8	23.5%	17	50.0%	6	17.6%	1	2.9%
Sampling design	2	5.9%	15	44.1%	11	32.4%	5	14.7%	1	2.9%
Data entry	0	0.0%	10	29.4%	11	32.4%	11	32.4%	2	5.9%
Descriptive analysis	2	5.9%	12	35.3%	12	35.3%	7	20.6%	1	2.9%
Normal distribution	1	2.9%	15	44.1%	10	29.4%	7	20.6%	1	2.9%
Student's t distribution	2	5.9%	17	50.0%	12	35.3%	3	8.8%	0	0.0%
One sample t-test	6	18.8%	14	43.8%	11	34.4%	0	0.0%	1	3.1%
Two independent samples t-test	6	18.8%	15	46.9%	9	28.1%	0	0.0%	2	6.3%
Statistical errors	10	31.3%	17	53.1%	3	9.4%	1	3.1%	1	3.1%
Power and sample size	12	37.5%	14	43.8%	4	12.5%	1	3.1%	1	3.1%
Paired t-test	5	15.6%	16	50.0%	9	28.1%	0	0.0%	2	6.3%
ANOVA	7	22.6%	12	38.7%	9	29.0%	1	3.2%	2	6.5%
Post hoc analysis (Bonferroni adjustment)	9	28.1%	17	53.1%	4	12.5%	0	0.0%	2	6.3%
Pearson chi-square test	7	21.9%	15	46.9%	9	28.1%	1	3.1%	0	0.0%
McNemar's chi-square test	13	40.6%	14	43.8%	4	12.5%	1	3.1%	0	0.0%
Correlation Analysis	10	31.3%	11	34.4%	7	21.9%	2	6.3%	2	6.3%
Simple Linear Regression	10	31.3%	13	40.6%	5	15.6%	2	6.3%	2	6.3%

Table 3

Baseline Responses to Questions on Ability to conduct Analyses using Statistical Software

Statistical procedure	never tried n	%	no n	%	yes n	%
Entering data	12	35.3%	3	8.8%	19	55.9%
Descriptive analysis – categorical data	13	38.2%	8	23.5%	13	38.2%
Descriptive analysis – numerical data	11	32.4%	8	23.5%	15	44.1%
Histogram	15	44.1%	6	17.6%	13	38.2%
Box plot	17	50.0%	7	20.6%	10	29.4%
Testing for normal distribution	18	52.9%	13	38.2%	3	8.8%
One sample t-test	17	50.0%	13	38.2%	4	11.8%
Two independent samples t-test	17	50.0%	11	32.4%	6	17.6%
Paired t-test	17	50.0%	12	35.3%	5	14.7%
ANOVA	19	55.9%	11	32.4%	4	11.8%
Post hoc analysis (Bonferroni)	19	55.9%	12	35.3%	3	8.8%
Pearson chi-square test	17	50.0%	12	35.3%	5	14.7%
McNemar's chi-square test	19	55.9%	14	41.2%	1	2.9%
Correlation Analysis	18	52.9%	12	35.3%	4	11.8%
Simple Linear Regression	18	52.9%	12	35.3%	4	11.8%

Table 4

Comparison of Median Knowledge Scores between Baseline and Follow up (n=6)

	Median	Percentile 25	Percentile 75	p (Wilcoxon signed ranks test)
Knowledge score baseline	7.14	.00	14.29	0.109
Knowledge score follow up	28.57	.00	85.71	
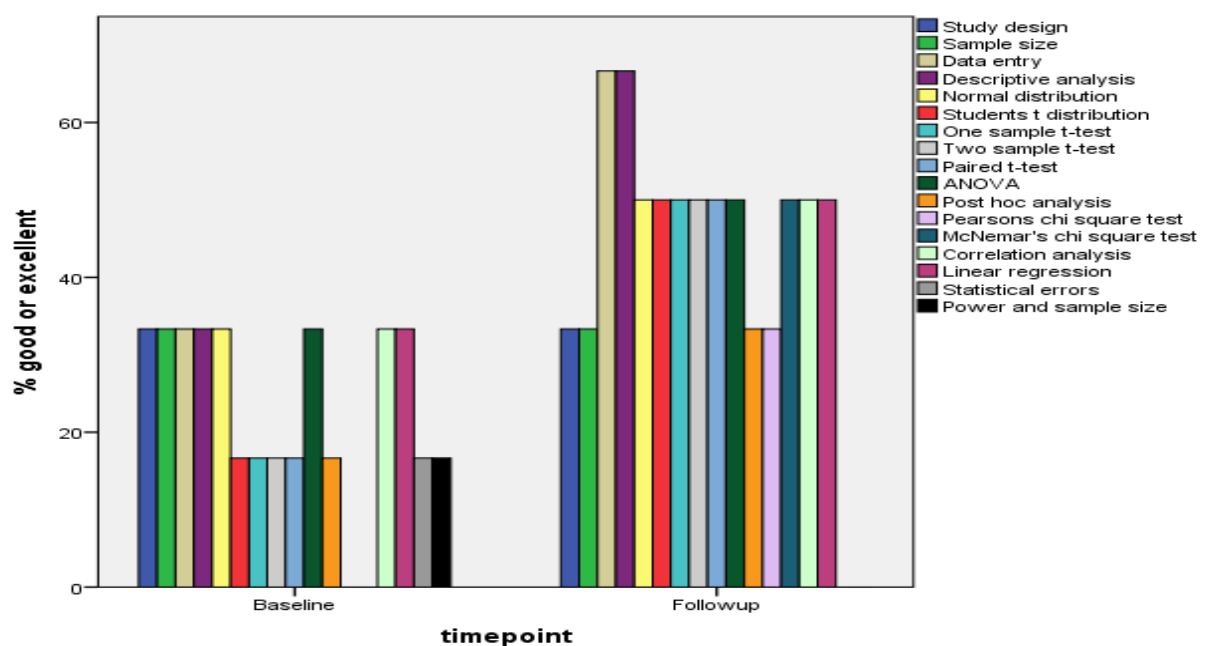
Figure 1: Percentage reporting good or excellent level of self-reported understanding of epidemiological and statistical theory at baseline and follow up (*n*=6)
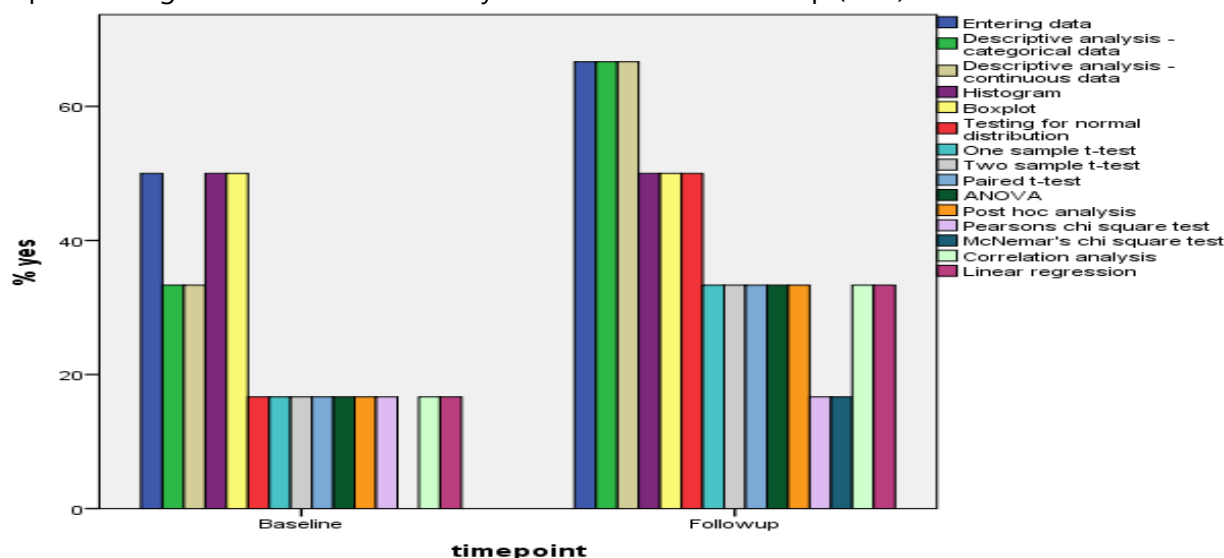
Figure 2: Percentage reporting being able to carry out data management and statistical procedures using statistical software at baseline and follow up (n=6)

4. Discussion

The baseline results from this study show that majority of biomedical researchers and postgraduate students in this cohort have a deficiency in core knowledge of basic statistical methodology and terminology. This appears to confirm recent reports that the teaching of science and mathematics in South African schools is deficient (Bansilal et al., 2014, Spaull, 2011), due in part to sociocultural and other factors impacting on South African education (Graven, 2014, Lourens, 2013).

According to Spaull (2013), the sum total of this deficiency in mathematics education at the primary and secondary level is that students may arrive at the University with a deficit of basic knowledge in mathematics and science. This could explain students' aversion to biostatistics and epidemiology as reported by Mostert (2006) and Dommisse and Joubert (2009) at the Stellenbosch medical school. Similar anecdotal evidence from the Nelson Mandela School of Medicine, which is a historically black institution admitting a higher percentage of medical students from the educationally disadvantaged background, suggests that

students frequently struggle with basic biostatistical concepts and calculations, during courses in public health and epidemiology.

Recent studies have shown that South African high school and primary school mathematics teachers are themselves deficient in content knowledge (Bansilal et al., 2014). Other studies have shown that teachers have a poor grasp of mathematical concepts such as fractions, ratios, odds, probabilities etc. (Maharaj et al., 2007), which are the building blocks for statistics ("Common core standards", 2014). All of these evidence suggest that most South African students especially those from disadvantaged backgrounds, may enter tertiary institutions with an unwarranted fear of mathematics and statistics and maybe poorly prepared for courses in applied mathematics such as biostatistics. Even where such students have to learn statistics at tertiary level, the infrastructural deficits in form of few trained biostatisticians (Mostert, 2006; Dommisse & Joubert 2009) and lack of computers and appropriate software (Lourens, 2013), may lead to a situation where students graduate from University or

enter postgraduate studies, still plagued by these knowledge deficits.

This study was designed to evaluate whether biomedical researchers working in local healthcare institutions had adequate knowledge of the necessary biostatical skills to function effectively in their role as researchers and scientists. The basis for this was that the few biostatisticians at CHS, UKZN had to take on the role of analysing most of the data derived from student and professional research, because the researchers could not analyse these data by themselves. We hypothesized, that if we could teach researchers and postgraduate students basic biostatistical skills, they could then design their own studies and analyse their own data using readily available Kirkpatrick, 2006, p.21). The four levels of Kirkpatrick's evaluation model measure:

- Level 1-reaction of student - what they thought and felt about the training
- Level 2-learning - the resulting increase in knowledge or capability
- Level 3-behaviour - extent of behaviour and capability improvement and implementation/application
- Level 4-results - the effects on the business or environment resulting from the trainee's performance

If we apply level 2 of this model to this teaching evaluation exercise, we can show that there was an improvement in knowledge and capability of the respondents, based on the post course evaluation and analysis of participant's responses. Therefore this training exercise will provide effective return on investment if the participants are followed up in later years, consistent with level 4 of Kirkpatrick's model.

5. Limitations

This study was somewhat limited by the size of the sample cohort and the fact that the study was conducted at one institution.

statistical software, thereby freeing up the few biostatisticians available to focus on teaching and analysing more challenging data.

The post course results from this study suggested improvement in core knowledge of basic statistical methodology and terminology as well as ability to perform basic statistical analysis using computer based statistical software, though the number of post course responders was low, leading to reduced statistical power. These results mirror results obtained from a similar sized cohort of biomedical researchers from Iran (Barzagan & Vallai, 2006), and consistent with the Kirkpatrick model of training evaluation (Kirkpatrick &

However, since the cohort consisted of a random sample of volunteer South African researchers and postgraduate students with differing backgrounds and training, the majority of who exhibited poor baseline knowledge of biostatistics. This may be indicative of the poor level of mathematics education reported in South African schools. The study is further limited by the post-course cohort consisting of only 6 respondents. While this precluded statistically significant conclusions, there was a clear trend in improved core knowledge and skills suggesting that if the study is repeated in a larger cohort, the results obtained may show statistical significance. Further, there may have been a selection bias in the follow-up group compared to baseline. It is possible that those participants who were familiar with biostatistics self-selected themselves to complete the post course evaluation. However, it is not clear whether this could have led to an under or overestimation of the impact of this training exercise.

6. Conclusion

This pilot study appears to reaffirm the ongoing reports of poor knowledge and training in mathematics education at the

primary and secondary school level, which could ultimately impact on the future performance of biomedical researchers and healthcare professionals in South Africa. The study suggests that there is need for continuous professional development courses in the areas of biostatistics and applied mathematics, and that this could ultimately assist in improving the core knowledge of biomedical researchers and postgraduate students in the performance of their duties.

7. Author note

T.M. Esterhuizen: Participated in study design, presented the course, analysed the data and wrote the results and methods sections.

N.M. Nkwanyana: Participated in study design, presented the course and critically revised the manuscript for important intellectual content.

S.C. Chima: Participated in study design, wrote the abstract, introduction and discussion sections, supervised the study and critically revised the manuscript for overall intellectual content. All authors approved the final version submitted.
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Pre-schooling contexts and concepts: Characterising pre-school teacher training curriculum in Nigeria and South Africa- a comparative analysis of literature

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Abstract

Comparing the education system of two countries does not only provide the opportunity to enable each other consider tensions and dilemmas that surround its own education and compare it with that of the other, but will also enable us to question our education systems and to examine how societal values influence our attitudes towards how we run our educational system. Building a stronger and a less challenging foundation for subsequent level of schooling begins at the ECD level and this level is crucial in factoring any educational reform. Even though Nigeria and South Africa share similarities in aspects of their educational systems, disparity between their curriculum and practices is evident. For example, in area of teacher education and training, the minimum requirement for entry into the teaching profession differs. In Nigeria it is the Nigeria Certificate in Education (NCE) which requires two year of study in either a college of education or in a school of education of the Polytechnics. In South Africa, it is a four years Bachelor of Education (B ED) obtained from universities. Within the context of Nigeria education system, ECD is laid within pre-primary and primary education which houses learners between the ages of 3 and 11 years. Whereas in South Africa ECD is an umbrella term which applies to the processes by which children from birth to at least 9 years grow and develop. However, there is recognition in literature of the contentions that improving the quality of ECD provision will depend on improving quality of the context of childhood, the ECD staff and the ECD curriculum. In this paper, using a cross-comparative analysis of literature, I argue that a critical understanding of the contexts and concepts that shape and inform development and implementation of teacher training curriculum for ECD teachers is crucial for informing efficient reform in ECD teacher education curriculum.

Keywords: Curriculum reform, early childhood education, teacher training

1. Introduction

Building a stronger and a less challenging foundation for subsequent level of schooling begins at the Early Childhood Development (ECD) level and this level is crucial in factoring any educational reform. Throughout the world, it is believed that education remains the essential instrument for quantitative and qualitative development of any nation (UNESCO 2007). To achieve qualitative education early childhood development (ECD) has to be put in place as the only means to have early intervention in developing children intellectual capacity to enable a better preparation of the future of the child's educational attainments (Biersteker, 2012). Beyond South Africa and Nigeria, millions of children enter pre-school each year and they are not all provided with the same opportunities to develop the necessary skills to succeed in school (Preston, Cottrell, Pelletier & Pearce 2012). Therefore improving the quality of ECD provision to meet with the demands of every child will

depend and be determined on improving quality of the context of childhood, the ECD staff and the ECD curriculum to avoid distortions in the learning process of the children.

Early childhood is the most rapid period of development in a human life and is critical for cognitive, social, emotional and physical development. According to UNICEF ECD encompasses many dimensions of a child's well-being and it includes early socialisation, education and readiness for school, as well as, the provision of basic health care, adequate nutrition, nurturing and stimulation within a caring environment with an enriched programme. In Nigeria, the term Early Childhood Care and Education (ECCE) is used in place of ECD and its programmes cover children at their formative years, that is from birth until 5 or 6 years when they are ready for primary education which is up until 11 years (FME, 2004). Whereas in South Africa, ECD is an umbrella term that applies to the process in which children, from birth to at least nine years of age, grow and thrive physically, mentally, emotionally, morally and socially" (DoE 2008, p. 12).

As Nigeria became a signatory to Convention on the Rights of the Child, the World Summit for Children, the Education for All Declaration and the Millennium Development Goals, the government resolved to pay special attention to ECCD through collaboration of different sectors to ensure fulfilment of all the rights of the Nigerian children. The major problem which had hindered the development of this sub-sector over the years had been the lack of clearly articulated government policy and action (Onu, et al., 2012). Of major concern is the government arrangement of leaving the provision of service in this sub-sector to the private sector without proper monitoring and guidance. Whereas in South African, ECD is well regulated and monitored in the greater part of the country and through the Bill of Rights, provision is made for children's socio-

economic rights, including the right to basic education, and protection from neglect, abuse and exploitation.

Although, the majority of children do not have access to an early education programme as many parents and/or families cannot afford to pay for school fees, due to poverty government has identified the need to increase access to ECD as well as enhance the quality of ECD programmes and services, specifically for those children from disadvantaged backgrounds by increased funding to both early childhood development centres and to grade R.

With ECD teacher education curriculum and policy there is need to link the contents with what the ECD programmes aims to achieve. It is important at this level to differentiate between ECD programmes and policy. According to Systems Approach for Better Education Result (SABER) Country Report (2013), ECD programmes are specific interventions that may vary according to primary objective, coverage and specific characteristics of the country whereas ECD policy refers to the regulatory framework and institutional arrangements for service delivery at the national and/or sub-national level. In South Africa policy and legislative developments that affect children include the: Green Paper on National Health Insurance, Integrated School Health Policy, High Court ruling on the Sexual Offences Act, Schools' learner pregnancy policies, Norms and standards for school infrastructure and Policy for Social Service Practitioners. Also in Nigeria there are key laws and Regulations Governing ECD which includes, the Child's Right Act (2003), the United Nations (UN) Convention on the Rights of the Child (1991), the UN Optional Protocol on the Sale of Children and Child Prostitution and on Involvement of Children in Armed Conflict (2000), the African Charter on the Rights and Welfare of the African Child (1990). These policies and regulations are put in place to

enable proper and quality delivery of ECD programs.

This paper will be presenting a critical review of ECD literature from the context of Nigeria and South Africa, examining the ECD teacher training curriculum, the policies that inform ECD teacher training and what practices are similar and or different in the two contexts.

2. Early Childhood Care and Development (ECCD) and Early Childhood Development (ECD) Teacher Development in Nigeria and South Africa: A review of context

Universal accessibility to quality education is considered essential for development (UNESCO, 2007). This has necessitated improvement in the system of teacher education so as to prepare quality teachers. Teacher education as an integral component of the educational system and is intimately connected with society and conditioned by the ethos, culture and character of a nation (Adamu, et. al, 2012). Enlightened, emancipated and empowered teachers lead communities and nations in their march towards better and higher quality of life (UNESCO, 2007). They reveal and elaborate the secrets of attaining higher values in life and nurture empathy for the fellow beings (Armstrong 2014). Teachers are the torch bearers in creating social cohesion; national integration and a learning society (Pitsoe, 2013).They not only disseminate knowledge but also create and generate new knowledge.

The shortage of trained teachers and competent professionals to teach and cater for children especially those of preschool age has been acknowledged. Teacher education in Nigeria generally and ECD teachers in particular have been affected especially as a result of the constant changes that are occurring within the political institutions. Nakpodia and Urien (2011) opined that there is controversy as to the nature, pattern and methods of training teachers in the country

bearing in mind that teacher education is policies and procedures designed to equip prospective teachers with the knowledge, attitude, behaviors and skills they require to perform their tasks effectively in the classroom, school, and beyond. However, the quality of teachers who are to ensure the realization of the aspirations we hold for our children is been questioned. Akinbote recommended that there is need to improve on the quality of entrants into the teaching profession generally in Nigeria. This he argues that once it is put in place teacher education in Nigeria will be the foundation of quality and relevance of education at all levels. Whereas in South Africa teacher education, the Department of Education has not only regulated new teacher education qualifications, but also encouraged their delivery through providing incentives such as bursaries or contracts through tenders for targeted needs. The national policy was re-designed to develop a teaching profession ready and able to meet the needs of a democratic South Africa in the 21st century. The policy was underpinned by the belief that teachers are the essential drivers of a good quality education system.

Another defining issue of the education system in Nigeria is that of operationising education at different level of the government; whereby the federal, state and the local government all legislates on education. Statutorily, education is in the concurrent legislative list in the Nigerian constitution (FME, 2004). What this implies is that the federal and state levels of government can simultaneously legislate on education. However, the local government as the third level of government also makes educational edicts, supervises and funds education, particularly education at the basic education level. This development has an implication that the different levels of government work independent of each other, and there is no central control and or practice similarity between states. Whereas in South Africa, education has been

prioritized with different government departments like education, health, social development among others working with each other.

Teacher education in Nigeria may either be pre-service or in-service trainings. Pre-service teacher education is provided by university faculties of education and schools of education in the polytechnics and in colleges of education while the in-service teacher education is provided by the university institutes of Education and the National Teacher's institute (NTI). The minimum qualification for entry into the teaching profession is Nigeria Certificate in Education (NCE); in-service training shall be developed as an integral part of continuing teacher education and shall also take care of all inadequacies. According to Adamu et al, (2012) the pre-service training prepares the perspective teacher to participate effectively in the educational system and usually involves exposure to varied concepts of teaching and learning and contents of different subjects areas depending on the area of specialisation of each teacher and the curriculum content. The requirements for the various teacher-training programmes differ from one level to the other in terms of the academic qualification. For admission to colleges of education, prospective candidates must have at least three credits in the senior school certificate including the subject they want to study – and two other passes (NPE, 2004). Also at the university level, the entry requirement is five credits, which may include the chosen major teaching subject.

In South Africa at the other hand, teacher education exists in terms of two complementary sub-systems which include the initial Professional Education of Teachers (IPET) and continuing Professional Teacher Development (CPTD). All initial teacher education is the responsibility of Higher Education. The policy recognised teaching qualification includes the "four year bachelor

of education (B. Ed.), a one year post graduate diploma following an approved and completed first degree. There is an introduction of a new three year Diploma by an institution accredited to do so (DoE, 2009), also of note is the ACE programme was then in existence for those teachers who were involved in the management of the schools. The future of the National Professional Diploma in Education (NPDE) and the advanced certificate in Education (ACE) will be reviewed, based on an assessment of need and value Doe, (2009). For the already practicing teachers there is an urgent need for them to engage in a continuous professional training and development (CPTD).

There is need for a regulatory body for teachers. In Nigeria, the policy document stated that there should be Teachers Registration Council. However, between 1977 and 1993 nothing was done to establish the Teachers Registration Council. In 1993 Decree 31 of the national constitution established the council. For another six years nothing was done to implement the provisions of the decree until when the first Registrar and Chief Executive of the Council was appointed.

To date, only few teachers have been registered while many still do not know of its existence (Adamu, et al, 2012). This implies that most teachers in Nigeria are practicing without an underlying ethical framework guiding their practice. The South Africa council for Educators (SACE) have overall responsibility for registering all teachers before they can practice and also on the implementation and management of the Continuous Professional Teacher Development (CPTD). The professional development (PD) point's method is an internationally recognized technique used by professional bodies in many fields to acknowledge their members' continuing professional development. The PD activities is classified into four types; the school/ employer/ qualification driven programmes,

and other programmes offered by NGOs, teacher unions, community-based and faith-based organizations or private companies. These initial and continuing PD is not without challenges.

3. Challenges of teacher education in Nigeria and South Africa

It is universally recognised that education is an operative means for social reconstruction, renovation and to a great extent it offers solutions to the problems a society is faced with (Awopegba 2007). These problems may be economic, social, cultural, political, moral, ecological and educational. Since teachers play a major role in education of children, their own education becomes a matter of vital concern (Adamu, et.al, 2012). Teacher education must, therefore, create necessary awareness among teachers about their new roles and responsibilities (Adamu, et.al, 2012; Oyekan, 2000). As the importance of teachers and the roles they play in any educational system cannot be over-emphasised.

In Nigeria, teacher training have not been without challenges as the efficacy of the teacher training programmes have been questioned (Adamu, 2012).Studies have been done to show the challenges of teacher training. These challenges are part of the poor state of education as a result of years of neglect in the delivery of education compounded by inadequate attention to policy frameworks within the sector access to basic education due to contextual issues like gender and socio-cultural beliefs and practices, politics and frequent changes in government tend to negatively affect the implementation of the National Policy on Education, among other factors (Adamu, et. al, 2012; Osuji, 2009; Ejieh, 2006).

There is no known established institution for the training of teachers, trainers in early childhood development (Osuji, 2009; Ejieh, 2006).Also of note is the wide disparities persisting in educational standards and learning achievements especially in the different teacher training institutions owing to the inability to produce teachers who are properly grounded in pedagogy and content as well as having the ability to collaborate professionally in a working environment (Onu, et al 2010). This Ademilola in Tell (2010) argues that inability to train and retrain teachers takes its toll on the performances of teachers. Onu, et al, (2010) supported this when he termed it as a 'training gap' which creates vicious cycles that negate the necessary foundation in education and inevitably much later education as teacher education is expected to equip the student teachers with skills of competence, commitment and willingness to perform.

4. Lessons to learn from Nigeria and South Africa

The review of literature has demonstrated that there are similarities in the ECD teacher education policies and or practices in Nigeria and in South Africa. However, policy and practice of ECD teacher development, even though there are cross-cutting areas of similarities between Nigeria and South Africa differs. For example in South Africa the government is in collaboration with different departments like the health, education, social development and private bodies like the NGOS are strongly financing, equipping with better resources, training and re-training of professionals to see that the day to day running of ECD facilities are successful. Whereas in Nigeria, there is a slow collaboration of different government departments to see that ECCD programmes are well catered for; in terms of what happens in the ECCD centres, different tires of the government are not in collaboration in decision making as the federal government left the running to the private sector without proper guidance and monitoring.

What these observed similarities and differences could mean for ECD teacher development in both countries is that there are rooms for improvement. Comparatively,

the review of literature has shown global trends in ECD teacher development in the curriculum and practice to be moving towards a system that incorporates research and innovations to enable the training of quality teachers to teacher in the ECD. Global practices are relatively applied in Nigeria/ South Africa in this way also through more research directed towards ECD/ECCD. However, there is need in South Africa for improvement of the professionals/teachers who assist in providing services especially in the informal ECD centres and also those that are individually owned. Also in Nigeria ECCD there is need for government to monitor what is happening in the centres by creating a centralized policy and curriculum and also monitor and guide what different centres practice; in order words there will be need for a monitoring team.

Perhaps, what Nigeria can learn from South Africa is how the country has put their ECD problems first by providing funds for the running of the centres and more researches to be carried out. Although Nigeria is doing research on how to improve their ECCD centres, there is need to put into practice what have been found. Likewise, South Africa can benefit from the practices and or procedures applied within the context of Nigeria's ECCD development especially in the issue of minimum requirement of any individual who wants to work within the ECD levels.

5. Conclusion

The importance of ECD/ECCE cannot be overemphasised and early childhood teaching is a complex endeavour (Shonkoff et al, 2012).Reaching children in their early years is critical to improve child outcomes and reduce gaps in achievement and opportunity, which grow starker as children grow older. The majority of young children in Africa have been negatively impacted by a range of social and economic inequalities, poverty, instability, corruption, war, displacement among others (Atmore, Niekerk & Cooper, 2012) and these children do not have access to an early education programme due to these factors. It is clear from the above argument thatch is very important in laying the foundation for a successful academic path especially for those children living in underprivileged circumstances; however, improving on the ECD teacher training curriculum will play a vital role in making a difference in the child's life. A major concern in ECD/ECCE education is the quality and relevance of education being imparted to young learners.

In Nigeria, quality in ECCD is seen in terms of what the child will be able to do at a particular time, in order words the more the child knows at a centre age shows how good his/her ECCD centres is. As shown in literature, In South Africa it is shown to be centres with good resources, facilities and qualified professionals. However, both Nigeria and South Africa have to comparatively learn from each other and from global practices in ECD teacher development to enhance outcome.

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Understanding parents' contribution to the enhancement of their children's literacy prowess: A community engagement perspective

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Abstract

Understanding parents' contribution to the development of their children's literacy in grades R to 3 is a terrain which remains largely untapped by researchers. Furthermore, the gap between pre-service teachers and their ability to adapt to the school situation and partners (e.g. parents) remains a challenge yet to be overcome. Literature further indicates that there is an under-utilisation of undergraduate students' [from different faculties] adaptive capabilities in an ever-changing curriculum. The paper aims at reporting on the students' and parents' adaptive capabilities through a Non-Governmental Organisation (NGO)-initiated community engagement project. The project, which adopted an adaptive leadership framework, sought to create awareness amongst parents of the crucial contribution they can make to the enhancement of their children's literacy prowess. Nineteen university students were placed in this initiative while offering workshops to parents. A focus group interview was held with both parents and students who were engaged in these workshops. Benefits generated from the interaction included the students' ability to conduct workshops and facilitate the learning process. Parents also benefited as they were made aware of their daily activities which could be of assistance to the improvement of their children's literacy skills. The presence of students who conducted the workshops acted as a benefit to the NGO. The study provides insights into the adaptability of students in schools and recommends further empowerment and enrichment, as well as improvement spaces for student-teachers and the school community.

Keywords: adaptive leadership, community engagement, focus group, parents, literacy

1. Introduction

Sometimes parents forget what a powerful resource and environment the family provides for children and that it is up to them to assist with the development of their children's learning. The everyday interactions and involvement of parents in their children's lives can make a vital contribution to children's learning and their educational achievement (Australian Scholarship Group, 2009). Findings from a growing body of research (Close, 2001; Clark, 2007; Denessen, 2007; Weigel, Martin & Bennett, 2007; Phillips, Norris & Anderson, 2008; Waldfogel, 2012) support the premise that parental involvement in children's learning can be positively related to educational achievement. Research (Fathi, 2014; Mueller, Sepulveda, & Rodriguez, 2014) also shows that the benefits are often increased incrementally in a child's educational process if parental involvement begins earlier and if parents are more intensely and actively involved. The *Foundations of Literacy Study* (Weigel, Martin, & Bennett, 2007) reveals

that young children develop stronger early literacy and language skills when parents: "...value their role in their children's literacy and language development, regularly engage their children in literacy and language enhancing activities; and organise the home to support literacy and language" (p. 204).

The crucial contribution parents can make to the enhancement of their children's literacy prowess is summed up succinctly by Cole (as cited by Larson and Marsh 2006):
The view of social origins requires paying special attention to adults' power to arrange children's environments so as to optimise their development according to existing norms. It generates the idea of a 'zone of proximal development' which affords the proximal, relevant environment of experience for development. It is the foundation upon which, in an ideal world, the education of the children would be organized (p. 102).

Literacy as the first-step in the empowerment of children's minds is a crucial element in human development. However, despite such opinions, literacy not only provides access to a culture's written record, it also shapes the way in which the mind is used (Hiebert & Raphael, 1998, p. 20). Machado (2007, p. 165) further maintains that literacy demonstrates competence in communication skills which enables an individual to function in accordance with his/her age independently of the society and with the potential for movement in society. Literacy therefore, becomes part of young children's lives in a variety of ways (Hiebert & Raphael, 1998). For instance, through the help of their parents, many young children engage in a range of activities related to reading and writing well before they encounter formal literacy instruction in school. This study sought to address the research question: *From a community engagement perspective, what is the understanding of parents'* *contribution to the enhancement of their children's literacy prowess?*

2. Conceptualisation of Literacy

A rudimentary definition of literacy is the ability to read and write based on the knowledge of alphabet letters and the ability to use them to serve the purpose of reading and writing. Luke (2012) defines literacy as the reading and writing of text in at least one language, as well as the ability to apply them to one's day-to-day life. Literacy develops by reading the world and reading the word simultaneously; each one influencing the other as reading and writing words enable learners to read and write their worlds (Freire, 1974). It is traditionally defined as the ability to read and write one's own name with understanding furthering that knowledge and interest; thus, every individual should be able to write coherently and think critically about the written word (UNESCO, 2013). Moreover, it is believed that literacy is a more complex and multifaceted skill which changes enormously as it is acquired (Luke, 2012).

Freire confirms that acquiring literacy does not involve memorising sentences, words or syllables and lifeless objects which are unconnected to an existential universe, but rather an attitude of creation and re-creation, a self-transformation producing a stance of intervention in one's context. According to Leu and Kinzer (2000) numerous studies including that of have identified our perceptions and understanding of literacy as it continues to deepen and broaden; that literacy is a human right, a tool of personal empowerment and a means for social and human development. Thus, educational opportunities depend on literacy. Literacy may therefore, be thought of as a moving target, continually changing its meaning depending on what society expects literate individuals to do (Government of Alberta, 2009).

Some Forms of Literacy
Basic Literacy

Basic Literacy is therefore referred to as the capacity to read and write and to understand words, sentences and texts. The Annual National Assessments (Department of Basic Education - DBE, 2011) indicate that primary school learners are unable to read texts meaningfully; and they also have problems with a range of literacy skills including synthesising information, making informed decisions, communicating effectively, careful logical reasoning and the clear expression of thoughts (Alberta, 2010). Once children have developed such skills and their ability to use them effectively for meeting basic needs, then they are regarded as being literate (Tozer, Senese & Violas, 2009). Freire however, has demonstrated that literacy can itself be the focal point for the transformation of consciousness.

Although UNESCO may have a valid point, Curriculum and Assessment Policy Statement (CAPS [see DBE], 2011) maintains that literacy is the ability to process and use information for a variety of purposes and contexts and to write for different purposes. Literacy does not simply mean knowing how to read and write a particular script but rather, that the literate individual can apply gained knowledge for specific purposes in specific contexts of use. UNESCO (2013); as well as Maruatona and Millican (2006) further maintain that literacy is a responsive, lifelong learning process meant to train individuals in specialised knowledge, skills, attitudes and techniques, as well as competence.

Functional Literacy

Functional Literacy is referred to as literacy for adaptation and as something to be learned collaboratively (Scribner, 1984, cited by Mulcahy, 2010). A child's home reading experiences are usually functional in nature wherein a child watches his/her parents and older siblings use reading and writing to accomplish real-life purposes (Christie, Enz & Vukelich, 2011)..Johnson (2008) asserts that unlike basic literacy with its focus on acquiring skills, functional literacy deals with how people actually use such skills to live and work in society. It is a broader concept of literacy in which individuals are able to analyse things, understand general ideas or terms, use symbols in complex ways, apply theories and perform other necessary life skills. Therefore, the term functional literacy is in correlation with what Johnson has aforementioned as it was introduced in order to refer to the demands of literacy in a complex world (Verhoeven, Elbro & Reitsma, 2002). Therefore, functional literacy refers to how competently children can employ their reading and writing skills and whether they can readily access information and skills that will facilitate their participation in the social, economic and political development of their country (Jacobs, 2008; McDaniel, 2004; Tozer et al., 2009).

Cultural Literacy

Literacy is best understood as a set of social practices and cultural achievements that vary from one context to another, depending on the diverse needs of children, tasks, domains and societies (Mulcahy, 2010; Makin & Whitehead, 2005). Thus, we can say that literacy is valued as a source of other skills and strategies necessary to achieve the critical reconstruction of social and personal realities. Many theories of learning literacy emphasise communication and support from all stakeholders who also bring new and novel ways of being; listening and speaking much more than when there is one teacher role modelling to many children (Woolfolk, 2007; Wenger, 2006). Thus, literacy practices are patterned by social institutions and power relationships embedded in broader social goals and cultural practices, as well as the community at large (Shor, 1986).

Multiple Literacy and New Literacy

This type of literacy is important because it emphasises the different ways in which language is used in households, workplaces,

schools, communities and social groups. Thereby, through acquiring such skills and the ability to use reading and writing to produce, understand, interpret and critically evaluate texts received through a variety of media and in many forms such as print, digital, audio-visual and more technological appliances, children will be said to gain multiple literacy skills (Cazden, Cope, Fairclough & Gee, 1996). Similarly, McLane and McNamee (1990) remind us that multiple literacies recognise ways of being and becoming literate and how literacy develops and is used depend on the particular social and cultural setting. With multiple literacy, different linguistic systems work within the same space (Pahl & Rowsell, 2012). Writing on the other hand, represents spoken language symbolically, as reading is the process of understanding and creating meaning from this representation (Neaum, 2012). New literacy studies have moved literacy beyond school into different spaces such as children's homes. (Pahl & Rowsell, 2012). These authors assert that the consequence of such a strategy will lead to a progressive literacy and therefore, enhanced personal growth, self-improvement and the engagement of children. Children will thus be enabled to play an active role in creating their own knowledge.

Critical Literacy

Presently, critical literacy has become the most popular approach to teaching English to children. This is probably due to the emphasis placed in this discourse and pedagogy on the role of thought and feeling so as to invite individuals to take action to achieve more humane goals (Shor, 1986). Thus, it enables individuals to question power structures and analyse the bourgeoning of inequalities in society (Mulcahy, 2010). The term Critical Literacy was developed by social critical theorists, such as Paulo Freire, who is concerned with dismantling social injustice and inequalities (Robinson & Robinson, 2003; McDaniel, 2006). Luke (2012) defines critical literacy as

a necessary life skill which is the use of printed technologies and media of communication to analyse, critique and transform the norms and rule systems, as well as the practices governing the social fields of daily life. Freire encourages a dialogical approach to literacy based on the principles of reciprocal exchange between a child and the involved stakeholders (Booyse, le Roux, Seroto & Wolhuter, 2011).

3. Adaptive leadership framework

Adaptive leadership is the practice of mobilising people to tackle tough challenges and conquer them by tapping into existing community capital. The study is couched in the Adaptive Leadership framework as espoused by Heifetz. Heifetz, a Harvard University Professor of Public Leadership, maintains that our early ancestors' process of adaptation to new possibilities and challenges has continued over the course of written history with the growth and variation in scope, structure, governance, strategy, and coordination of political and commercial enterprise.

According to Heifetz, Grashow and Linky (2009) adaptive leadership is:
the practice of mobilizing people to tackle tough challenges and thrive. In this study, students were expected to guide parents through information sharing sessions and parents were expected to act out what they learned from the sessions with their own children with a view to making a contribution to their children's literacy prowess. New environments and new dreams demand new strategies and abilities, as well as the leadership to mobilize them (p. 18).

Heifetz's (1994) theory of adaptive leadership provides a valuable contribution to understanding how communities may be engaged. Heifetz's theory further distinguishes between two types of problems communities face. Drawing from his (Heifetz) work titled *Leading Boldly*, Kania and Kramer (2011) distinguish between

technical and adaptive problems. Technical problems are those that are well defined; the solution is known in advance and one or a few organisations may be able to provide it. Adaptive problems are, by contrast, more intricate and complex; the solution is not known and no single entity may be able to provide the appropriate service. Educational transformation and health renewal may be classified as adaptive problems. In adaptive leadership it becomes extremely important for the leader to be fully 'present' to comprehend what is happening, plus framing key issues and questions from within the social group. Thus, a facilitative, inclusive approach is vital to a lasting impact (Heifetz, Grashow & Linsky, 2009; Eubank, Geffken, Orzano & Ricci, 2012).

4.   Research design and methodology

The consideration of participation by university students and parents in the enhancement of children's literacy prowess is guided by the recognition of a social enterprise constructed through everyday practices (Larson & Marsh, 2006). Barton and Hamilton (1998) indicate that:

Literacy is primarily something people do; it is an activity, located in the space between thought and text. Literacy does not just reside in people's heads as a set of skills to be learned, and it does not reside on paper, captured as texts to be analysed. Like all human activity, literacy is essentially social, and it is located in the interaction between people (p. 3).

It is for the reason stated above that participants in the study were expected to work together in order to help one another to tackle the problem of literacy among children. This qualitative study used focus groups interviews to generate data. As described by Morgan (2013) the group composition ensured heterogeneity [students from different faculties and parents from different walks of life] and that the participants in each group both have something to say about the topic and feel comfortable saying it to each other.

Focus group interviews

A focus group interview consists of two elements, namely a group interview, as well as a specific focus (Kleve, 2010). The invitation is extended to certain individuals because of their experiences regarding the situation at hand. Based on the parents' and students' involvement in the NGO initiative, both were in a better position to air their views on the impact of the project on them. A focus group interview has the advantage of taking a self-disclosed, spontaneous form of discussion (Ho, 2006). For parents and students we thought that they would be more likely to discuss matters as in natural conversations. Participants' perspectives are more revealing in different ways in focus groups than in individual interviews; for example, through discussion and through participants' questions and arguments (Kleve, 2010).

In operationalising the project, 19 students from different faculties of the university received training from the NGO coordinator. The coordinator acted as a link between the university and parents and ensured that the activities were run according to plan. The students conducted the workshops. Parents then gathered at the school and participated in the workshops with a view to raising their level of awareness on how to contribute to the improvement of the children's literacy prowess. Four interactions sessions were arranged as follows: sessions one and two took place during the first contact session; sessions three and four were conducted in the second contact session; sessions five and six were conducted in the third contact session; and session seven was conducted during the fourth contact session (Save the Children, 2012). The focus group interview was conducted immediately after session seven and 10 parents and 11 students participated.

5. Results and discussion

Throughout the implementation of the project, participants, in particular the parents, indicated that they noted and appreciated the fact that they do not necessarily need to change their daily activities, but can infuse literacy activities for their children within their daily schedules. The project resulted in parents concentrating not only on school work. There was an indication that parents' daily activities would be used so as to enhance their children's literacy prowess. They could include their children in gardening activities, as well as encouraging them to play.

Le ha re jala re se re ba bitsa, ba bone ho jalwa jwang (Even when planting, we also invite our children so that they can conceptualise the process). *Le ho fiela ba nne ba fiefiele* (They need to know how to sweep). *Le dipapading, re kgothalletse ho bapala* (We need to encourage our children to play).

The above utterances show that parents were then involving their children during planting and harvesting, while incorporating teaching and learning elements. Thus, language usage [home language, which is the language of learning and teaching at the school] and development had to be incorporated into daily activities. By so doing, learning would not only take place at school. Beyond the four walls of the classroom teaching and learning would then continue to take place. Parents, by virtue of their influence on their children, parents are in a better position to ensure that teaching and learning is sustainable. Although this study took place in a rural area, the above comments show that the project tapped into an enormous amount of knowledge wealth possessed by the parents. Parents infused literacy development through play and everyday activities. A complementary benefit to the above view is echoed by the following words from parents:

Pele ke ne thusa bana ba ka feela. Hona tjena ha bakgotsi ba bona ba le teng ke se ke ba thuselletsa kaofela. (I am now in a position to assist, over and above my own children, children of my friends). *Ebile le ho thusana ba thusana* (They now help one another

Ke ne ke sa tsebe hore ngwana ha a ntse a bala o tlamehile o mo etsetse sekgutlwana hore le ha a tswa bapala a nne a tsebe hore o balla ho kae (I was not aware that we must avail 'reading corners' for our children, so that they use them regularly as reading spaces).

Le lerato la bana ... ao tjhe nna ke ne ke se na lerato la bana. Empa e sale ke le moo ke se ke ena le lerato la bana. (In respect of the love for children, I did not have such. Now I have developed a love for children). *Ke ithutile le bohlokwa ba ho kgetha mantswe ha o bua le bana.* (I also learnt that you have to address your child in a decent manner.

Parents realised that they need to make an effort by providing conducive reading spaces in their homes; allow their children time to engage with reading materials; and avoid discouraging their children when they give an incorrect answer or read incorrectly. The parents further realised that they need to appreciate and love their children and communicate more. They also realised that children can learn from them as parents, as well as from their peers. Consequently, the parents need to allow space for self-learning, peer learning and learning from parents. All these need to be done with respect.

Mutual benefit

The project was intended for parents to be conscientised to the positive role they can play in helping their children. The inclusion of the students also enhanced the project. The results of the interviews showed that both parents and students benefited. Mpho [a student] (pseudonym) commented as follows in this regard:

E ne le mphe ke o fe (It was a give and take scenario).

The above words by the student show that as students, they learned about the experiences of parenting and how that may contribute to children's learning and development. An assumption would be that the students, because of their academic knowledge, would be educating parents; the opposite is also possible. The scenario is in line with Adaptive Leadership theory. The project enabled participants to tap into the existing community capital possessed by the parents. The creation of space to tackle the education of their children enabled parents to understand the pivotal role they play.

The extent to which the project was beneficial could also be deduced from the following points of view by a parent: Please specify who said what.
E ka e ka se felle mona. Ho se be le nako eo ho thweng [project] ha e yo. (May this project not to come to an end).

The above comment shows the value of the project, that people feel it should not come to an end. The time spent by students and parents was without remuneration, but when parents and students showed an interest for the project to continue, this revealed that they perceived the project to have been useful. A parent commented as follows:

Ke bona le sebeditse hantle le rona. Le e na le mamello eo (I can see that you worked very well with us. You have that patience).

The ability of students to work patiently with parents is a good indication of the guardianship of students on children. These students, amongst other things, are prospective teachers who will be expected to take care of children. Furthermore, these prospective teachers are future parents. Displaying patience is a quality that needs to be nurtured in parents when assisting their children with their homework. The benefit of the inclusion of parents in the education of their children is stressed by Mahlomaholo (2012). Parents tend to take ownership of their children's education if they are engaged in the activities that will improve their children's knowledge and life skills.

(Teamship) Working as a member of a group
E nthusitse hore ke kgone ho sebetsa le batho ba bang (I have been empowered to work with other people). *Ke kgonne ho bona hore ho na le dintho tseo o ka di etsang o le mong. Ho na le tseo o ke ke beng wa kgona* (I have realised that there are things one can do alone and those that one cannot).

From the above perspectives, we understood that the project enabled both students and parents to value collaborative work and other people's viewpoints. The same attitude could be passed on to their children as they would be assisting them. Parents would understand that their children could also have certain ways of doing things, which could be different from theirs (parents' views).

6. Conclusion

We can conclude that there was a significant change that the parents experienced. Findings indicate that parents became more willing to engage not only with their children, but also with the children of their friends and neighbours in literacy activities. Should this trend continue, it is likely to result in what Hatano and Inagaki (1986) call adaptive expertise. Adaptive expertise involves habits of mind, attitudes and ways of thinking and organising one's knowledge that are different from routine expertise and that take time to develop (Bransford, 2004:3; Van den Berg & Shulze, 2014:69). Contrary to routine expertise, which may be limited by inflexibility, overconfidence, bias and the context of their particular domains (Crawford & Brophy, 2006), adaptive expertise is likely to afford the university students' and parents' approaches to be imbued with

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flexibility and lifelong learning (Santrock, 2008; Van den Berg & Shulze, 2014). Adaptive expertise is more likely to enable parents to contribute to their children's literacy prowess.

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Perception of library service quality, satisfaction and frequency of use of library resources

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Abstract

The aims of this paper are to assess the students' perceived levels of library service quality, satisfaction with the library, frequency of use of library resources, and whether or not there are relationships among these variables. A survey research methodology using LibQUAL+^{TM} instrument was used to collect data from a sample of 400 students at the National University of Lesotho (NUL). Self-administered questionnaires were distributed to students during class hours. Frequencies, means, standard deviations, correlations, regression and factor analysis were used to analyse data. As expected, factor analysis of LibQUAL+^{TM} items yielded 3 factors - affect of service, information control and library as a place. On average, the respondents did not perceive quality service in terms of service provided by the library staff, and easy access and control of information. The majority of respondents also rarely used the library website. There was a strong and positive correlation between all attributes of library quality service and satisfaction with the library. Even though information control and affect of service had a slight correlation with the use of library website, the relationship became insignificant in regression analysis. There was no relationship between satisfaction and frequency of library usage. The paper concludes that LibQUAL+^{TM} has acceptable applicability in Lesotho, and further recommends how affect of service and information control dimensions of library service quality at NUL can be improved.

Keywords: Library; library resources; LibQUAL+^{TM}; satisfaction; service quality.

1. Introduction

Satisfaction of academic library users and their subsequent utilisation of library resources are important for quality teaching, research and learning. Faced with threats of global digital environment and increasing competition (Cullen, 2001), many libraries adopt a concept of service quality to better serve the user. Service quality; a term commonly defined in business and marketing from the customer perspective, has recently been a concern within library and information services sector. This is because the extent to which the library succeeds is dependent on the assessment made by the user as a judge of quality (Nitecki, 1996). Aware of the need to create a culture of continuous improvement, many academic libraries use LibQUAL+^{TM} as a primary tool for fostering the culture of assessment and improvement (Hunter & Perret, 2011).

Even though LibQUAL+^{TM} is the most popular instrument for measuring library service quality and user satisfaction, like the instrument it mirrors, SERVQUAL (Parasuraman *et al.,* 1988), its applicability in an international setting, especially in developing countries, is yet to be demonstrated (Zhou, 2004). Having been developed and validated in Western

academic libraries, there is a possibility that the applicability of LibQUAL+™ may be influenced by different cultural orientations of users in developing countries. Several criticisms have also been levelled against LibQUAL+™ assessment protocol, including what its scores really measure (Roszkowski, Baky, & Jones, 2005; Thompson, Cook, & Kyrillidou, 2005).

On the domestic front, to our knowledge, there are no studies pertaining to the perception of library service quality, user satisfaction and frequency of use of library resources at the National University of Lesotho (NUL). This is surprising because the NUL library is the largest academic library in Lesotho.

The aim of this study is to assess the perceived levels of service quality and satisfaction with the library; the use of library resources and its website; and the relationships among these variables at NUL. We use the 'performance-only measure' of selected items of LibQUAL+™ instrument to collect data from a convenient sample of 400 students at NUL.

LibQUAL+™ instrument

LibQUAL+™ is the most popular survey designed specifically to gauge the perception of library users regarding library service quality (Hunter & Perret, 2011; Hakala & Nygrén, 2010). Spearheaded by the Association of Research Libraries (ARL), LibQUAL+™ has 22 items and three dimensions – effect of service, library as a place, and information control (Hunter & Perret, 2011; Roszkowski et al., 2005).

Based on the work of Parasuraman, Zeithaml, and Berry (1985, 1988), the theoretical underpinning of LibQUAL+™ is the Expectation Confirmation-Disconfirmation theory (Roszkowski et al., 2005). According to this theory, customers have some pre-purchase standards (expectations) that guide their purchasing activities. After buying a

product or service, a customer compares the performance of a product or service against the pre-purchase standard. If the performance of a product or service exceeds the pre-purchase standard, positive disconfirmation occurs, and this leads to satisfaction. If performance is less than the pre-purchase standard, negative disconfirmation occurs, and this leads to dissatisfaction. Confirmation results where there is a match between performance and pre-purchase standard, leading to moderate satisfaction or indifference (Roszkowski et al., 2005; Shi, Holahan, & Jurkat, 2004). This implies that user satisfaction is related to the size and direction of disconfirmation (Shi et al., 2004).

The gap model that underlies satisfaction in SERVQUAL and LibQUAL+™ has however been criticised by researchers in marketing and library information services sectors (Roszkowski et al., 2005; Zhou, 2004). For instance, it has been argued that expectations are based on past experience; and if a customer experiences a discrepancy between the desired and actual performance; future expectations are likely to be revised closer to actual performance; implying that, even though nothing has actually changed; the customer will likely be satisfied next time they deal with the same service provider. If on the other hand improvements in service have been made; the customer is likely to raise their expectation; and dissatisfaction may result even though improvements have been made (Roszkowski et al., 2005). This implies the possibility of rewarding poor service with lower expectations and smaller gaps; and punishing good service with higher expectations and increased gaps (Hunter & Perret, 2011). It is also argued that people rarely rate actual performance higher than the desired level, implying that it is practically impossible to have fully satisfied customers or users. This is despite the fact that people frequently report being satisfied even when

their expectations have not been fully met (Roszkowski et al., 2005).

The weaknesses of the gap model (difference between expectations and product/service performance) led some researchers to use PERFQUAL, a performance-only variant of SERVQUAL to gauge customer perception of services (Brady, Cronin, & Brand, 2002). In the context of libraries, the study by Roszkowski et al. (2005) established that the performance-only measure (perceived score) is the better predictor of satisfaction than the superiority gap (the gap between expectations and perceived ratings). We selected the 'performance-only measure' in this study because compared to Expectation Confirmation-Disconfirmation theory on which the LibQUAL+™ is based, the former has advantages and support among many researchers (Jayasundara, Ngulube, & Minishi-Majanja, 2009).

Service quality versus satisfaction
Even though service quality and satisfaction differ, there is a tendency to use the two concepts interchangeably in the evaluation of library services (Cullen, 2001; Hunter & Perret, 2011; Kiran & Diljit, 2012; Roszkowski et al., 2005). While customer satisfaction is defined as a post-consumption evaluation or experience of a product or service (Roszkowski et al., 2005; Zhou, 2004), service quality refers to the comparison between expectations of customers and their perception of the service received (Kiran & Diljit, 2012; Parasuraman et al., 1985).

The difference between the two concepts is sometimes blurred. For instance, Lancaster (as cited in Kiran & Diljit, 2012, p.185) described satisfaction as ''the difference between service expectations and perceived performance'', the meaning often attached to service quality. However, some researchers argue that while service quality is the cumulative evaluation of multiple transactions over time, satisfaction is transaction specific (Roszkowski et al., 2005).

Thompson et al. (2005, p.518) suggest that satisfaction questions describe more immediate and holistic feeling than service quality scores which tend to describe a longer-lasting perception of library service quality. There is also a widely accepted notion that service quality is an antecedent of satisfaction (Jayasundara et al., 2009; Roszkowski et al., 2005; Shi et al., 2004).
In line with LibQUAL+™ organisation (Hunter and Perret, 2011), we treat service quality and satisfaction as two distinct concepts. We further treat service quality as a precursor of satisfaction. Many studies confirm a consistent positive relationship between service quality and satisfaction (Roszkowski et al., 2005; Shi et al., 2004; Thompson et al., 2005; Shi et al., 2004). We therefore expected overall service quality and its dimensions to relate positively to satisfaction with the library.

Hypothesis 1: Perception of overall service quality is positively related to satisfaction with the library.
Hypothesis 1a: Perception of affect of service is positively related to satisfaction with the library.
Hypothesis 1b: Perception of library as a place is positively related to satisfaction with the library.
Hypothesis1c: Perception of information control is positively related to satisfaction with the library.

Service quality, satisfaction and frequency of usage of library resources and website
Service quality and satisfaction are often related to behavioural consequences (Zhou, 2004). Based on attitude-behaviour relationship, we expected that the perception of library service quality and satisfaction with the services of the library would affect the frequency of use of library resources, including its website. The frequency of use of library resources and its website are some of the outcomes listed at the end of LibQUAL+™ instrument. Even

though the intended purpose of these outcome items is not stated, Roszkowski et al. (2005) assume they are placed there to check the validity of the core section of LibQUAL+™ instrument. The following relationships among service quality, satisfaction and frequency of use of library resources could therefore be expected.

Hypothesis 2: Perception of overall service quality is positively related to the frequency of usage of library resources and its website.

Hypothesis 2a: Perception of effect of service is positively related to the frequency of usage of library resources and its website.

Hypothesis 2b: Perception of library as a place is positively related to the frequency of usage of library resources and its website.

Hypothesis 2c: Perception of information control is positively related to the frequency of usage of library resources and its website.

Hypothesis 3: Satisfaction with library is positively related to the frequency of usage of library resources and its website.

2. Methodology

The quantitative research design deploying survey research methodology was used in this study. This research design was deemed appropriate for the purposes of addressing the hypothesized relationships outlined in this paper.

Sample, instrument and procedures

A survey research methodology using LibQUAL+™ instrument was used to collect data from a convenient sample of 400 students at NUL. 15 items representing 3 dimensions of LibQUAL+™, and 5 items representing outcomes (satisfaction and frequency of library usage) were selected from the LibQUAL+™ instrument for the purposes of this study. Self-administered questionnaires were distributed to students during class hours. A total of 384 usable questionnaires were returned, representing 96 percent response rate. Of the respondent sample, 50.8 % were females.

Variable measures

Unless otherwise stated, items were measured on a Likert scale ranging from (1) strongly disagree to (5) strongly agree.

Effect of service: 5 items were used to measure this construct. The sample item was: 'the library staff instils confidence in users'. One item, 'the library staff is willing to help users,' was deleted because its deletion improved the Cronbach's alpha (internal reliability) of the scale from 0.66 to 0.79.

Library as a place: 5 items were used to measure this construct. The sample item was: 'the library has space that inspires learning'. One item, 'the library has community space for group learning and group study,' was deleted because its deletion improved the Cronbach's alpha (internal reliability) of the scale from 0.64 to 0.70.

Information control: 5 items were used to measure this construct. The sample item was: 'the library has modern equipment that lets me easily access information'. The Cronbach's alpha (internal reliability) of the scale was 0.69.

Overall service quality: 13 items used to assess 'effect of service', 'library as a place', and 'information control' were used to measure the overall service quality. The Cronbach's alpha (internal reliability) of the scale was 0.83.

Satisfaction with library services: Following Thompson *et al.* (2005), 3 items were used to measure this construct. The sample item was: 'in general, I am satisfied with library support for my learning, research and teaching needs'. The scale ranging from 1(poor) to 5(excellent) was used to measure the item: 'how would you rate the overall service provided by the library?' The Cronbach's alpha (internal reliability) of the scale was 0.72.

Frequency of use of library resources: 2 items were used to measure this behavioural concept. The respondents were asked to rate

how often they use the library resources and its website. These were scored on a scale anchored as follows: 0=not at all; 1=monthly; 2=weekly; and 3=daily.

Statistical Package for Social Sciences (SPSS) was used to compute frequencies, means (standard deviations), correlations, regression and factor analyses.

Data analysis

3. Findings

Dimensionality of scale items

We conducted factor analysis (principal components, Varimax rotation) to examine the factor structure of items of LibQUAL+™ and outcomes respectively. The results are shown in Tables 1 and 2.

Table 1: Factor analysis of LibQUAL items

	Factors			
	1	**2**	**3**	**4**
The library staff gives individual attention to users	**0.756208**	0.231621	-0.00027	0.100635
The library staff instills confidence in users	**0.752966**	0.193302	0.067913	0.174725
The library staff has knowledge to answer users' questions	**0.743692**	0.116211	0.131376	-0.16826
The library staff understands the needs of users	**0.720116**	0.154579	0.141245	-0.01346
The library has modern equipment that lets me easily access the information	0.11059	**0.708576**	0.172184	0.142106
The library has electronic information I need	0.1373	**0.66367**	0.260483	-0.13439
The library website enables me to locate information on my own	0.151419	**0.639331**	-0.01273	-0.08936
The library has easy to use access tools that allow me to find things on my own	0.218187	**0.615924**	0.044858	0.156409
The library makes the information easily accessible for individual use	0.342297	**0.612119**	0.19879	-0.1374
The library has space that inspires learning	0.081992	0.120261	**0.85921**	-0.02359
The library has comfortable and inviting location	0.271054	0.031192	**0.770509**	0.021765
The library is a gateway for study, learning or research	-0.08824	0.388464	**0.552076**	0.310132
The library has quiet space for individual learning	0.019365	0.378371	**0.471334**	-0.38208
The library staff is willing to help users	0.318595	0.208036	0.072994	**0.629676**
The library has community space for group learning and group study	0.309517	0.322729	0.010576	**-0.49363**
Percentage of variance explained	30	11	08	07
Extraction Method: Principal Component Analysis. **Rotation Method:** Varimax with Kaiser Normalization. Rotation converged in 5 iterations.				

As shown in Table 1, four factors with eigenvalues greater than 1.0 emerged;

namely effect of service (factor 1), information control (factor 2), library as a

place (factor 3) and undefined factor (factor 4). The four-factor model explained about 56% of total variance. It will be noted that items that comprise factor 4 are those

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deleted from effect of service and library as a place dimensions. Thus as expected; only 3 interpretable factors emerged from factor analysis

Table 2: Factor analysis of outcome items

	Factors	
	1	**2**
In general, I am satisfied with library support for my learning, research and teaching needs	**0.814116**	0.141587
In general, I am satisfied with the way I am treated at the library	**0.792615**	-0.02004
How would you rate the overall quality of the service provided by the library?	**0.78979**	-0.08526
How often do you use resources on library premises	-0.02595	**0.812028**
How often do you access library resources through a library web page	0.039826	**0.776291**
Percentage of variance explained	**38**	**26**
Extraction Method: Principal Component Analysis. **Rotation Method**: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.		

Factor analysis of outcome items (Table 2) resulted in two factors, namely, satisfaction with library services (factor 1), and frequency of use of library services (factor 2). The two-factor model explained about 64 percent of total variance. Since the Cronbach's alpha of items in factor 2 was low (α=0.52), we

separate the two forms of library usage in subsequent analysis.

Descriptive Information

The means, standard deviations and frequencies of service quality dimensions and satisfaction are shown in Table 3.

Table 3: Means, standard deviations and frequency of dimensions of LibQUAL and satisfaction

Variable	Mean (Scale: 1-5)	SD	Strongly Disagree/ Disagree	Neutral	Strongly Agree/ Agree
Library as a place	3.29	0.82	30.8%	5.8%	63.4%
Information Control	3.03	0.87	40.7%	10.5%	48.8%
Effect of Service	2.67	0.87	56.0%	15.8%	28.2%
Satisfaction	2.73	0.89	58.2%	10.8%	31.0%

Table 3 suggests that many participants had above-midpoint perception of the quality of library as a place (M=3.29, SD=0.82), suggesting that among others, many participants felt that the library has physical space that inspires learning and research; has comfortable and inviting location; and has a quiet space conducive for learning. In terms of information and personal control, the participants scored around midpoint (M=3.03, SD=0.87), suggesting that on average, participants were neither impressed

nor unimpressed about access of information on their own.

The area that needs attention relates to the service provided by library staff. On average, the majority of participants (56 percent) were not happy about the quality of services provided by library staff (M=2.67, SD=0.87). Participants were equally not satisfied with the overall service they get from the library (M=2.73, SD=0.89), with over 58 percent registering dissatisfaction.

The frequencies of use of library resources including its website are shown in Table 4.

Table 4: Frequency of Use of Library Resources

	Frequency of usage (%)			
	Not all	**Monthly**	**Weekly**	**Daily**
Usage of library resources	5.1	18.9	44.5	31.5
Usage of website/page	16.1	52.2	25.1	6.6

As shown in Table 4, less than half of the respondents (31.5 percent) admitted using library resources daily, with even a lower number (6.6 percent) admitting surfing the website daily. It is even more worrying to note that a significant number (16.1 percent) of participants indicated that they never used the library website to search for resources at the library.

Relationship between Variables

To initially test the hypotheses outlined in this study, we correlated independent variables with satisfaction and use of library resources. The results of correlation analysis are shown in Table 5.

Table 5: Correlation (r) of variables with satisfaction, use of resources and website

	Satisfaction	Frequency of use of resources	Frequency of use of website
Gender	-0.038	0.022	0.006
Age	-0.025	-0.183**	-0.041
Library as a place	0.590**	0.076	0.056
Information Control	0.538**	0.079	0.138**
Effect of Service	0.546**	0.009	0.106*
Overall service quality	0.719**	0.103	0.130*
Satisfaction	-	0.008	0.043
*Correlation is significant at 0.05 level (2 tailed), **Correlation is significant at 0.01 level (2 tailed)			

Hypothesis 1 predicted the positive relationship between perception of service quality and satisfaction with library services. As expected, there were strong relationships among overall service quality and satisfaction (r=0.72, p≤0.001); effect of service and satisfaction (r=0.55, p≤0.001); library as a place and satisfaction (r=0.59, p≤0.001); and information control and satisfaction (r=0.54, p≤0.001). Thus hypotheses 1 and its components were fully supported.

Hypothesis 2 predicted a positive correlation between the perception of service quality and frequency of use of library resources and

website. Frequency of use of library resources did not correlate with either perception of service quality nor with any of its dimensions. Frequency of use of website correlated slightly with information control (r=0.14, p≤0.001), effect of service (r=0.11, p≤0.05) and overall service quality (r=0.13, p≤0.05), but not with library as a place (0.06, p≥0.05). Based on correlation results, hypothesis 2 got mixed support.

Hypothesis 3 predicted a positive correlation between satisfaction and frequency of use of library resources and website. Results from Table 5 suggest no relationship either between satisfaction and frequency of use of resources (0.00, p≥0.05), nor between

satisfaction and frequency of use of library website (0.04, p≥0.05). Hypothesis 3 was hence not supported.

The limitation of simple correlation analysis is that it does not control for the spurious relationships that may be caused by other variables, and this may result in erroneous

relationships. We use regression analyses in which dependent variables are satisfaction, frequency of use of library resources, and frequency of use of library website to control for the possibility of spurious relationships that may be caused by related independent variables. The results of regression analyses are summarised in Table 6.

Table 6: Summary of regression analyses

	Satisfaction	Frequency of use of resources	Frequency of use of website
Gender	-0.085*	-0.001	0.034
Age	-0.059	-0.092	0.026
Library as a place	0.423**	0.092	0.029
Information Control	0.152**	0.130	0.167*
Effect of Service	0. 340**	-0.087	0.078
Satisfaction		-0.012	-0.91
R^2	0.528	0.038	0.037
* significant at 0.05 level (2 tailed), ** significant at 0.01 level (2 tailed), figures represent standard betas (β)			

The results from Table 6 suggest that library as place, information control and effect of service were still significantly associated with satisfaction after controlling for the effects of other variables (β =0.42, p≤0.001, β =0.15, p≤0.001, and β =0.34, p≤0.001 respectively). This reaffirms the findings of correlation analysis. Even after controlling for the effects of other variables, no independent variable was related to the frequency of use of library resources. Information control was the only variable that emerged as the predictor of the frequency of use of library website (β =0.17, p≤0.05) after controlling for the effects of other variables.

4. Discussion
Rapid technological progress and changing customer preferences have made it imperative for libraries to continuously adapt and adjust their structures, systems and processes to match user needs in order to enhance satisfaction. The outdated view by librarians that their 'services are inherently desirable', and hence blame customer ignorance when their services are not used (Cullen, 2001, p.667) cannot apply in an era

where non-profits like libraries are assessed by the user as a judge of quality (Nitecki, 1996). Libraries need to either upgrade their services to fulfil expectations of library users or perish.

The aim of this study was to assess the levels of service quality and satisfaction; the use of library resources and its website; and their relationships as perceived by one important type of library user at NUL – the student. The secondary aim was to examine if LibQUAL+™ could successfully be applied in Lesotho to assess library service quality and satisfaction.

With the exception of library as a place, the descriptive statistics suggest that the respondents did not perceive quality in terms of services provided by library staff, and the information control - the perceived strength and ease of access to library collections (Hunter & Perret, 2011). Similarly, most respondents were dissatisfied with services provided by the library, and the majority hardly used its resources, especially its webpage. Despite attempts by libraries to

adopt new technologies, this finding is in line with the view that students and other users prefer using non-library internet services (Kiran & Diljit, 2012). While this study did not look for the reasons why students did not use library webpage to search for electronic resources, the dysfunctional nature and lack of user-friendliness of the library webpage at NUL may be to blame. For instance, web pages on dissertations and past question papers give users no access to expected information. There is also no motivation for NUL students to use library webpage because more than half of NUL lecturers have not integrated ICTs into their teaching (Ntemana and Olatokun, 2012).

There were strong relationships among overall service quality and satisfaction; effect of service and satisfaction; library as a place and satisfaction; and information control and satisfaction. This supports prior studies indicating that library service quality is a strong correlate of satisfaction (Shi et al., 2004). For instance, Roszkowski et al. *(2005)* established that the perceived score (direct rating of library service quality) is a more valid indicator of user satisfaction than the gap score. Thompson et al. *(2005)* found that LibQUAL+^{TM} scores were more correlated with satisfaction than other outcomes. While this study did not examine whether superiority scores are better measures of library service quality than perceived scores, it shows that perceived scores correlate strongly with user satisfaction.
Of the library service quality dimensions, only information control had some influence on the self-reported access to library resources through the library webpage. This relationship is sensible because information control measures the extent to which users can find information on their own, and this can best be facilitated by access to the webpage. It is also in accord with the findings of Thompson et al. (2005) that the LibQUAL+^{TM} dimension most correlated with outcomes was information control.

Satisfaction was not at all related to use of library resources and webpage. This supports the findings of Hunter and Perret (2011) that LibQUAL+^{TM} data show no significant correlation between library usage statistics and user satisfaction. While these authorities attributed lack of correlations to limitations in the LibQUAL+^{TM} method of measuring patron satisfaction, it is possible to provide another plausible reason in the case of Lesotho. Since there are no alternative academic libraries in the country, whether or not satisfied, students can only use NUL library, making it the only option for even dissatisfied students to visit it. Qualitative studies are apparently needed to explain this unexpected finding.

We found that LibQUAL+^{TM} instrument tapped into expected dimensions, and this makes us confident that the instrument has acceptable applicability in Lesotho. The fact that the results of this study are in line with studies elsewhere gives us further confidence that LibQUAL+^{TM} has some validity in Lesotho.

Like many studies of this nature, this one is not without limitations. First, the cross-sectional design adopted in the study makes it difficult to conclude on the causality between variables. Longitudinal and/or experimental designs are needed to show causality between variables. Second, the sampling technique based on students limits the generalisability of the results. Future studies can be based on stratified random samples of students, lecturers and other library users. Third, data were collected with self-reports of students, and this raises the possibility of same-source bias. In general, even though the assumed relationships were based on sound theories, the explanation of results should still be made with caution.
This study has some implications for NUL library management and academic researchers. First, management should improve the communication and interpersonal skills of library staff. This can be

done through targeted training to all library staff. Second, library management should pay attention to the improvement of the information control dimension. More specifically, the library should improve print and electronic collections, books, electronic journals, and provide the latest information access tools (e.g. catalogue and website), remote access, web-based services, and space for group discussions. Finally the study suggests that LibQUAL+™ instrument, especially the measurement of perceived score (direct rating of library service quality), can be a valid measure of students' satisfaction in Lesotho.

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Students' experiences of undergraduate Business Research and supervision at the National University of Lesotho

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Abstract

The research dissertation and its supervision have been described by researchers as the most advanced levels of learning and teaching respectively. In spite of the intrinsic value of research and its supervision, there are few studies that document the lived experiences of undergraduate students in these areas. Existing studies are dominated by the opinions and experiences of academic staff, and are primarily limited to the issues of research assessment. To our knowledge, there is paucity of research on the lived experiences of undergraduate students in Lesotho. The aim of this paper is to explicate the students' lived experiences of undergraduate dissertation and its supervision at the National University of Lesotho (NUL). We used interpretive qualitative research to give 'voice' to the participants, and identified and interpreted key themes from interviews conducted over a period of two academic years. We specifically used data collected from 17 interviewees in six focus groups, 11 interviewees a year later, documentary analysis and observation over a period of two academic years. The interviews were unstructured, and took between 60 and 120 minutes. We ended the interviews once we realised that no new experiences were related by participants. The analysis of data resulted in nine themes. In general, students expressed positive views about dissertation as an important mode of learning and assessment; acknowledged the important role of research methodology course in undertaking research; found challenges in undertaking some parts of dissertation; and complained about supervisors who were not available, approachable, nurturing, organised, and did not communicate constructive feedback on timely basis using modern communication channels. While qualitative research findings cannot be generalised, we submit that understanding learner experiences can respectively benefit and inform undergraduate learning and supervision at universities.

Keywords: Dissertation; experiences; Lesotho; research; students; supervision.

1. Introduction

As part of their final year learning, undergraduate students in many universities around the world engage in an independent, self-initiated and learner-focused research project. The perceived pedagogical value of this work includes its ability to encourage deep learning, experiential learning, independent work, time management, report writing, interpersonal communication, analysis and synthesis of literature (Ramsden, 1992; Todd, Bannister & Clegg, 2004; Todd, Smith and Bannister, 2006). Even though research is carried out on an individual basis, it is often carried out under the supervision of one or more experienced tutors or supervisors (Todd et al., 2004). Some researchers have aptly referred to supervision as a teaching activity, with Connell (as cited in Murthy, Bain & Conrad, 2007, p.210) arguing that it 'is the most advanced level of teaching …' and Brown and

Atkins (as cited in Hammick & Acker, 1998, p.336) noting that it is 'a more complex and subtle form of teaching'.

In spite of the intrinsic value of research and supervision of dissertation as important modes of learning and teaching respectively, there are few studies that document the lived experiences of learners in these areas, especially among undergraduate students (Hammick & Acker, 1998; Todd et al., 2004; Todd et al., 2006). Thus though some studies have focused on undergraduate dissertation, they were primarily limited to the issues of assessment, and dominated by the opinions and experiences of academic staff (Heinze & Heinze, 2009; Todd et al., 2004; Todd et al., 2006). According to Todd et al. (2006, p.164), 'research into undergraduate dissertation supervision is patchy', and to our knowledge, there is similar paucity of research on the lived experiences of undergraduate students in Lesotho. This is regrettable because the only two universities in Lesotho predominantly offer undergraduate education.

The aim of this paper is to explicate the students' lived experiences of business studies undergraduate dissertation and its supervision at the National University of Lesotho (NUL). We use interpretive qualitative research to give 'voice' to the participants (Bluhm, Harman, Lee & Mitchell, 2010), and identify and 'interpret' key 'themes' from the interviews conducted over a period of two academic years. We

2. Students' experiences of undergraduate research and supervision

The literature generally suggests that most undergraduate students perceive dissertation as an important part of their learning. The study by Todd et al. (2004, p.339) on undergraduate students in the UK indicates that for students, 'the significance of the dissertation derived from their sense of the work being independent and self-

specifically use data collected from focus groups, documentary analysis and observation over a period of two academic years. The research questions that initially guided this study were as follows:

Q1: What are the students' perceptions and impressions of the business undergraduate dissertation?

Q2: What are the students' experiences of the supervision of business undergraduate dissertation?

Q3: What recommendations can be made to improve the supervision of business undergraduate dissertation?

We believe that supervisory performance can improve if lecturers understand the expectations of students as clients (Woolhouse, 2002). Since backgrounds and cultural orientation of students differ from one environment to another, we contribute to existing knowledge by replicating past studies and extending theory to unexplored settings. Even though qualitative research is generally not generalisable, we believe these experiences can be learned and applied in other institutions of higher education.

The rest of the paper is outlined as follows. We first review the relevant literature on the lived experiences of students undertaking research dissertation, followed by research methodology, findings and their discussion. Finally we draw conclusions, and suggest prospects for future research and recommendations.

directed'. According to these authors, compared to other modules, the students perceived dissertation as the most 'authentic' approach towards student learning and assessment. Lopatto (2010) found that experiences gained from research enhance students' intellectual skills such as inquiry, analysis, understanding literature, communication and teamwork. The other study that portrays positive experiences by students is that of Morrison et al. (2007). Even though Stefani et al. (1997) illustrated

some unfavourable students' responses to the purpose of research, most of the above benefits of dissertation were cited by undergraduate students in their study.

The importance of research methodology in undertaking undergraduate dissertation has also been explored in previous studies. Even though undergraduate students may find it challenging to translate theory into practice, they generally find research methodology course helpful (Morrison et al., 2007; Todd et al. 2004). Undergraduate students may find the selection of a topic, research question or other areas of study challenging. The undergraduate students in the study by Todd et al. (2004) found the production of researchable questions uncertain and challenging. They commented that supervisors described their research topics or questions as vague, too broad or not feasible. They also found data gathering and information search difficult.

The lived experiences of supervision by undergraduate students, and the preferred styles of supervision have been consolidated in the number of previous studies. Among other things, most students prefer supervisors who are available, approachable, flexible, helpful, give timely and constructive feedback, and provide formal times for meetings (Heinze & Heinze, 2009; Morrison et al., 2007; Stefani et al., 1997; Todd et al. 2004). While some students prefer supervisors who provide guidance or advice and not direction of work (Stefani et al., 1997; Todd et al. 2004), others prefer more proactive supervisors (Heinze & Heinze, 2009). Armstrong, Allinson and Hayes (2004) found that analytic supervisors were perceived by undergraduate students to be more nurturing and less dominant than their intuitive counterparts, and this resulted in closer relationships between the supervisor and the student; increased liking; and higher performance of the student.

In summary, the literature suggests that most undergraduate students express positive views about dissertation as an important approach for learning and assessment; acknowledge the important role of research methodology course in undertaking research; find challenges in undertaking some parts of dissertation; and prefer supervisors who are approachable, nurturing, organised, and communicate constructive feedback on timely basis using different communication channels. The current paper explicates the lived experiences of undergraduate students in Lesotho.

3. Research methodology

We deployed a qualitative, interpretivist perspective to get a rich understanding of students' lived experiences of undergraduate research dissertation module and its supervision.

The context of study

The study was conducted in the Department of Business Administration at NUL. Unlike many departments at the university which have a tradition of offering undergraduate research project or dissertation as part of students' final year learning, the Department of Business Administration only started offering this module to students in one of its three programmes in the past five years. Furthermore, the department currently offers this module to B.Com Marketing students, and not to students in B.Com Accounting and B.Com Management.

Some of the challenges that partly motivated this study included observed supervision by some inexperienced lecturers, different approaches to supervision and grading, and different student-supervisor relationships. Though some of these challenges have been dealt with through exchange of ideas in various special departmental meetings, the members of the department felt that a

comprehensive study was needed to shed more light on the expectations and lived experiences of students.

Participants and procedures

The primary data collection entailed focus group interviews with the fourth cohort of students in the module, followed a year later by another set of focus groups with the fifth cohort of students. The focus groups made up of between two and three students from different supervisors were invited to share their experiences relating to the module and its supervision using an unstructured, open interview format. 17 and 11 students participated in the first and second years, constituting six and three groups per year respectively. The interviews took between 60 and 120 minutes per group. We ended the interviews when we realised that the respondents were not adding any new experiences. The interview notes were sent to participants for comments, and those that responded indicated that the notes represented their views. We also reviewed departmental minutes and used observation to triangulate our primary data gathering approach. The findings were also presented to colleagues for views and comments.

As is customary in qualitative research, our particular biases and power relationship between us and the participants have to be presented (Bluhm, Harman, Lee, & Mitchell, 2010). All of us are lecturers in the Department of Business Administration at NUL, and power asymmetries between the first author as an interviewer and students were inevitable. The second author was also a research module coordinator who frequently listened to students' complaints, and was responsible for organising the interviews and disseminating the information to other supervisors.

Ethical considerations

To encourage participation, the second author met the students before the interviews and explained to them the rationale, purpose, voluntary and confidential nature of the study. The students were also informed that they can withdraw from the study at any point in time without prior notice. On the request of students, the interviews were not recorded. We also do not provide their names in this paper to protect their individual identities.

4. Results and discussion

We independently read and reread the data from interviews to identify patterns and common themes, and then came together to compare findings and resolve disagreements. After discussion we identified nine common themes underlying our interviews. These themes are discussed next.

Importance of a research project

All students indicated that research dissertation was important for their future work and further study. In line with prior studies (e.g. Lopatto, 2007; Stefani et al., 1997; Todd et al., 2004; Todd et al., 2006), the students pointed out that research provided them with an opportunity of improving their communication skills, independent inquiry,

problem-solving skills, critical thinking, networking, time management and confidence. In their view, these are important competencies required in the field of work and for further studies. This is illustrated by one student in group 3 (year 1) who commented as follows.

Research broadened my knowledge and helped me to make evidence-based decisions that I believe are required in marketing research.

One student in group 4 (year 1) explained the importance of research as follows:

Research (MKT490) gave me the opportunity to read widely and to make decisions alone... in the

process improving my confidence to further my studies.

Some participants claimed that they developed good working relationships with businesses and people on which their studies were based. A student in group 2 (year 2) commented:

We always complain that our studies do not expose us to practice...this course gave me a little opportunity to interact with bank management; of course they were busy but helpful.

Research methodology course and research project

Many students pointed out that, even though research methodology course was important, it did not cover all elements of the research dissertation. Many areas that the interviewees perceived were not adequately covered included statistical analysis, report writing, data presentation and analysis, and discussion. Some students argued that theory taught in research methodology course was not easy to implement in research dissertation. In line with the opinions expressed by students interviewed by Todd et al. (2004:341), all students we interviewed in year 2 did not see any link between methodology course and research project. A student in group 1 (year 2) commented that '*there was no link at all...*'

To facilitate implementation, participants in group 6 (year 1) suggested that students should be given practical exercises throughout the research methodology course. One student in group 1 (year 1) felt strongly that the statistical package for social sciences (SPSS) was introduced too late, and that it could be important to introduce students to other statistical software programmes than SPSS. Despite many reservations, in support of the findings of Morrison et al. (2007), students found research methodology course important.

Challenging/easy phases of a research project

There was in general no consistent pattern of phases that students reported as either difficult or easy. For instance, whereas students in group 1 (year 1) agreed that the design of questionnaires, data collection, data presentation and analysis were challenging, two students in groups 4 (year 1) and 6 (year 1) independently reported that the most enriching and exciting time was during data collection because they enjoyed interacting with their research respondents. While some students found literature review easy and exciting, some found it challenging because it was difficult to find data for their relatively new topics. Most students interviewed in year 2 found the selection of researchable topics the most challenging area of the research process. Inability of undergraduate students to select researchable topics was also indicated in the studies by Todd et al. (2004) and Malcolm (2012).

In general, many students found the few areas related to topics covered in research methodology course relatively easy to undertake in research projects, somewhat supporting the importance of a well-presented research methodology course.

Topic selection and supervisor allocation

While many respondents did not doubt the expertise of their supervisors in understanding research, participants in year 1 groups complained that there was no optimal match between supervisors and topics selected by students. For instance, a student in group 1 (year 1) was vocal against supervisors from Accounting and Human Resources Management in the supervision of marketing projects. '*What do people in Accounting or Human Resource Management know about Marketing?*' she asked.

The majority of participants in year 1 groups submitted that it was necessary for students to present their topics first, and for the

selection of supervisors to be based on the topics selected by students. Students interviewed in year 2 did not however express any interest on how their supervisors were identified and allocated.

Time of, attention paid by, and availability of supervisors

All focus groups were either satisfied with, or complained about the availability or unavailability of their supervisors respectively. While the majority of students were satisfied with the availability of their supervisors and the time they allocated to supervision, some students complained bitterly about the unavailability and lack of attention paid by their supervisors. One student in group 2 (year 1) reported:

> My supervisor did not create time for meetings... Even when I had an appointment with her, she didn't concentrate; her phone kept ringing ... in most cases I ended up not receiving any guidance till the end of the session. She was just too busy to pay attention to me!

One interviewee in group 2 (year 2) complained:

> My supervisor told me she was busy...when I asked about the submission date she vaguely answered that it will be very soon. I still can't say how soon is very soon!

One student in group 4 (year 1) who was apparently satisfied with the availability of her supervisor commented:

> While my supervisor was a bit strict, he was always available for consultation. You could turn up during any time of the day and ask questions, even during unscheduled times, and he would give you 100 percent attention.

The availability of supervisors and how it affects performance on dissertation planning also appears as a major theme in prior studies (e.g. Heinze & Heinze, 2009; Morrison et al., 2007).

Timely feedback and use of different communication channels

Feedback and how it was given was also important to many students. Students in groups 1 (year 1 and year 2) and 5 (year 2) were satisfied with timely feedback from their supervisors. Some interviewees were especially satisfied with positive feedback, indicating that negative feedback impacted negatively on their morale. The majority of students commented that feedback provided through other communication channels (e.g. electronic mail accounts and mobile phones) than face-to-face made supervision more effective. According to one student in group 3 (year 1), his supervisor gave them her cell number, and they could call her at any time about their research problems, and that made collaboration easy and more effective.

One student in group 2 (year 2) commented: 'I liked submitting by means of email...I could not afford printing hard copies given how many times I had to resubmit.'

Commenting on written feedback, the student in group 3 (year 1) complained:

> You submit and no remarks or corrections are made on some sections, but when you submit again, the sentences you thought were correct are corrected in the previously uncorrected sections. You end up doing the same thing over and over again.

As was the case in prior studies, students demanded timely and helpful feedback (Todd et al., 2004). The other best practice that stands out prominently from this study is allowing students to submit through electronic means, and using different modern communication channels to give feedback (Heinze & Heinze, 2009).

Guidance versus directing of research

The majority of interviewees in year 1 were against too much involvement of supervisors in the selection of topics and the direction their research should take. Though the

majority appreciated the role played by their supervisors, they wanted them to be more 'guiding' than 'directing' in their approach. One member of group 2 (year 1) commented:

> I did not have freedom to do what I wanted to do...my supervisor was telling me what topic to research on, and what sentences to write in a report. I ended up researching and writing what she wanted, and not what I wanted to do. This reduced my motivation because I ended pursuing her research interests and not my research interests.

A few students were satisfied with the guidance they got from their supervisors, including how to identify researchable topics and which papers to download and read.

A different picture emerged when interviewing participants in year 2. Most interviewees preferred supervisors who were task-oriented, directing and strict. As shown under theme 3 above, this cohort of researchers found identifying research areas and topics quite more challenging than the other cohort; somewhat suggesting why this group preferred directive supervisors. Future studies can tease out the characteristics of students who prefer each of the two approaches to supervision.

It is worth noting that different preferences by students towards supervision approach are evident in the literature. For instance, while the preferred emphasis in the study by Todd et al. (2004) and Todd et al. (2006) is on facilitation of research, the students in the study by Heinze and Heinze (2009, p.300) 'felt that the supervisor should take a more proactive role...'. The former and the latter support the views of the first and second cohort of researchers respectively.

Structure in research supervision
Interestingly, while some students did not prefer too much direction from their supervisors, they all preferred a formal structure in the supervision process to assist them achieve their goals. They were satisfied with regular meetings with their supervisors;

setting of timelines; availability of research guide document; following up on late students; introduction letters to businesses; and the availability of past research topics that gave students ideas of relevant and innovative topics. Some interviewees encouraged the culture of consulting in groups at the beginning of the supervision process because it allowed them to learn from each other.

Complaining about lack of structure, a student in group 3 (year 1) claimed:

> Some lecturers refuse to follow the research guide. It is as if they do not approve of it; or as if it was not suggested by them after all. Can't you guys follow the same supervision style?

The minutes of the department also show instances in the past where there has not been uniformity in marking and submission of reports, which have since been mitigated by the availability of the research guide.

The importance of formality, structure and clear time-tables in assisting students achieve their research goals is supported by many studies, including Armstrong et al. (2004), Morrison et al. (2007), Todd et al. (2004), Todd et al. (2006), and Woolhouse (2002).

Student-supervisor relationship: empathising, nurturing and friendly collaboration
In accord with prior studies (Armstrong et al., 2004; Hammick & Acker, 1998; Heinze & Heinze, 2009; Morrison et al., 2007; Stefani et al., 1997; Todd et al. 2004), respondents in this study aspired to have supervisors with good interpersonal skills, and who could establish friendly and nurturing relationships. Many were vocal against supervisors who provided hurting comments that were directed at the person and not at the paper. One student from focus group 3 (year 1) claimed:

The comments of my supervisor made me feel like I was stupid. It was as if he did not accept that people are different and have different learning abilities.

Some female students perceived that their supervisors were even rude and intimidating. One student in group 2 (year 1) reported that they were once unable to come to a meeting with their supervisor, and when they came later to apologise, the supervisor 'slammed the door at their faces'. The student pleaded:

We are not asking to be friends with our supervisor; we are simply asking for an accommodating and friendly behaviour towards us.

Two students in groups 1 and 2 (year 2) who were appreciative of the strict nature of their supervisors still lamented the impolite written comments made by their respective supervisors.

One student in group 5 (year 1) did not however find anything wrong with the task-oriented and strict approach of her supervisor. She conceded:

'If my supervisor did not reprimand me when I did not submit and attend meetings, I would have probably not finished. I also did not find anything wrong with my supervisor when he was firm with poorly constructed sentences... At the beginning I was sad, but now I am happy he was not lenient.'

The views emerging from this theme suggest that while students prefer a friendly and respectful supervisor-student relationship, they do not prefer the laisser-faire approach to supervision.

5. Conclusion and recommendations

Understanding experiences and expectations of students in research is important for improving the performance of students and supervisors (Woolhouse, 2002). However, few prior studies document the lived experiences of undergraduate students in research and its supervision. This paucity of

research is surprising in African countries such as Lesotho where universities predominantly offer undergraduate degrees. The study reported here sought to close that gap by exploring the students' lived experiences of undergraduate business research and its supervision at NUL. This was achieved through qualitative, interpretivist research design paradigm using unstructured, open-ended interview focus group format.

The results suggest that participants felt that the undergraduate research was important for learning, but that it should be linked better to research methodology course. Students also found identifying researchable topics demanding and stressful. In terms of supervision, students preferred supervisors who were available, dependable, organised and provided constructive feedback on time using modern communication channels.

A clear and sensible path for the Department of Business Administration at NUL is to continue identifying the expectations of students, and alerting supervisors of these expectations. It is only when expectations of students as customers are known that supervision performance can improve (Woolhouse, 2002).

Research methodology course should be more practical than theoretical, and should assist students in identifying researchable areas and topics of their interest earlier on in their studies. Inability of students to identify researchable questions has been identified as a major problem in prior studies (e.g. Todd et al., 2004; Todd et al., 2006).

None of the supervisors of research in this study received formal training in supervision, and save only two, none of the supervisors received any training in teaching and learning. While students did not complain about lack of training of their supervisors, we submit that formal training on supervision responsibilities and how to conduct

supervision properly can go a long way towards improving performance of students in research and dissertation writing. Rowley and Slack (2004) recommends, and we support their view, that among others, supervisors should continually learn about student learning process, develop their own subject knowledge, networks for access, ability to navigate electronic sources and repertoire of research methodologies.

In the absence of formal training, we recommend, following Todd et al. (2006), a network of experienced and inexperienced supervisors who can share experiences, problems and successes. These informal networks have improved supervision performance in the Department of Business Administration at NUL. Furthermore, on-the-job informal training can be effective because it reduces the problems of transfer of learning.

While many lecturers allow students to submit on-line, there are lecturers who still resist this mode of submission. We recommend that on-line submission be taken as formal submission. While supervisors should tolerate ambiguity and provide different forms of support based on each student's ability, the role of students in research should also be clarified. The existing written guide should be strengthened as an independent self-help resource that can even be uploaded on an intranet as a first port of call for students.

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A lecturer's reflective experiences on becoming a published scholar: Curriculum in context

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Abstract

This article presents a critical life history of a lecturer's reflective experiences on becoming a published scholar. The lecturer's interests have included numerous teaching/learning resources that put different curricula (Mathematics, Information Technology, Technical Education, Educational Technology, Curriculum Studies and Dance-Sport) into action. By interacting with different curricula while using teaching/learning resources, the lecturer transformed from being research immigrant (RI) to published scholar (PS). As the PS, the lecturer has been able to use scientific knowledge to identify relevant resources that have been required by the different curricula in order to achieve teaching/learning objectives/outcomes. As the RI, the lecturer was using general knowledge to identify teaching/learning resources to be used in the curricula. The study used lecturer's published article analysis, Learning Management System analysis, semi-structured interview and the lecturer's reflections for data generation. Purposive sampling was used in selecting the lecturer who was given a task of reflecting from his experiences of becoming a published scholar by his line manager at a research workshop. Guided analysis was used and generated five themes for data analysis. This article consequently recommends the promotion of PS as one of the main outcomes of an individual lecturer.

Keywords: awareness, knowledge, published scholar, research immigrant, teaching/learning resources.

1. Introduction

This article defines research as an act of developing knowledge, values/attitudes and/or skills that leads to the achievement of intended research outcomes or addresses other life-related challenges using different resources. A resource is defined as "any person or thing that communicate learning or [research]" (Khoza, 2012, p. 75) or "anything which helps learning [research] to happen" (Criticos, Long, Moletsane & Mthiyane, 2005, p. 269). According to Khoza (2013a), teaching and learning/research resources are divided into hard-ware (HW) and soft-ware (SW) (what one can see and touch – HW & SW) as well as ideological-ware (IW) (what one cannot see and touch). The word 'ware' suggests awareness (conscience) in using these three types of teaching and learning/research resources to support teaching/learning/research (avoidance of habit). Hard-ware is any machine or tool used in teaching and learning/research (e.g. desktop computers, laptops, cellular phone, television and others). Soft-ware is any material that is produced for the hard-ware to display information or communicate learning/research (e.g. transparencies for overhead projector, computer programs, Television programs, documents and others).

The ideological-ware of teaching and learning/research resources is any part of teaching/learning/research that one cannot see and touch (e.g. teaching/learning

strategies, theories of teaching/learning, research findings, experiences and others). The ideological-ware is a combination of ideology and awareness which suggests that teaching/research/learning is not only about hard-ware and soft-ware but it mostly about ideology and awareness of when/how/why to use hard-ware/soft-ware resources in teaching/research/learning.

The definition on the resources is also extended to curriculum which is seen as one of the most powerful resources because it is defined as a plan for teaching/research/learning (soft-ware) (Van den Akker, de Boer, Folmer, Kuiper, Letschert, Nieveen & Thijs, 2009) which is further defined by Pinar (2004) as what we do in education, how we think about what we do in education and why we think about what we do in education as facilitators/ researchers/students (ideological-ware). Therefore, it is for this reason that the next section discusses the curriculum (currere) that frames the lecturer's reflections on becoming a published scholar.

2. Literature Review

Curriculum is taken from the Latin word 'currere' which means 'to run a course' (Hoadley & Jansen, 2013, p. 29). Running a course involves being aware of rationale for the course that controls aims/objectives/outcomes, teaching/learning activities, resources, assessment, location, time, grouping, teacher role and content (Figure 1) (Van den Akker, de Boer et al. 2009). These issues are important at each of the three stages of the curriculum which are intended/prescribed, implemented/enacted and attained/ assessed stages (curricula).
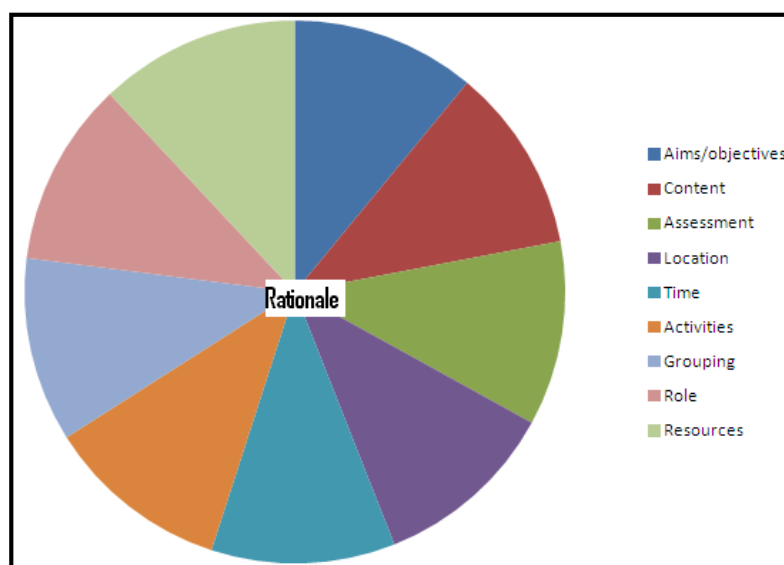
Figure 1: Curricular spider web issues

The intended/prescribed curriculum is a formal or written document/policy which has specified ideas/ intentions/ vision/rationale about the whole teaching/ learning/research process. Implemented/ enacted curriculum (stage) is when the curriculum is perceived and interpreted by teachers/researchers or actual operational process of teaching/research.

Attained/assessed curriculum (stage) is about learning experiences as perceived or learned by learners/students as revealed by the achievement of learning outcomes.

When lecturers use some of these issues for research signals they tend to use more school knowledge (scientific knowledge) than everyday knowledge (general

knowledge). According to Hoadley and Jansen (2013), general knowledge is learnt anywhere unplanned as it usually comes either from social conversations overheard or different hard-ware/soft-ware resources. It is usually based on people's opinions within a particular local context.

On the other hand scientific knowledge is specific to each field of study. It is formally learnt according to different fields of study. It "depends on a national curriculum or another way of setting out and recording on what to be learnt" (Hoadley & Jansen, 2013, p. 106). For example, scientific knowledge in research consists of research title, abstract, rationale, purpose, literature review, theoretical/conceptual/analytical framework, paradigms, research design with methodology, findings/results and other research related issues. Therefore, in order for one to become the published scholar one has to understand the research scientific knowledge.

According to Pinar (2004), one of the ways to understand how lecturers/ academics/facilitators become the published scholars is to interrogate their infinitive autobiographical nature of their lived experiences. This suggests the interrogation of the past experiences, awareness of present actions/achievements and prediction of future actions/achievements. In other word "slowly...analyze one's experience of the past and fantasies of the future in order to understand more fully, with more complexity and subtlety, one's submergence in the present" (Pinar, 2004, p. 4).

A case study conducted by Amundsen and McAlpine (2009) on eight new academics that were on their journey of becoming supervisors concluded that supervisors are published scholars. The purpose of the study was to explore the experiences of new graduate supervisors by interrogating their past and present experiences in order to establish some qualities of an ideal supervisor for post-graduate students. This suggests that individual's past experiences determine the present and predict the future to become good supervisor/published scholar.

The study used Activity Theory as a supervisory model that can be used in analyzing one's curriculum (currere) of becoming the published scholar. However, a study conducted by Gatfield (2005, p. 311) whose purpose was "an investigation into PhD Supervisory Management Styles: Development of a dynamic conceptual model and its managerial implications" concluded that there is no standard research model to be used by supervisors to become good supervisors/published scholars. The study proposed a new supervisory model using literature review. Therefore, this suggests that any proposed model is only used to group different issues of the research scientific knowledge that may be useful in a research process.

3. Research Objective and Research Question

Therefore, this article intended to explore lecturer's reflective experiences on becoming a published scholar framed by currere (curriculum) using the curricular spider web. This article may help higher education institutions answer the question of 'how to become a published scholar?'

The data production was organised to respond to the following research question of this article:

- What are the lecturer's reflective experiences on becoming a published scholar?

4. Research Design and Methodology

This is a qualitative life history of a university lecturer who on his journey of becoming a published scholar at a South African curriculum context. Qualitative approach is

important for this study because it is more descriptive, holistic, explorative and contextual in its design and aims to produce rich description of explored phenomena (Creswell, 1994). For this study qualitative life histories have helped to understand the deeper meaning of the lecturer's experiences and challenges in using different teaching/learning/research resources in his journey on becoming the published scholar.

Sampling

Purposive sampling was used in selecting the lecturer who was given a task of reflecting from his experiences of becoming a published scholar by his line manager at a research workshop. The presentation was for a South African university cluster whose theme was around research activities. He was approached after his presentation to become a participant while he could remember his reflective experiences. The lecturer's name was not revealed because of ethical considerations as suggested by Creswell (1994). Informed consent and ethical considerations were acquired in terms of confidentiality, voluntary participation, benefit and anonymity.

The participant is an African male lecturer whose age is between 40 and 50 years old who was born and grew up in rural area in KwaZulu-Natal province. He has been teaching at a South African university since 2002. He has been involved in different disciplines such as Educational Technology, Curriculum Studies and Information Technology. He started his teaching career at a high school (3 months) and continued to a technical college where he taught nine (9)

years teaching mathematics, science, drawing and computer studies. Before he started his teaching career he was a Civil Engineering technician.

Data Generation/Production and Analysis

Methods used in this study for data generation/production (sources of data) were document analysis (participant's reflective presentation and articles), Learning Management System (LMS) analysis and semi-structured interviews. The three sources of data were used for the purpose of enhancing validity of data (Clark, 2000) and achieving measures of trustworthiness (Krefting, 1991). Eight articles and the lecturer's reflective presentation as well as the lecturer's LMS were analysed as the first data generation/production methods.

The analysis was followed by three semi-structured interviews (different days) that took about thirty minutes each. Audio-tape was used to record the interviews for ease transcription. One research question was asked: 'what are the lecturer's reflective experiences on becoming a published scholar?' Follow up questions were generated from this research question for more data. This was done to verify that the data were consistent across the three sources of data, that triangulation was supported and to ensure trustworthiness of the findings. In terms of data analysis this study used guided analysis where researchers have categories that can be modified through interaction with data (Samuel, 2009). The findings are exploratory in nature; five themes with categories were generated from the data.

5. Findings
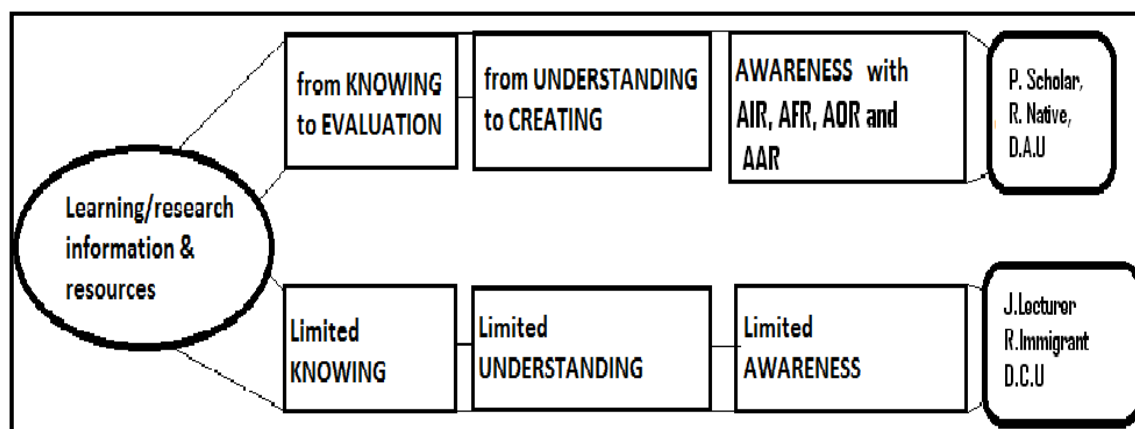
Figure 2: Becoming a Published Scholar/Research Native/Digital Awareness User

Table 1: Lecturer's reflective experiences on becoming a published scholar

THEMES	CATEGORIES
Learning/Research information & Resources	• Learning/Research information and resources
From KNOWING to EVALUATION	• Knowing…Evaluation
From UNDERSTANDING to CREATING	• Understanding…Creating
AWARENESS	• Awareness in Research (AIR) • Awareness for Research (AFR) • Awareness of Research (AOR) • Awareness as Research (AAR)
Conclusion and Implications in Higher Education PUBLISHED SCHOLAR (PS)	• Research Native (RN) and Digital Awareness User (DAU)

Discussion of findings

Categories of findings are presented under each theme mostly by means of direct quotations and substantiated with discussions to re-contextualise them with relevant literature.

THEME 1: **Learning/Research information & Resources**
Learning/Research information and resources

The participant grew up in rural area where he looked after his two younger brothers because his mother worked as a domestic worker in another province. He looked after his brothers from the age of twelve years old after his grandmother past away. His father left them for another wife when he was five years old. As a result '*I was given instructions by any adult person around where I was staying because my grandmother was allowing them to do so… People around the area were claiming to be working as our teachers in helping us to grow yet they were feeding us with general information which I started to realise later… but for me it was the most confusing situation of getting their opinions through instructions and their decisions about our lives… Although some of their instructions were helpful but most of them were not… A good example of harmful general information was when we were told when we were sick that we were being bewitched by either our neighbours or relatives. As a result we grew up hating them*

and sometimes fighting with them...' (The participant).

This suggests that the participant grew up under the influence of everyday knowledge (general knowledge) as oppose to school knowledge (scientific knowledge). The challenge with general knowledge is that it influences people to have superficial knowledge of different activities without mastering any of them because is based on people's opinions rather than facts (Hoadley & Jansen, 2013). Sources of the general knowledge are conversations overheard, radio, digital technology, newspapers, television, imitation of other people and many others.

General knowledge promotes competence curriculum where any achieved knowledge/skill is important. For example, in a computer literacy course learners can be praised if they open application software even if they cannot use the application software to type a character. In other words deeper knowledge/skill is not important as longer one achieves any knowledge/skill. However, the strength of general knowledge is that it uses specific and local contexts which reflect students' real life experience and is often not applicable across general contexts. Limiting it to certain relevant context, such as recommending certain resources that are useful to our students' professions, may help the students to understand their professions better and apply what they are studying in their real lives.

THEME 2: From KNOWING to EVALUATION
Knowing...Evaluation
Obeying instructions from different people without questioning them seemed to influence him to become passive in teaching/learning. '*In my supervision/teaching processes I have been using book, internet, teachers and research papers for information because these sources*

are always right... students always need right information from the beginning before they start their module/research in order to be grounded...' (The participant).

The participant's Learning Management System (LMS) started with an online prescribed book with examples that needed to be followed by all students. It was compulsory for all the students to follow the instructions or they would fail. Part of the instructions included in the LMS had some specified objectives. This suggests a strong knowledge-based process which is driven by objectives. Objectives belong to the lecturers because they are formulated according to the lecturer's intentions (Khoza, 2013b). Knowing something' as our ability of reproduce what was given to us by specific sources, without reflecting from our experiences. Evaluation is a process of matching one's achievements/performance against one's specified objectives. If one's achievements match or are in line with one's pre-stated or specified objectives, then one may claim that one has performed well.

In teaching, the knowing process favours the teacher centred approach or behaviourism where lecturers work as the sources of information and students are expected to be passive learners (Hoadley & Jansen, 2013). The lecturers strongly believe and use certain sources of information without questioning what is given by the sources. As a result they only expose their students to these specific sources so that the evaluation process of checking if the lecturers have achieved their teaching/research objectives becomes much easier.

In terms of curriculum design, this can be interpreted as an instrumental approach. Instrumental approach in curriculum design is an approach which is driven by pre-determined objectives (Khoza, 2014). As a result the curriculum objectives leave no flexibly for the lecturers to change things and become creative.

In research, the knowing process goes hand in hand with positivist and post-positivist paradigms. Positivists are of the belief that the world has only one answer/truth in any of the existing activities which can be found or known by means a relevant and standardised research theory or instrument. The answer/truth is measurable/observable even testable for objectivity so that everyone agrees with it without considering any context. On the other hand post-positivists agree that there is only one answer/truth in any activity but what one has found is not the objective answer/truth; it is what is closest to the answer/truth. In other words only the holder of the answer/truth has the answer/truth, so when one is trying to attain it one can only come closer to the answer/truth.

THEME 3: From UNDERSTANDING to CREATING
Understanding... Creating

The second part of the participant's LMS had a list of observable/measurable learning outcome that we linked to different assessment tasks. All the learning outcomes were starting with measurable/observable verbs that were generated according to Bloom's taxonomies. '*I always have my objectives to drive my lessons; I always have my students' learning outcomes... It is only when my students achieve the learning outcomes that I know if I have achieved the aim/objectives of the lesson/supervision... I only came to understand the difference between the aims/objectives and learning outcomes when I was doing my masters dissertation... before that I was mixing them... Now I know that outcomes should be observable in order to be achieved by students so that I can achieve the aims/objectives... I have contributed with a new online teaching and learning framework...*' (The participant).

According to Donnelly and Fitzmaurice (2005), learning outcomes are statements of what students are expected to know,

understand, demonstrate, or be able to do at the end of a lesson. Learning outcomes are generated according to Bloom's domains of learning, namely, Cognitive, Skills and Values/Attitude (Adam, 2006). This suggests that the learning outcomes belong to students because they are achieved by the students, while lecturers use the achievement of the outcomes to know/understand if they have achieved their aims and objectives of the lesson. The participant's account suggests that he had not been involving only the process of 'knowing...evaluation' in his teaching/supervision but he had also been involving the process of 'understanding...creating'.

Understanding is the students' ability to reflect on their experiences in order to interpret and address the tasks that are given to them by their lecturers. The understanding process leads to the process of creation. The process creating process is the ability of individual to produce something new as a contribution towards his/her field as a result of his/her interpretation of the new information together with his/her reflections from his/her experiences. It is clear that the participant has developed well to combine the 'knowing...evaluation' and 'understanding...creating' processes in his teaching/learning/research/supervision because he has contributed towards his field of study with a new framework (creating/creation).

In teaching/learning, the 'understating...creating' process favours the learner centred approach (constructivist learning theory) where students tend to take control of their learning. Students are expected to initiate learning activities and lecturers are expected to provide relevant structures and facilitate the learning process. However, according to the participant, students are always forced to achieve only the stated learning outcomes according to the course in order for him to measure his

performance. This suggests that as much as he is using both the processes of knowing and understanding his teaching/supervision approach is dominated by the teacher centred approach.

This situation suggests a need for the pragmatic approach in terms of curriculum design. The pragmatic approach encourages lecturers to involve their students in planning their programmes. The programme should always be designed by the users of the programme in order to produce a user friendly programme (Visscher-Voerman & Gustafson, 2004).

In terms of research, this suggests the use of interpretive paradigm that aims at understanding one's activities (phenomena). In this paradigm researchers are driven by the notion that the world has many answers/truths that are not found but they are constructed. The participant's published articles were dominated by the interpretive paradigm with some elements of positivism/post-positivism.

THEME 4: Awareness
Awareness in Research (AIR)
This study defines 'awareness in research' (AIR) as the participant's conscience awareness of all the relevant hard-ware and soft-ware resources required in preparing an article for publication. *'When I was preparing my first paper for publication... I had two colleagues who contributed by indicating some of the important things that I needed... I had access to the internet, library books and articles... But I did not have enough time to consult other experienced researchers because I was involved in sport activities... Fortunately, I had most of the things that I needed because it was after I completed my PhD...'* (The participant).
The participant's account suggests that he has all the basic hard-ware (HW) such as computer and library as well as soft-ware (SW) such as books, articles and computer application software. As a result, he was in

possession of the 'awareness in research' as the basic awareness level of doing research.

Awareness for Research (AFR)
Awareness for Research is defined as the participant's conscience awareness of relevant ideological-ware resources required in doing research as indicated as the research signals (research title, abstract, rationale, purpose, literature review, theoretical/conceptual/analytical framework, paradigms, research design with methodology, findings/results and others). The participant's eight published articles indicated that the participant was in possession of the 'awareness for research' because the articles reflect all these research important issues/signals.

Awareness of Research (AOR)
Awareness of Research is defined as the participant's conscience awareness of combining HW, SW and IW resources into a single unit in conducting a research. *'Over and above my articles I have graduated more than twenty post-graduate students in...'* The participant's first few published articles and students' research projects indicated the interpretive paradigm as the dominating paradigm for the articles and research projects. However, other concepts used indicated the post-positivist paradigm. Some examples of the concepts were 'data collection' instead of 'data generation/production'; 'respondents' instead of 'participants' and others. I noticed that his last three articles were improved in this areas but the literature review did not follow any of the following common structures: chronologically (by date), contextually (local, national & international), by school of thought/theory/definition, by themes/constructs, by hypothesis/research question, by case study, by method and by author. This suggests that the participant started to acquire the AOR towards the last three articles.

Awareness as Research (AAR)

Awareness as Research is defined as the participant's awareness of research language and is able to compare different paradigm consistency in his writing. '*I know that research has many paradigms but I am only familiar with post-positivist and interpretivist paradigms because I use them for my research... I like them because they oppose each other in a nice way...*' (The participant). This suggests that the participant has acquired the AAR during the processes of preparing and publishing articles because he became aware of the two above paradigms and their research language. However, none of his articles used the post-positivist paradigm except the first few articles where the participant was starting the publication process.

THEME 5: **Conclusion and Implications in Higher Education** (PUBLISHED SCHOLAR - PS)

Research Native (RN) and Digital Awareness User (DAU)

Today the shift in teaching/ learning/research has been influenced by the introduction of new digital technology resources. As a result the following new concepts were introduced by different researchers to promote one's awareness of these resources: Generation X (born between 1961-1981) (Howe & Strauss, 1991), Millennial Generation (born between 1982-2000) (Howe & Strauss, 1991), Digital immigrant VS Digital Natives (Prensky, 2001), Generation Y (Business & Commerce) (Zhao & Liu, 2008), Born digital (Czerniewicz, Williams & Brown, 2009), Net Generation (Tapscott, 2010), Power, ordinary, irregular and basic users (Kennedy, Judd, Dalgarnot & Waycott, 2010), Digital Awareness User (DAU) and Digital Coincidental User (DCU) (Khoza, 2013a) and many others such as Digital visitors VS Residents, Digital wisdom, Digital strangers, Digital Melting Pot, Google Generation...

The participant's articles have been able to pick up this debate and manage to take advantage of it by/while acquiring relevant knowledge and skills in combining different hard-ware (HW), soft-ware (SW) and ideological-ware (IW) resources in teaching, learning, research and supervision. As a result this study recommends that the participant should be described as the Digital Awareness User (DAU) because he was aware of different relevant research resources. According to Khoza (2013a), if a person's awareness level is according to the four components of awareness then the person should qualify as the DAU. According to Prensky (2001), if a person is grounded in his/her activities s/he becomes the Native in whatever s/he is doing. As a result this study further recommends that the participant should also be described as a Research Native (RN) because he seems to have developed good/relevant knowledge and skills in research, supervision and teaching. He was only using the most relevant resources that were demanded by his research, teaching, learning and supervision activities. This then suggests that he was not only using it because of the power, political or social/entertainment demands that are promoted by general knowledge.

The use of the resources only when they are demanded by one's education activities is important because there is no time wasted unnecessary but awareness is the key (Khoza, 2013a). A good example of this demand was demonstrated by Czerniewicz, Williams and Brown (2009), when they conducted a study on two students where one student was categorised under Objectified Cultural Capital (demanded by one's social/entertainment activities) and the other one under Embodied Cultural capital (demanded by one's educational activities). While Howe and Strauss (1991) were convinced that age is a decider when one is planning to use of digital technology resources because they are attractive to the young generation. Looking at the above studies it is clear that any resource, whether is attractive from the market or not, should

only been used because it is demanded by one's curriculum through the use of teaching/learning/research/supervision activities. The clear and simple signals for teaching and learning are identified according to the curricular spider web (Figure 1). As a result of this study the participant started to understand some new research issues which he used to take for granted. Towards the end of this study the participant indicated that he was able to understand the difference between the following research issues as a result of his participation (Table 2) and he would love to see this information presented here for the readers because he felt that students are confusing these issues and compromise research validity:

Table 2: **Research issues achieved by the participant through this study**

Post-positivist paradigm	Interpretive paradigm
The aim is to know/predict: Discover natural laws so people can predict and control events	*The aim is to UNDERSTAND*: To understand and describe meaningful social action
There is one truth that can be discovered	Truth is many that can be constructed
Quantitative	Qualitative
Quantity	Quality
Hypothesis	Questions
Variables	Complexity
Respondents	Participants
Control	Exemplarity
Data Collection	Data Production/generation
Generalisability	Generativity
Objectivity	Subjectivity
Validity & Reliability	Authenticity & trustworthiness

The participant felt strongly that if lecturers/students could start their research journey by understanding the above issues (Table 2) their journey would be easier than his. This suggests that this study was influenced by the Critical paradigm whose main aim is to transform the participant. He was transformed by this study and started to question his awareness and the use of the different types of resources in his research, teaching, supervision and learning processes.

Therefore, this study recommends that university lecturers should consider the four levels of awareness (AIR, AFR, AOR & AAR) and the three categories of resources (HW, SW & IW) in promoting published scholars. The scientific knowledge should also be dominating in order to minimize the general knowledge in teaching, learning, supervision and research. In other words Curriculum (currere) should identify relevant resources.

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A quest for professionalism amongst teacher educators in the National University of Lesotho

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Abstract

The professional preparation of teacher educators provided through formal training gives them an opportunity to acquire professional knowledge, skills, competencies and attitudes that are unlikely to be acquired through experiential learning alone. The majority of the Lesotho teacher educators have not been trained for teaching teachers. This implies that their sources of professional knowledge could be situated in the university classrooms, and in the context in which they perform their task. There was therefore need to establish what constitutes professional knowledge in the context of the Lesotho teacher educators. The paper draws its content from a study that looked into the sources of professional knowledge of teacher educators. Data collection was carried out in three departments of the National University of Lesotho's Faculty of Education: Language and Social Education (LASED), Mathematics and Science Education (SCED) and Educational Foundations (EDF). Purposive sampling was chosen and the lecturers had to be from different disciplines. The criteria included teaching experience and gender. A total of eight teacher educators participated. Data was collected through observations of and narratives by the eight teacher educators. Practice-based information was collected from observing them live in their lecture rooms. The study revealed that the major sources of their professional knowledge were propositional and practice-based. The research participants who learned from own experiences to become teacher educators submitted to the pressures of a compliance culture instead of facilitating meta-learning for their own student teachers. Higher education institutions need to make explicit what informs the teacher educators' knowledge base so that they can appreciate and understand the magnitude of the task entrusted upon them. Investment in educating teacher educators could yield considerable institutional returns, and is therefore critical for preparing them for the complex task of educating prospective teachers.

Keywords: contemporary discourse, episteme, Phronesis, professional knowledge, transmissive and interactive methods.

1. Introduction

One of the authors who is a teacher educator at the National University of Lesotho developed an interest to undertake research whose findings are shared in this paper. She had observed that teacher educators in her context enter the field of teacher education without any training in this field. The reviewed literature revealed that the experiences and pathways to becoming teacher educators did not differ much from that of most teacher educators. The joint paper by authors from three universities based in different countries is therefore based on an understanding that while context may vary, there are similarities shared by teacher education institutions.

The research problem
During the period of undertaking a study whose findings are shared in this paper, teacher educators in Lesotho were reported not to have received formal training that would equip them with a professional knowledge base that is foundational for their task of training prospective teachers. Critical analyses of being in a career as teacher educator by Alexander (2004) reveal the need for a structured career path for teacher educators. Regardless of research work in this area, however, there is little empirical evidence of what the sources of professional knowledge for teacher educators who practice without any form of training are or should be. Subsequently, the more important issue is whether this professional knowledge is enacted in teacher educators' practices and if so, how. Murray and Male (2005), are of the view that the significance of how knowledge gets enacted might contribute to it being more appropriately highlighted and understood within the profession.

2. Research Methodology
The study which was set out to find an answer to the question: what are the sources and application of professional knowledge among teacher educators, employed an interpretivist research paradigm within a qualitative research methodology (Creswell, 2007). This means that we explored the world of the teacher educators. Firstly, we observed the individuals' actions in practice. Secondly, we asked them to relate their professional lives to the environment within which they were located and with which they were familiar (Clements, 1999), through narratives of their life stories on becoming and as teacher educators. We were specifically searching for the answer to the question on what their sources of professional knowledge were and how they enacted it in their education practices.

Following on arguments raised by researchers such as Clements (1999),

Clandinin and Connelly (1992), that teachers' storied lives are rarely made available in the public domain, using narratives as a research strategy added value to the study. Therefore, the significance of the current research is that the narratives were complemented with the observation of application of the respondents' professional knowledge in practice.

It is important to indicate that the study took the form of a case study of the National University of Lesotho's Faculty of Education. The selection of the appropriate research participants was essential to the practicality of the study. Therefore purposive sampling was chosen. The criteria for the selection were that teacher educators had to be from the different disciplines and areas of specialisation in the Faculty. We wanted to ensure that similarities and divergences in the way the research participants sourced and enacted their professional engagements were understood.

3. Data Collection and Analysis
The data collected through narratives was transcribed and together with the observation data captured using the Atlas ti. computer programme was then analysed. We followed Michel Eraut's analytical framework to guide the data analysis process. Eraut maps professional knowledge into knowing "that" equated to propositional or received knowledge, and knowing "how" (Eraut 1994), which he equates to practical or experience-based knowledge.

4. Literature Review
In reviewing the literature we focused mainly on teacher educators and teacher education. According to Lewis and Stuart (2003), the tendency in the past has been to appoint teacher educators into their positions by recognising academic qualification. They argue that in some instances, teaching experience within the school system is recognised as an advantage when employing teacher educators. However, academic

subjects or disciplines are not necessarily tailor-made for qualifying teacher educators to assume this new role.

There are essential aspects of professional knowledge. Eraut (1994) defines professional knowledge as "knowledge possessed by professionals which enables them to perform professional tasks, roles and duties with quality" (p.1). A profession, according to Schon (1983), has a systematic knowledge base, which means that it is specialised, firmly bound, scientific and standardised.

Other aspects of knowledge include episteme and phronesis. Korthgen, Kessels and Koster (2001), in their discussion of knowledge as epistemic, argue that teacher educators have knowledge at their disposal and therefore should be in a position to use such knowledge in a manner that students will be helped by it. They therefore argue for phronesis, which is not concerned with existing or concrete scientific theories which teacher educators tend to present to student teachers as conceptual. According to Korthagen et. al (2001), in contemporary teacher education, transmission of knowledge is discouraged; exploration is, instead advocated. In this regard, the Korthagen et al. (2001) argue that the task of teacher educators is to assist prospective teachers to explore, refine their perceptions and have opportunities to reflect on their practical experiences under the guidance of their teacher educators. There are some assumptions by authors such as Korthagen et. al (2001), that the conceptual scientific discipline (*episteme*) is the actual teaching itself. In practice, according to Korthagen et. al (2000), there is phronesis, which entails situation-specific principles, which are context-dependent and which help student teachers to arrive at decisions in solving real practical problems.

It would therefore be inappropriate to think of the theoretical dimensions of professional knowledge as theory (*episteme*) to be applied to practice (*phronesis*). In essence the construction of the professional praxis knowledge is accomplished through concrete experiences of that practice itself. However, to ensure that what has been experienced in practice becomes knowledge requires a crucial intermediate intervention which, according to Schon (1983), is a conscious reflective practice. Reflection is, according to Korthagen, et. al (2001), the instrument through which the concrete experiences are translated into meaningful knowledge. Such a constructed theory of concrete experiences represents practical wisdom (*phronesis*) and it is, according to Furlong, Barton, Miles, Whiting and Whitty (2000), called a practice theory. Therefore, an immersion in concrete practical experience (*phronesis*) is the foundation of the contemporary pedagogy (Korthagen, 2000), that is advocated for in teacher education.

In practice, immersion in concrete practical experience translates into learning. Therefore there are reasons for discussing learning and its various aspects in the context of this paper. The implication is that the process of learning is not only targeting student teachers and their future students but also has to begin with teacher educators themselves. In ensuring that the teachers' teaching results in the anticipated learning outcome, they have to challenge their learners in a manner that will ensure that the aim of education is achieved. In this regard, what needs to be taught and how it is taught are crucial so that teacher educators act out or model what they themselves expect of their student teachers.

In reviewing the literature regarding the sources and application of professional knowledge among teacher educators, a number of issues were revealed. First, is that the sources and application of teacher educator professional knowledge is inextricably linked with the education practice portrayed in classrooms. The sources and application of teacher educator

professional knowledge can therefore not be considered without practice in classrooms contexts and the required teacher professional knowledge. Secondly, teacher educators' professional knowledge should have practice as its primary concern because it is education in practice that eventually counts. The challenge for teacher educators therefore is that they have to construct their own professional knowledge through enquiry-based authentic experiences. In the process, prospective teachers should be challenged to construct their own professional knowledge (Schon, 1987).

5. Findings
The research whose findings are shared in this paper has revealed that there are two categories of sources of professional knowledge: propositional and practical knowledge.

Primary sources of professional knowledge
Teacher educators draw their professional knowledge from classroom practice. Academic programmes at undergraduate and postgraduate levels served as sources of a propositional type of professional knowledge. These include courses offered in the education programme. This is ascribed to the fact that at undergraduate level, six of the teacher educators who participated in the study took courses in educational foundations.

It is at undergraduate level that teacher educators acquired knowledge and attained skills on how to handle teaching in a real classroom, regardless of the level at which they were going to teach. In particular, some saw educational foundations programmes that included courses such as teaching and instructional techniques, as having laid the foundation for their current assignment of teaching teachers.

In contrast, there were some who revealed that their experience at undergraduate level could not be regarded as having provided them with knowledge of teaching their subject content. In sharing her undergraduate experience, Zinzi felt the professors who taught her had not modelled how to teach content at the level for which she was training to teach. She had this to say:

> *My undergraduate courses did not serve as a source of professional knowledge for me. Actually my experience was with somebody who didn't seem to understand what teacher education is about.*

At postgraduate level, the respondents either focused on discipline or advanced studies in the content areas. The emphasis at this level was on research undertaken at postgraduate level. It was considered relevant to their fields of specialisation. It was an enriching experience in that the carrying out of a study at this level was a valuable exposure to constructing research-based knowledge. In one of the cases, the participant indicated that as a result of engaging in research which was a requirement at postgraduate level, she had "lived that piece of work throughout her teacher education career" (Peditta). Most significant about her piece of work was that it enabled her to look at curriculum not in isolation but in relation to a learner, and therefore holistically. Others shared the same sentiments and pointed out that postgraduate theses had transformed their teaching of subject content in their areas of specialisation.

Therefore, postgraduate programmes serve as a primary source of propositional knowledge. Almost all the participants had taken an educational research methodology course at that level and other courses which they found relevant in their world of work.

Secondary sources of professional knowledge
We established that the major source of professional knowledge was practice. In the

context of teacher education, the research participants confirmed that their source of professional knowledge was engagement in numerous activities in the real world of working at a teacher education institution. The activities ranged from the actual teaching itself to participation in activities such as attending conferences.

Teaching practice

Teaching practice may take place at several levels, each of which offers a particular benefit to a teacher educator. The most valued teaching practice is teaching at a teacher education institution. Teaching in teacher education institutions is a source of professional knowledge which is exemplified by an admission by the participants that it is in the context of teaching from which they learned the most. It is in this context where, as 'Masethabathaba puts it:

> [one] learns from blunders, correcting and reflecting and coming up with answers, identifying limitations, correcting till you say, 'This is what it takes to educate a teacher.'

The teacher education context is therefore valued as one in which teacher educators experiment with their professional knowledge continuously, and one that provides the best experience of testing new teaching ideas and addressing new teaching challenges. New challenges include modifying the style of teaching. It is in this context that educational research and interaction with other colleagues and professionals in one's area of specialisation tends to contribute to perfecting the skill of teaching the content.

Supervision of instruction

All but one participant indicated that they had received no formal training on supervision of instruction. Therefore, for the majority, the responsibility of supervising students' teaching practice had been directly informed by involvement in the supervision activity itself. It was indicated that working with colleagues in the field provides prospects of learning from others, especially from those with extensive experience, and to a lesser extent from the only member who is a specialist.

Supervising students' teaching practice is in itself an opportunity to learn from the students themselves as they practise what they had learned in their teacher education programme. To some, learning from one's own students and colleagues indicates that supervision of instruction is not an individual undertaking.

Research

Supervision of research – Some of the participants reported having had an opportunity to supervise research, but cautioned that it was not extensive. In practice, this was an area in which they felt they tended to be "thrown in at the deep end" and where they were expected to help students undertake research in ways that would enable them to produce reports of quality standard. In their context, students are allocated to lecturers, especially those who had reached senior level and held a PhD qualification. Co-supervision was alluded to as a great learning opportunity.

Participation in research activities

Working at institutions that require one to undertake research, served as a learning experience. This experience was considered transferable to the actual opportunity to supervise students' research work.

However, undertaking research on their own teaching appeared to be a major gap among the participants. None made reference to research undertaken in their own context or on their teaching practice. Another gap was failure to engage in joint research with teachers in the service and to have that research fed into the teacher education programmes.

Assessing student teachers

One very crucial element of teaching is assessing student teachers. The participants shared varying experiences regarding their assessment knowledge and skills, with some having gained knowledge on assessment at postgraduate level. They had exposure in the programme of study or discipline in which they were studying. However, to most teacher educators, assessment continued to present challenges throughout their teacher education career. This experience was due to a lack of knowledge in this area coupled with a lack of mentorship and participation in continuing professional development opportunities.

Induction

Experiences varied, with some research participants sharing their experience that, upon joining a teacher education institution, they were attached to a mentor while others were not. For some, there were many benefits attached to a mentorship programme, even if it was not formal. 'Masethabathaba shared the benefits that accrued from being inducted or received by experienced teacher educators:

> I think I was lucky that when I joined the University as a teaching assistant, people like Professor MJM who was my mentor were so meticulous and very responsible. So probably I got that from him in the sense that he taught me at undergraduate level, he mentored me when I became a teacher educator and I was trying the best I could to emulate him.

However, some of the research participants were not so fortunate, even though they too had mentors. In the case of Zinzi, not much was attained from such an attachment. Zinzi, a newly employed lecturer who had recently joined a teacher education unit of the University, had to understudy a lecturer she was about to replace. Her experience was not as positive as that of 'Masethabathaba. She did not receive any form of professional support from a person who was expected to mentor her.

Professional activities in other contexts

We established that teacher educators engage in professional activities in other contexts, including conferences and participation in continuing professional development (CPD) endeavours. There is a perspective that in principle, the University supports professional development of its employees. Additionally, they participated in national development endeavours, including working with government departments in developing national policies. Contributing to policy development allows professionals to relate to contexts different from their own, and in turn their outlook and, most importantly, the new knowledge are transmitted to their own classroom situations.

Challenges

Almost all the participants indicated that the context within which they worked posed a number of professional challenges. It was a context that required refining and revision of their professional knowledge. The challenges ranged from classroom contexts to teaching and learning materials, assistance provided to student teachers and a variety of academic challenges, such as teaching large classes and investing time in research on own teaching.

Application of professional knowledge

The data analysed in this section of the paper is mainly based on classroom observations and to some extent views on a number of issues.

Methods of teaching used

There is a variety of teaching methods employed by teacher educators. We refer to two broad ones each of which have sub-categories. They are tansmissive and interactive.

Tansmissive methods

We noted that the participants claimed that their learning within the teacher education context was mostly from their practice as teacher educators. It was therefore interesting to observe how in practice they enacted professional knowledge. Observing practice exposed us to how they teach. We established that in practice, the predominantly used method of teaching was of a didactic nature. The practice varied from giving a very short explanation of concepts to giving extensive lectures in which theories or concepts and processes were explained and supported with examples. Depending on an individual's expository style, there were situations in which teacher educators took an entire hour of lecturing with very little or no contribution from the student teachers.

These long lectures were common in the language and social education courses and some educational foundation courses, but not so common in science and mathematics education courses. Giving an uninterrupted lecture could have worked against internalisation of each of the concepts or issues being taught. Presumably, the subject area predetermines the method of teaching employed.

Interactive teaching methods

Besides didactic methods, interactive teaching methods also featured as the second most commonly used methods of teaching. In particular, teacher educators posed verbal questions to which students were expected to give answers. In some instances they prefaced questions with statement, used single and multiple expository questions. Some elicited students' opinion asking either lower order or thought provoking questions. The interactive teaching methods included students working in large groups of up to ten students and paired groups of two students in a group. Both large and small groups were common in both small and large class sizes.

6. Discussion

We have noted that in enacting professional knowledge, teacher educators relied heavily on tansmissive methods of teaching. The extensive use of didactic methods of teaching means that the teacher educators failed to exhibit claims that they learned a lot from current practices as purported; instead, they reverted to what Loughran (2007) refers to as the tyranny of talk.

On the whole, therefore, claims that lessons have been gained did not seem to be observable nor were they that obvious in practice. The methods of teaching employed did not reveal any uniqueness nor did they deviate from the norm. Another claim referred to those who declared that they had learned research in their postgraduate programme and considered this to be exposure and subsequently a valuable resource. However, they could not convincingly reveal this in practice, given that little evidence could be found.

Sources of professional knowledge

The research participants acknowledged that formal education has contributed to their education. Formal education in the context of the research participants fell into two distinct categories. The first was the undergraduate teacher education programme, which focused on two areas, namely subject content and pedagogy. The second was at postgraduate level, where individuals specialised in disciplines of their choice with only two having actually taken courses that prepared them for the teaching of student teachers. Formal education, according to Eraut (1994) and Stuart, Akyeampong and Croft (2009), facilitates knowing that" or acquiring propositional knowledge offered in teacher education programmes. As we pointed out earlier, formal education or episteme presents difficulties in the real work context.

Some researchers have critiqued propositional knowledge, especially in the context of learning about teaching (Institute of Education 2010, Korthagen and Wubbles 2001, Ponte, 2010). These authors are of the view that propositional knowledge reduces the gap between theory and practice. Ponte (2010) discusses learning about teaching and argues that it has to be practically based.

We indicated earlier that current education practices are most commonly used as a source of professional knowledge. Therefore, referring to the practice of teaching as the best source of professional knowledge represents a perpetuation of current education practice. Perpetuating the current practice presents some challenges. Improving education with the intention of producing the highest possible quality of education to all learners as evidenced in contemporary education discourse will continue to experience problems in the context in which the current practice of educating prospective teachers continues.

Enacting professional knowledge
Loughran (2007) has established that enactment of professional knowledge goes beyond teacher educators merely teaching prospective teachers using transmissive and interactive methods of teaching. Loughran (2007) argues that teacher educators have to develop the pedagogy of teacher education. The intention would be to signify the relationship between teaching about teaching and learning about teaching. In such a context, teaching about teaching might be purposefully examined, described, articulated and portrayed in ways that enhance an understanding of this complex interplay.

Additionally, teacher educators should strive to make the tacit explicit which, among others, requires them to constantly "answer questions from students of teaching" (Loughran 2007 p.4). These should be questions that actually challenge teacher

educators' knowledge of practice which Loughran argues is vital to enacting a pedagogy of teacher education. In practice, teacher educators should, according to Bullock (2007) and Loughran (2007), endeavour to develop ways of engaging learners in learning.

Learners could draw from established theories such as that of Schon (1983) on reframing of practice situations to the extent that student teachers begin to move from predominantly thinking about themselves to thinking beyond their contexts. In this way, even as teacher educators make reference to secondary schools, serving teachers and students at this level, the reframing of practice would contribute to prospective teachers viewing teaching as problematic and not routine practices with which they are probably much familiar.

Relevant here is Crowe and Barry's (2007) argument that, due to the complexity of teaching, young teachers should be helped to become creative through being presented with complex situations, so that they may develop strategies intended to challenge situations. According to the participants, the incidences in which student teachers were challenged were very few and not all the research participants practised the said skill development strategies. In this regard, learning about teaching, teacher educators should embrace what Lougharn (2007) refers to as being a student of teaching which entails knowing oneself. Teacher educators learn if they allow themselves to play the dual role of being a learner and teacher through allowing students to critique their teaching.

Discussing the findings and grounding the arguments on research undertaken seem to indicate that enacting professional knowledge is an avenue for teacher educators to learn from their everyday teaching experience. Finally, teacher educators can learn from researching education practices and reforms as they

relate to their work of producing new teachers.

7. Conclusion

We established that in practice, very few teacher educators challenge student teachers to the extent of providing them opportunities to learn using their own strategies. Changing the current practice requires teacher educators to be courageous. The major challenge is to move prospective teachers from the tendency to rely heavily on teacher educators. The observed situation contradicts the fact that teacher educators themselves acquire their professional knowledge from being immersed in the actual teaching of student teachers.

In rethinking their practice they could design operationally powerful learning environments to ensure the highest possible quality of learning by prospective teachers. Adopting this frame of thinking would require teacher educators to shift from the paradigm that persuades them to use teaching methods that are transmissive to facilitating learning. Espousing the proposed model implies that they, and eventually their student teachers, will emulate strategies of teaching that recognise and encourage the potential in students to learn in ways that are meaningful to them.

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Appraisal of the de-centralised professional development model adopted by a South African Higher Education Institution

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Abstract

South African universities have put in place structural arrangements aimed at improving teaching excellence and enhancing student learning. These include the creation of directorates for teaching and learning, featuring teaching and learning as a strategic goal in the university Institutional Operating Plans, the development of Strategic Plans for Teaching and Learning and the adoption of various models of professional development. This study examines how the de-centralised model of professional development is being implemented and received at a South African university in the Science and Economic Management and Science faculties. From a document analysis of Senate Teaching-Learning Reports (2012 -2014) conducted to determine the professional development practices taking place in the two faculties, there is evidence of professional development uptake in the two faculties and the use of innovative pedagogical practices in some departments. However, it is difficult to obtain accurate measures of how these trainings translate into observable change in classroom practice .The study concludes that it is essential to get support from Heads of departments *and* buy-in from the discipline experts on the importance of adjusting their pedagogical practices to suit student needs if any lasting change is to be effected.

Keywords: buy-in, de-centralised model, professional development

1. Background to the study

The widening of access to higher education in post-apartheid South Africa has presented tertiary educators with a number of opportunities and challenges, viz. inadequately prepared students who take longer to graduate from their programmes, lecturers who have to work out ways of responding responsively to a diverse profile of students etc. A perturbing finding in the CHE draft report (2013) is that only 5% of black African and coloured students graduate in regulation time.

Directorates of Teaching and Learning have been set up in all the 21 universities and universities of technology in South Africa to promote teaching and learning, enhance student learning and improve throughput.

Centralized and de-centralized professional development models have been adopted in the different institutions with the aim of improving access and success in higher education.

However, professionalising university teaching is problematic. Traditionally, university teachers rely on individual craft knowledge associated with expertise and dexterity in the different disciplines to inform their teaching practice (Elton, 2001). Novice teachers learn from their predecessors and often propagate outdated practices. Because lecturers do not receive any professional training when joining universities, they are often unaware of what should be done to support under-served students.

Current approaches to professional development for university teachers are "failing to help produce solutions to the educational problems of the contemporary context such as the challenge of developing students from highly diverse educational and linguistic backgrounds, or the growing demand for e-learning "(Scott, Yeld & Hendry, 2007, p.60). Moreover, "...the discourse about professional learning and development itself is characterized by conceptual vagueness" (Clegg, 2003, p. 37).

In our own context, participation rates in teaching and learning activities in some departments (as evidenced by the non-submission of teaching-learning reports, non-attendance of meetings and workshops that are aimed at enhancing teaching and learning) remain a great concern to the Teaching and Learning Specialists. It is this concern that has led to the need for a systematic appraisal of the de-centralized model of professional development provision adopted at UWC.

2. Finding ways of increasing lecturer participation in teaching and learning activities

In this study we appraise the current professional development model adopted by UWC in order to find ways of increasing lecturer participation in the teaching and learning activities planned by the Directorate of Teaching and Learning to promote 'epistemological access' and lecturer effectiveness. This appraisal was conducted in two parts: (a) a document analysis of Senate Teaching-Learning Reports (from 2012 -2013) and ;(b) Focus group interviews with faculty-based teaching-learning committee members and selected HODs to determine staff understanding and perceptions of the teaching development initiatives of the Directorate of Teaching and Learning. This paper is a report on the first part of the study.

The overall aim was to establish how significant the de-centralised model of professional development was in promoting teaching effectiveness and student learning in the two faculties. Specifically, we sought responses to the following questions:

2.1 What are the main characteristics of a decentralized model of professional development for university teaching?

2.2 How has the decentralized model of professional development been received by EMS and Science academics? Which professional development activities were they involved in from (2012 to 2013)?

2.3 What changes/adjustments, if any, are needed to ensure that the goals of the UWC Teaching and Learning Strategic Plan are realized?

We adopt Lester's (2010, p.2) interpretation of a professional as an individual who "makes proficient use of expert or specialist knowledge, exercises autonomous thought and judgment, and makes a voluntary commitment to a set of principles". We also subscribe to Padwad & Dixit's (2011) view that there are generally two approaches to professional development – a narrow (or shallow) view and a broad (deep) view. The narrow view is instrumentalist, focusing on specific sets of skills that professionals require to teach (for example, a workshop training teachers to use an online learning management system such as Moodle). According to Padwad & Dixit (2011, p.7), the broad view is,

a much deeper, wider and longer- term process, in which professionals continuously enhance not only their knowledge and skills, but also their thinking, understanding and maturity; they grow not only as professionals, but also as persons; their development is not restricted to their work roles, but may also extend to new roles and responsibilities.

Coupled with these two views are the ideas of centralized and decentralized models of

professional development. In a centralized model, there is a university entity tasked with centrally developing, implementing and managing all professional development activities within a university. In a decentralized model, each faculty develops and manages their own professional development activities, usually in an *ad hoc* manner.

Within the South African context, well-resourced universities have central units dealing with professional development issues headed by a Deputy Vice Chancellor Teaching & Learning (University of KwaZulu-Natal, University of Pretoria), or a Dean of Teaching & Learning (University of Cape Town). In less resourced universities such as UWC, there is a Directorate of Teaching & Learning supported with Deputy Deans Teaching & Learning and Teaching & Learning Specialists in each faculty.

Overall, the last two decades have witnessed an increase in the demand for the professionalisation of university teaching resulting in the establishment of the Quality Assurance Agency (QAA) and more recently, the Higher Education Academy (HEA) in the United Kingdom to ensure that university teaching professionals are properly trained, recognized and awarded for their contributions as teachers in higher education settings. The recognition that teaching is researchable and worth recognition has been stimulated by educationists such as Boyer's 1990 *Scholarship reconsidered*, and Elton's (1998, 2009) efforts to link continuing professional development of academics in teaching and learning with the Scholarship of Teaching and Learning (SoTL).

South Africa is following in this direction and has from 2013, established a Quality Enhancement project (QEP) run from the Council of Higher Education (CHE) to analyze issues of improving the quality of higher education and the professional development of academics. A number of South African

institutions have developed Post Graduate programmes for academics. One of them is the PG Diploma (HE) in Teaching & Learning offered jointly by a consortium of universities in the Western Cape (UWC, CPUT and Stellenbosch University). UWC has also embarked on an in-house professional development programme for beginning academics.

The rationale behind the appraisal is to ascertain that lecturers derive maximum benefit from the various teaching and learning provisions of the university.

3. Professional development models

Traditional models of in-service education for teachers are based on a deficit model. In this model, participants are required to attend the occasional one-day workshop away from their teaching sites, are lectured on a topic selected for them by experts who mainly draw on their own experience (Sandholtz, 2002). Participants find the one-shot workshops irrelevant and boring and forget most of what they have learnt (Miller, 1998). In-service education has been criticized for not promoting active learning and undermining teachers' experiences (Lieberman, 1995: Lieberman and Miller, 1990 as cited in Sandholtz, 2002).) In-service courses were rated as the least effective forms of professional development (Mc Culloch, Helsby & Knight, 2000.

In contrast, a constructivist approach to professional development is based on adult learning theories which identify the following conditions as ideal for promoting adult learning in the workplace: opportunities for individuals to work with and learn from others; collaboration in group work and learning; chances to work with and learn from others in similar position; and variation, autonomy, and choice in work roles and tasks (Smylie, 1995 as cited in Sandholtz, 2002, p 816). Sandholtz (2002) argues that these conditions are absent in most teacher professional development opportunities as such provisions are' mandatory, uniform for

all teachers, ancillary to their daily work and occur only periodically'. Constructivism underscores personal discovery of knowledge and the need for teachers to provide a learning context that promotes active learning (Hung, 2001). Examples of professional development models that have constructivist leanings include the Japanese peer-based model and school university partnerships in the US (Sandholtz, 2002).

Becher, 1996 (as cited in Knight and Trowler 2001, p. 147) identified the following as modes of learning in different professions: learning by teaching; learning by doing; personal research; consulting experts, networking; professional interactions; courses and conferences. Knight and Trowler (2001 pp.149- 150) identify the following sites of professional development: daily work practices; team, department and other mandated meetings, team or departmental professional development sessions, reading, subject and professional associations and centrally provided courses and workshops. Each of these has its strengths and weaknesses.

4. The University's De-centralised Professional Development Model

The structure, staffing and responsibilities
The decentralised structure or 'ripple-down model of institutional change', (Bozalek & Dison, 2013, p. 394) for organising professional development activities is headed by the Director, Teaching and Learning (T&L) and supported with Teaching and Learning specialists from each of the seven faculties. Each of the faculties has a T&L coordinating committee with departmental representatives. These committees are coordinated by Deputy Deans - T&L from each faculty. At the moment three of the faculties do not yet have T&L specialists appointed.

The approach

In the decentralised approach used at UWC, academics play a vital role in planning and implementing their own professional development, with guidance from the T&L specialists. The academics are regarded as experts in their profession. The Directorate provides the overall guidance by developing policy and a direction for operation but the schemes and delegation of duties occurs at the faculty level.

This type of approach can be categorised as site-based (Ono & Ferreira, 2010; Frick & Kapp, 2006) as participants identify and respond to their own learning needs. This approach draws from constructivist theories of learning and employs methodologies such as reflective practice, adult learning, and peer coaching and mentoring. This approach is also premised on the understanding that learning occurs at the work place and is better effected if owned by the participants themselves. As such, professional development is seen as a "permanent or continuing education" Avalos (2004, p. 121). An effective site-based professional development programme should be seen as part of the institutional improvement goals

The university also offers professional development interventions which are initiated centrally. The Directorate has been running centrally organized induction workshops for all newly appointed heads of departments and staff. Recently, the institution has embarked on offering an institutional wide programme titled *Toward the professionalisation of teaching and learning*. This is a 14-week course offered jointly by the Directorate with facilitators from all the departments.

Whatever approach is used the establishment of a space for negotiation, collegial support and ownership is critical if these interventions are to be sustained. As Sayed (2009) contends, although there are merits and demerits for each model, it is the recognition of the conditions that will make

them work that is crucial to their success. This study is an attempt to identify those conditions.

The decentralised model described here attempts to respond to the recognized need for a more coordinated, collaborative, and comprehensive approach to professional development across an institution

5. Methodology

The study employed an interpretivist research paradigm. An interpretivist paradigm views reality as subjective and constructed, thus resulting in the existence of many truths (Lather, 2006). Thick descriptions of the phenomenon under investigation are given in order for the researcher to make sense of the phenomenon.

Data Collection Method

Document analysis "requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge" (Corbin & Strauss, 2008, and Rapley, 2007, as cited in Bowen, 2009, p. 27). Document analysis was used in the study as the primary source of qualitative data to determine which professional development activities lecturers have participated in (from 2012- 2014) in each faculty. This gave the researchers an indication of priority areas (generic issues about teaching and learning that cut across disciplines and subject specific concerns) lecturers feel they need support in to enable them to execute their duties efficiently and improve student learning. In keeping with the fact that document analysis 'is often used in combination with other qualitative research methods as a means of triangulation' (Denzin as cited in Bowen 2009), focus group discussions were utilised to supplement, complement, verify findings or corroborate evidence from the document analysis (Bowen, 2009). Furthermore, although document analysis can be used as a standalone method in studies such as hermeneutic enquiry and historical cultural research, researchers are cautioned against relying too much on documents (Bowen, 2009).

Data Analysis

Document analysis 'entails finding, selecting, appraising (making sense of), and synthesizing data contained in documents' and organizing data into themes, categories, and case examples specifically through thematic and content analysis (Bowen 2009, p. 28). In this study, seven documents comprising the Senate Teaching and Learning Committee STLC minutes were analysed. These were meetings held from June 2012 to May 2013.

A review protocol in the form of tables was used to capture the forms of professional development activities that academic staff participated in between 2012 and 2014. In the preliminary round of analysis, the data in the tables was organised into the following categories: needs-based faculty initiatives, university-wide collaborations, external and off-campus teaching-learning initiatives, challenges and successes. Table 1 and Table 2 provide summaries of the representations.in the EMS and Science faculties.

Permision was granted by the institutional research office to conduct this study.

Table 1: EMS Faculty Professional Development Activities (2012 - 2014)

Faculty-based Workshops / Seminars	University-wide teaching-learning provisions	Off –campus workshops	Tutorial Provisioning at Faculty level	Challenges & Successes
2012 Departmental visits-departmental needs Teaching Portfolio development Teaching Excellence Awards Assessment (presented by Accounting lecturer) LEAD programme presentation by IP lecturer HELTASA presentations by ECP staff	Use of e-teaching website *CHEC Assessment workshop* *Lunch hour seminars (T-L & Arts)* *SoTL Research grant presentations* *Writing for Publication Workshops- research output*	*Social Science Research Using Survey Data* *External partnerships with industry*	*Goal setting workshop for tutors* *Induction workshop for tutors – blog created* *Mentoring of volunteer tutors* *Workshops for tutors- Assessment and getting feedback; Successful tutoring*	*Some department under-staffed* *Low pass rates in some modules* *A lack of resources in Finance module impacts on research* *DD T-L not appointed in EMS* *Poor attendance of workshops* *e-Teaching website unstable*

Curriculum mapping by staff following retreat	*Teaching-Learning Induction Retreat*			
Facilitation of Learning Concept-mapping	*LEAD programme workshop by visiting scholar – piloting in IFS-*			
Embedding information literacy skills into curricula	*TLS presents progress made in faculty on T-L measured against EMS Strategic Plan*			
Auditing of module outlines	*Flexible learning pilot*			
UWC Policy on Plagiarism	*Google Drive training (CHIECT)*			
Baseline information on student evaluations collected				

Table 2: Natural Sciences Faculty Professional Development Activities (2012 - 2014)

Peer reviews *2013* *Needs Analysis: Faculty Teaching –learning plans & workshop plan for the year.*		*Retreats* *Curriculum Alignment (ALC & Foundation-programme modules*	*Coordinator* *Tutors attend faculty-based workshops on T-L*	
Teaching -learning awards	*e-Portfolio development (CHIECT)*	*Induction (newly-appointed staff and HoDs)*	*Development of faculty tutor funding framework*	
Assessment	*Writing a teaching – learning research proposal (Teaching – learning Directorate)*	*CHEC courses*	*Tutorial support offered at departmental level*	
Lunch hour seminars	*Atlas TI (EMS Research)*		*Evaluations*	
Consultations with individual staff members/ departments	*Using the I-Pad as a teaching-learning devices (Library)*			*Heavy teaching loads* *Prioritising research*
Audit of Module Outlines	*Lunch–hour seminars (Arts, DT-L)*			
Teaching Portfolio Development	*Visiting scholars*			

Departmental Reviews	*Show-casing integration of technology into teaching – presentations at e-learning colloquia*			
Raising the profile of teaching and learning: committee representation	*Academic staff register for the PG Dip. and Induction course*			
SoTL/ publishing on teaching and learning				
Committee Structures: faculty-based TLC and Deputy Deans T-L and Teaching-Learning Specialist forum				
Professional development uptake measures	*July 2012 - December 2012*		*January 2013 – December 2013*	*January 2014 – July 2014*

1. Promoting a culture of teaching and learning	Setting up of infrastructures (2012) • Appointment of Teaching & learning specialist(s) • Setting up of faculty T& L representatives from each of the 10 departments	• Roll out Faculty Teaching & Learning Strategic Plan comprehensively • Departments develop own strategic T&L departmental plans • Review of departmental evaluation practices	• Departments beginning to implement strategic T&L plans • Development of evaluation guidelines.
2. Formal Training	1 HOD induction workshops	• 1 HOD Induction workshop • 1 New lecturer induction workshop • Faculty based portfolio development workshops • Departmental workshops on	14-week Professionalization of teaching & Learning programme for newly appointed academics

3. Informal training	One-on -one consultation between T&L specialist and academics	One on one consultation between T&L specialist and academics	One on one consultation between T&L specialist and academics
4. Running of seminars, symposia and workshops	3 in-house seminars on different topics	Monthly in-house seminars run	5 in house seminars (2 in the first semester and 3 planned for the second semester)
5. T&L conferences	Scholarship of Teaching & Learning Colloquium.	• Scholarship of Teaching & Learning Colloquium. • Activity Theory, CHAT and Authentic learning • ECP Colloquium	Scholarship of Teaching & Learning Colloquium. ECP Innovative pedagogic practices
6. Collaborative Educational projects	CHEC Courses: Scholarship of Teaching & Learning; Emerging Technologies; Academic Literacies Tutoring: Research	CHEC Courses	CHEC Courses PG Dip in Higher Education
7. Publications	A few publications	Some publications	Some publications

8. Recognition of T& L excellence	Planned at Faculty Level	Planned at Faculty Level	Planned at Faculty Level
9. The use of innovative pedagogical practices	A few staff members involved	A few staff members involved	A significant number of staff in the Faculty are engaging in innovative ideas and approaches to Teaching & Learning

6. Discussion of findings
An appraisal of the UWC Model

The STLC reports from both faculties reveal that UWC has adopted an eclectic model (as evidenced by the variety of professional development activities staff participate in, not just workshops and courses),one that focuses on the implementation of the Strategic Plan by the Directorate of Teaching and Learning, Deputy Deans Teaching and Learning and Teaching Learning Specialists under the leadership of the Director Teaching -Learning, and university-wide initiatives that support the teaching- learning agenda (on-campus support by the CHIECT, the library, individual consultations, partnerships with universities in the region, visiting scholars, lunch hour seminars etc.).

1. The induction course for newly – appointed lecturers and the Post-graduate Diploma (HE) (TL) prepare the novice lecturer and the experienced lecturers without a background in education for a productive and reflective role in academia

2. Courses and workshops are only but one of the mechanisms for responding to a changing South African higher education context. Knight and Trowler (2001) view courses and workshops as occasional contributors to professional learning and emphasise the importance of academics behaving like a learning community.

3. Courses and workshops are needs-based. Teaching and learning committees in the faculties act as ambassadors for teaching and learning and produce reports on the teaching-learning challenges and successes in their departments. Knight and Trowler (2001, p. 147), Knight (2002) identify teams and departments as sites of educational development and are critical of the dominant provider model of educational development. HoDs can participate in the professional development of their staff in the following ways: inducting new staff, mentoring, guiding staff in developing professional learning plans (PDPs) and portfolios, participating in appraisals and 360 degrees evaluations (Knight and Trowler, 2001).

4. Tutorial support, induction and mentoring of tutors are mechanisms that are seen as central to student success. Subject specialists work very closely with tutors to ensure that students derive maximum benefit ('epistemological access') from tutorial arrangements.

5. There is very little evidence of research into university teaching (SoTL) in one of the faculties. Elton (2009, p.250-251) argues that "scholarship should underpin all the activities of the universities" and that it should be those tasked with CPD who should promote this through a post-graduate qualification – Diploma or Masters. The UWC in collaboration with Stellenbosch and CPUT has introduced a PG Diploma in (T-L) (H.E) which is offered through the blended delivery mode. On-line support is offered to participants who collaborate with one another online and facilitation in the course is task-based.

6. Teaching Portfolios are not used only to promote reflection on one's practice, but are used as a criterion for promotions and appraisals for staff on probation.

How academics in the two faculties have received the Model

There is uneven participation in teaching and learning activities in the various departments. Participation rates in faculty-based teaching and learning initiatives

remain a worrying factor. In the TLC reports, lecturers cite under-staffing, heavy teaching loads and marking, a lack of resources, the pressure to improve their qualifications and publish (in their disciplines) and time constraints as key reasons behind the low participation rates. (Bozalek & Dison, 2013, p.396), cite the "multiple demands and additional expectations" limited resources, the fact that disciplinary research is prioritized by staff as compared to the scholarship of teaching and learning as key reasons behind the uneven implementation of the 'ripple-down model of professional development.

Possible adjustments to the Model
1. There needs to be more consciousness - raising about the policies and strategies relating to teaching and learning and how they interface with the university's IOP.
2. The model does not also include a clearly spelt out moderation and evaluation component to gauge its success. Kutner, Sherman, Tibbetts, Condelli (1997) suggest the following evaluation framework for adult professional development: impact on instructors, programmes and students using multi-purpose evaluation strategies such as questionnaires, interviews, *observation of practice* (our emphasis), portfolios, practitioner journals and alternative assessments.

7. Conclusion and Recommendations
The current model of promoting teaching and learning at UWC has proved successful in creating a conversation about teaching and learning. A mentoring model needs to be implemented in each department to strengthen the model as some lecturers may not be able to articulate teaching-learning needs relating to their subject area and context. Also, appointing senior academics that have power to effect change in their constituencies to serve on the faculty- based Teaching and Learning committee could result in increased staff participation in teaching and learning activities.

The status of teaching and learning needs to be promoted to ensure that it is on par with research, an observation that Bozalek and Dison, (2013) also make in their paper. Heads of Departments should play a key role in promoting teaching and learning and SOTL. To ensure that the emerging culture of valuing teaching and learning at UWC is nurtured (Bozalek and Dison, 2013), teaching and learning should feature in all strategic documents of the university, including the academic calendar. Heads of department should be held accountable for teaching and learning in their respective departments.

Opportunities to showcase good practices and promote life-long learning in faculties to motivate others to reflect on their teaching practices need to be developed. The faculty-based teaching learning awards are a good start; however they should be preceded by internal adjudication at departmental level.

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The effects of the HECQ's institutional audits on public Higher Education Institutions in South Africa

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Abstract

Institutional audits constitute one of the ways through which South Africa's Higher Education Quality Committee (HEQC) executes its quality assurance mandate. The HEQC is a permanent sub-committee of the Council on Higher Education (CHE) in South Africa. The HEQC's institutional audits ran from 2004 to 2011 and focused on the three core functions of teaching and learning, research, and community engagement as well as academic support services (CHE, 2007). The study aimed to investigate the effect of the HEQC's institutional audits on three South African universities and how these audits have changed the universities' policies, practices and behaviours. A case study design was used to conduct the investigation to ensure that focused attention is given to the selected institutions. A total of 58 participants spread across the three universities were interviewed in 27 interview sessions. The study's findings indicate that the HEQC's institutional audits have had a positive effect on the universities, albeit at varied levels of acceptance and implementation. Contextual factors seem to have played a role in the institutional audit process as there appears to be a differential in the manner in which a historically black and a historically white university responds to the HEQC institutional audit recommendations. The effect of the institutional audits on student experience appears to be limited since progress made to enhance student experience at the three universities appears to be scant.

Keywords: institutional audits, public higher education institutions, quality assurance, systems theory, total quality management

1. Introduction and brief background to the study

Institutional audits constitute one of the ways through which South Africa's Higher Education Quality Committee (HEQC) executes its quality assurance mandate. The HEQC is a permanent sub-committee of the Council on Higher Education (CHE) – an independent statutory body that functions as the quality council for Higher Education in South Africa (CHE, 2004). Many countries use Institutional audits as a quality assurance mechanism aimed at improving and enhancing quality in their higher education (CHE, 2004). The ultimate outcome of institutional audits is continuous quality improvement and development. It is thus essential to establish the extent to which institutional audits have led to quality improvement and enhancement.

Due to its historical legacy, South Africa has been characterised by disparities on many fronts. On the social front, there are glaring inequalities that spring directly from the

apartheid legacy. According to Statistics South Africa's Income and Expenditure Survey (2005/2006), inequality continues to remain high between population groups and within individual population groups. The Gini coefficient[1] based on disposable income (from work and social grants) for the entire country was 0.72 (Statistics South Africa, 2008). Within individual groups the Gini coefficient was highest at 0.63 among black African households, with the other population groups ranging between 0.56 and 0.59. In fact, if social grants and taxes are taken out of the equation, the Gini coefficient for the entire country would be 0.80 instead of 0.72; this means the reduction of inequality through redistributive policies reduces the Gini coefficient by eight percentage points (Statistics South Africa, 2008).

Disparities in the education sector, which were strategically orchestrated by the apartheid government, played a pivotal role in further creating varied forms of social injustice. The quality of education for black people was carefully planned to be inferior to that of whites both in terms of content and resources. Higher education makes these disparities even more conspicuous as it lies at the interface of formal schooling and preparedness for employment. It is undeniable that there are differences in the quality of South Africa's higher education institutions as the historically white institutions were better funded than historically black institutions. Indeed, the apartheid government's University Extension Act of 1959 extended racial discrimination even at the higher education level and resulted in historically black universities being under-privileged

institutions in terms of resources (Ilorah, 2006). At the same time, historically white Afrikaans universities, during the apartheid government, received a disproportionately high percentage of state funding and also enjoyed some of the best academic facilities in South Africa (Mabokela, 2007).

In its endeavour to transform the South African higher education, the CHE was established in May 1998 in terms of the Higher Education Act, No 101 of 1997 (Higher Education Act 101 of 1997). The CHE discharges its quality assurance functions through its permanent sub-committee – the HEQC. The HEQC was mandated to conduct institutional audits on the country's higher education institutions within the context of ongoing reform and restructuring with the goal of producing a transformed higher education system of high quality, which is able to address the complex knowledge and development needs of the South African society.

The HEQC's institutional audits ran from 2004 to 2011. The audits focused on institutional policies, systems, procedures, strategies and resources for managing the three core functions of teaching and learning, research, and community engagement as well as academic support services (CHE, 2007).

This study focuses on the effect of the HEQC's institutional audits on three South African universities and utilises executive summaries of institutional audit reports and interview data to establish this effect.

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[1] The Gini coefficient, invented by the Italian statistician Corado Gini, is a number between zero and one that measures the degree of inequality in the distribution of income in a given society. The coefficient would register zero (0.0 = minimum inequality) for a society in which each member received exactly the same income and it would register a coefficient of one (1.0 = maximum inequality) if one member got all the income and the rest got nothing.

2. Problem statement and rationale for the study

The HEQC institutional audit process requires after receiving an institutional audit report, institutions should develop and implement a quality improvement plan which responds to the recommendations made in the audit report (CHE, 2004). Although the HEQC monitored progress in the implementation of the quality improvement plan by analysing the mid-cycle progress report from the institution, usually three years after the audit visit, the process is primarily paper-based and, except for very few exceptional cases of concern, institutions are not subjected to follow-up visits to verify what is said in the progress report (CHE, 2004). In addition, the HEQC's monitoring mechanisms focus on engagements with the institutions' senior management members. Further, since the institutional audits were concluded in 2011, there have hardly been any studies that sought to establish the effect or consequences of institutional audits on South African Universities.

Studies that have been conducted about the institutional audits in South Africa have focused primarily on the audit process. This study therefore attempts to fill this void as it seeks to establish the effect of HEQC's institutional audits on higher education institutions by seeking the opinions of academics, students and senior management members at selected universities in South African.

The primary aim of this study is to investigate the effect of the HEQC's institutional audits on three South African universities and how these audits have changed the universities' policies, practices and behaviours. To this end, the research questions were categorised into the main research question and sub-research questions. The general main research question and more specific sub-questions helped to narrow down the focus of this research (Punch, 2009).

a) The main research question

- How have the public higher education institutions been affected by the HEQC's institutional audits and how have these changed their policies, practices and behaviours?

b) Sub-questions

- What discernible effect has the HEQC institutional audits had on teaching and learning policies, practices and behaviours?
- How has the HEQC institutional audits affected the support functions for teaching and learning?
- What are the consequences of institutional audits on student experience?

3. Literature review

The processes used in external quality assurance include self-evaluations or reviews, the audit visit, and post audit follow-up processes. A self-evaluation affords organisations an opportunity to review the status quo as regards their processes and performance levels (Brits, 2005). Self-evaluation activities which precede the actual site visits and reviews are often seen as having more impact than the external review itself (Stensaker, Langfeldt, Harvey, Huisman, & Westerheijden, 2011). Indeed, a study on the impact of quality assurance based on the discussion between representatives of external quality assurance agencies found that there tended to be a general agreement that the self-evaluation report was the main benefit of external quality assurance processes (Harvey, 2006).

Various studies show that the effects of quality assurance on teaching and learning policies, practices and behaviours in higher education have been largely positive.

Indeed, Stensaker (2003) points out those early studies from the Netherlands found positive effects of external quality assurance processes on teaching and learning at higher education institutions. Further, a study by Minelli, Rebora, Turri and Huisman (2006), which investigated the effect of external quality assurance in an Italian and a Dutch University; found that quality assurance enhanced the decision-making capabilities of teaching departments increased teamwork.

As regards the effects of external quality assurance on support functions for teaching and learning, Minelli et al's (2006) and Askling, Lycke and Stave (2004) found that external quality assurance makes the distribution of authority, the outcomes of the institution's work and the execution of leadership more transparent.

Research has been conducted about the impact of quality assurance on students' experiences in higher education (Hoecht, 2006; Mohrman (2011; Harvey; 2006). In Hoecht's study (2006) on higher education quality assurance in the UK, most of the academics interviewed felt that quality assurance had brought some benefits to students. These chimes with Mohrman's study (2011) which found that the quality assurance process contributed towards the improvements of students' experiences in Chinese higher education as it resulted in the expectation for professors to regularly teach undergraduate students; institutions also improved their resource allocation to libraries, laboratories, classrooms, faculty development and various other improvements. Harvey (2006) gives credence to Mohrman's findings by pointing out that there are various impacts of external quality assurance processes on student learning, including the following: institutions are required to take

responsibility or students enrolled; curricula have been adjusted as the result of reviews; there has been a growing concern about attrition rates; course evaluations have been introduced; appeals and complaints procedures have been set up; teachers have thought about different ways of doing things, including pedagogy, which has possibly led to better teaching; and standards of student achievement have improved in many countries – this

4. Conceptual Framework

This section presents the conceptual framework on the role of institutional audits in improving quality in higher education. Figure 1 shows that the framework is premised on the HEQC's institutional audits. The audits covered various themes pertaining to teaching and learning and support areas for teaching and learning. However, in this study, themes were identified in the HEQC's institutional audits criteria, during the analysis of the HEQC audit report summaries and from the findings of the literature review. The themes were subsequently categorised into teaching and learning areas and support areas for teaching and learning. The themes about teaching and learning have a direct effect on this core activity and included assessment, postgraduate supervision, private work by academics, management of short courses. Themes about support areas for teaching and learning have an indirect influence and are enablers for effective teaching and learning. These include resource allocation, institutional culture and the self-evaluation activity.

Although the HEQC's institutional audit covered many groups of role players at different levels and in both academic and support sections, this study focused on three categories of role players; these are

senior management members, academics and students at each of the selected universities. Interviews that were conducted with these three groups of role players were based on the identified themes and sought their experiences and opinions on various aspects of teaching and learning and support areas for teaching and learning.
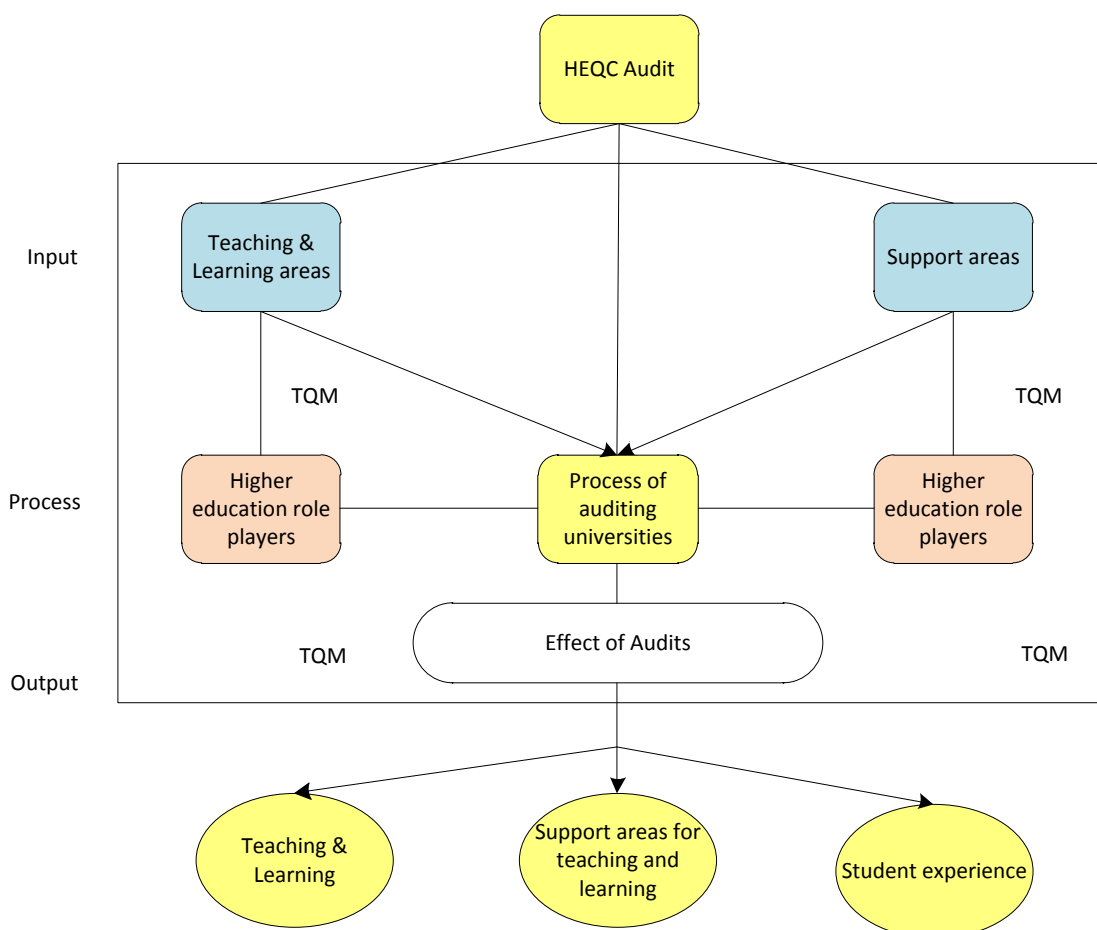
Source (Author)

Figure 1: Conceptual framework on the role of institutional audits in improving quality in higher education

It was envisaged that feedback from the three groups of role players would shed light on the possible effects of institutional audits on teaching and learning, support areas for teaching and learning and student experience at South African universities. Literature review, which was used in the process of identifying themes, played a pivotal role in the categorisation and finalisation of themes applicable to this study. A review of literature has highlighted that although institutional audits have engendered both positive and negative effects, the overall effect has been positive (Hoecht, 2006).

This study is underpinned by Total Quality Management (TQM) and the systems theory. Figure 1 shows that TQM's concepts need to be embedded in the higher education system and guide approaches and process so as to increase the likelihood of positive effects of the audits. TQM's basic concepts consist of a committed and

involved management; a focus on the customer, both internally and externally; involvement of the entire workforce; continuous process improvement; treating suppliers as partners; and establishing performance measures for the processes (Besterfield, 2004). The systems theory, on the other hand, is premised on a holistic approach, where focus is on the way subsystems interrelate and how systems work over time and within the context of larger systems (Miller-Williams & Kritsonis, 2010). As Figure 1 shows, higher education institutions should be seen as one system with interrelated subsystems. The different role players at various levels should comply with the institutional audit processes and work in a synergistic manner in order to produce envisaged outcomes. The figure as a whole represents the audit process at system level and the big rectangle in the middle of figure represents the institutional level. The audit process at system level aims to result in good quality teaching and learning, more effective teaching and learning support and a positive student experience in all universities. This study aims to study these areas at institutional level, because understanding the process at this level may result in an in-depth understanding of the effects of institutional audits.

5. Research methodology

This study investigates the effect of the HEQC's institutional audits on South African public higher education institutions. The study specifically focuses on three selected public higher education institutions. These selected institutions are comprised of each of the three public higher education institutional types in South Africa: a traditional university, a university of technology, and a comprehensive university. A case study design was used to conduct the investigation to ensure that focused attention is given to the selected institutions. A case study was the most appropriate research design to help the researcher to answer the research question as they involve a systematic and in-depth investigation of a particular phenomenon and the use of multiple sources of evidence with data needing to converge in a triangulating fashion (Yin, 2009; Rule & John, 2011).

The population consists of all South African public higher education institutions that were audited during the HEQC's institutional audits. The sample consisted of three public higher education institutions. Since South Africa's public higher education landscape consists of three institutional types, the sample includes representation from each of the institutional types to ensure broader coverage. The sample therefore comprises a traditional university, a comprehensive university, and a university of technology which are referred to as University A, University B and University C respectively.

The researcher selected a total of 58 respondents, comprising 12 senior management members, 12 academics and 34 students spread across the three identified South African public higher education institutions.

Data collection

The collection of data was carried over eight months in 2012 and 2013.
The researcher conducted interviews with respondents from the three institutions. Interviews were held with a total of 12 senior management members and 12 academics spread across the three identified South African public higher education institutions. Focus groups were conducted with a group of 10 to 12

students at each of the three universities. A sound recording device was used to record a verbatim account of the interviews for purposes of transcription and analysis.

Data analysis

This study is comprised of data from 27 interviews. After conducting the interviews, data from the digital recorder was played back and transcribed. Atlas Ti, a data-analysis software for qualitative data, was used to analyse data from the interviews. The researcher used Atlas Ti to code the data, write memos, and create code families and networks to display data from transcriptions. Data was further categorised into themes.

In addition, content analysis was used to thematically analyse information in the executive summaries of the audit reports that have been published on the CHE website.

Research ethics

Before conducting the interviews, ethical clearance for this study was sought and obtained from the Faculty of Education at the University of Pretoria. Formal permission was further sought from the three institutions to conduct interviews with students, academics and senior management staff at these universities. In this research, informed consent of all interviewees was sought by providing them with sufficient information about and explaining the confidentiality of the study. Participants were then requested to sign confidentiality agreements. The information provided to the participants also enabled them to determine possible risks or discomfort. Further, permission was sought from participants to use a sound recording device during interviews. Subsequently, a consent form was signed by each participant to give the researcher permission to use the recording device. All participants were informed of the anonymity and confidentiality of their participation.

6. Findings

In this section, a summary of the main research findings is presented. This section is structured according to the research sub-questions. *What discernible effect has the HEQC institutional audits had on teaching and learning policies, practices and behaviours?*

Responses from the interviews at the three Universities regarding the vision and mission show that, in the main, senior managers felt that the process of crafting the universities' strategic directions was widely inclusive of and well communicated to all stakeholders. Academics, on the other hand, were generally dissatisfied with the process of crafting and communicating the vision and mission. The general view among students who were interviewed was that they did not know about the mission and vision and felt it was not communicated to them. Although it appears that there have been efforts from the universities to involve various stakeholders' inputs in the crafting on the mission and vision, these have been largely scant and ineffectual.

Feedback from senior managers, academics and students reveals that University A, University B and University C are faced with various challenges regarding postgraduate education, although these were variable across the universities. These challenges include supervision capacity, lack of grievance procedures for postgraduate students, delays in the proposal approval process and supervisors performing the role of examiners of their own students. Interviews revealed that supervisory capacity posed the greatest challenge at the three universities.

It was evident that the three universities are faced with various challenges pertaining to assessment of students. These challenges consist of the inconsistent application of the university-wide assessment policy, repetition of examination questions, and leakage of examination question papers. The repetition and leakage of exam papers appeared to be more serious and out of control in some universities than in others.

It emerged during interviews at University A that private work by academics at the University is a great concern. Various academics and senior management members acknowledged the problem and its negative impact on the core academic activities. In fact respondents pointed out that the problem was more prevalent in some faculties than in others. The problem is compounded by the University's apparent lack of regulation of private work. Although the university appears have made efforts to correct the situation, no substantive change seems to have taken place in this regard.

The findings further suggest that the management of short courses at University B remains a challenge. Although Senior management wanted to develop a framework for the offering of short courses at the University to ensure consistency of practice and better management, faculties resisted the central regulation of short courses as academics viewed short courses as a source of extra income that augmented their salaries and seemed to suspect that management's motives were to usurp this extra income opportunity from faculties. It became clear, however, that senior management was determined to put in place measures to centrally manage short courses.

- *How has the HEQC institutional audits affected the support functions for teaching*

Senior managers at each of the three universities agreed that the self-evaluation exercise and institutional audits added value to their institutions. It was even pointed out that self- evaluations and institutional audits, to some extent, facilitated the merger processes which some of the universities were at the time undergoing.

There was general concurrence among senior management members at the three universities that the satellite campuses were not as adequately resourced as the main campuses. However, while senior managers at one university (University B) appears to have made great strides in addressing equitable resourcing across campuses, the two other universities (University A and University C) had hardly made efforts to address this issue and, even more concerning, did not seem keen to give it focused attention.

Responses from senior management at the three universities were mainly positive regarding the support given to black and female academics. Conversely, academics generally pointed to a lack of support for black and female academics. The recommendation about a patriarchal culture at one university (University A) does not seem to have been given attention. The disparity in views between senior management and academics regarding support given to black and female academics suggests that more still needs to be done to support black and female academics.

It appears that University C, like many other universities of technology in South Africa, is confronted with various challenges regarding the management of work-integrated learning (WIL). These challenges

include the monitoring of students involved in work-integrated learning, and the placement of students that require WIL training in industry. Notwithstanding these challenges, it appears that the University has made efforts to address the situation.

It appears that large classes continue to pose challenges at universities. During interviews with staff and students, it was acknowledged that University B was faced with high student numbers.

- *What are the effects of institutional audits on student experience?*

Responses from senior management at University A and University B signify that that they were aware of xenophobic tensions, as well as ethnic-nationalism and racism tendencies at the former and latter respectively. Academics at University C felt that foreign students were receiving preferential treatment from management. There appeared to be feelings of discriminatory attitudes and treatment based on demographics such as race, ethnicity and nationality among students at the three Universities. These feelings tended to engender the apparent prevalence of racism, ethnic-nationalism and xenophobia at these Universities. Although University B and University C have made efforts to address these interpersonal maladies, University A did not seem to have made plans to address any such issues despite management's acknowledgement of the prevalence of xenophobia and ethnic-nationalism at the University.

7. Discussion

The HEQC's institutional audits have had a positive effect on the universities, albeit at varied levels of acceptance and implementation. The positive effect of external quality assurance interventions is corroborated by Shah, Nair and Wilson (2011); Croxford, Grek and Shaik (2009); Stensaker et al (2011); and Materu (2007). The three universities appear to have variably addressed different areas of concern pointed out in the HEQC institutional audit reports. For example, despite the fact that University A had received a recommendation to improve its supervisory capacity, during the interviews it emerged that some of the schools did not offer postgraduate degrees due to inadequately qualified academic staff members. On the other hand, University C, which received a recommendation to improve the quality support given to students and staff at satellite campuses, had not made any discernible progress in this area six years after the HEQC institutional audit was conducted.

Senior management members seemed to be more positive than academics and students about the progress made by the institutions in addressing the areas flagged in the audit reports. This observation is supported by studies conducted by Rosa, Tavares and Amaral (2006) and Stensaker, et al (2011).

The effect of the HEQC's institutional audits on student experience and academics' working environment at the three universities appears to be limited. There also seems to be general reluctance to acknowledge and address some aspects of the institutional culture, particularly racism and xenophobia, at the three universities. Most senior managers, staff and students do not explicitly admit that there is a prevalence of xenophobia or racism at their

institutions. During interviews at the three universities, staff and students' general response was that there was no prevalence of xenophobia and racism at their universities. However, as the interviews progressed, academics and students revealed a subtle prevalence of xenophobic attitudes and racism. Senior management, on the other hand, generally felt that xenophobia and racism did not exist, and that they were being proactively addressed.

For example, during interviews with staff and students at University A and University C students raised concerns about the existence of ethnic-nationalism, including a somewhat clandestine prevalence of xenophobic attitudes among staff and students at the two universities. The denial of the existence of xenophobia and racism by the universities' senior leadership could make it difficult for the universities initiate or adopt change in these areas.

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The use of the E-Tutoring (E-Learning) System at the University of South Africa

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Abstract

E-learning initiatives have become a common trend in higher education teaching and learning mission. Their expansion has been driven largely by the increase of students who desire flexibility in scheduling, geographic location, and access to course resources for learning In addition to providing greater access for the students, e-learning initiatives and technology can contribute to increased student enrolments, enhance institutional reputation and enrich students' teaching and learning experiences. Furthermore, such initiatives would then enhance students' success and institutional throughput. At the University of South Africa a predominantly print-based Open Distance Learning (ODL) institution, many students experience a strong sense of isolation, as there are few personally engaging stimuli to nourish and sustain self-directed learning over time. In the early stages of distance education, industrialisation allowed. It is on this premise that this article highlights key areas that could have strategic implications for ODL institutions in their academic activities, in student support strategies aimed at improving performance and the implementation of e-tutoring system at UNISA

Keywords: e-learning, e-tutoring, teaching, and learning, Open Distance Learning, University of South Africa

1. Introduction

According to Aluko (2008) distance education has become an important means of bringing lifelong education to people all over the world. Improving distance education programmes has become inevitable to justify the effort and money spent on it. Distance education programmes are expected to produce the same outcomes and meet the same standards as traditional, campus-based programmes (Kilfoil, 2005, pg. 16). This article is based on the e-tutoring system at the University of South Africa (UNISA), which is suggested to be one of the ways of improving the quality of distance education programmes

Unisa was previously offering face-to-face tutoring to interested students. This initiative was conducted in all Unisa regions/campuses in South Africa. This is because classroom discourse has been recognised as important to the educational experience of students. According to UNISA tutoring department, face-to-face tutoring was of a huge success during its first phases. However, due to the technological dimension in South Africa and world-wide, UNISA saw it necessary to adopt a new approach on its tutoring. Therefore e-tutoring was introduced at UNISA in 2013.

An action research study with Open University students in the United Kingdom

showed that students come to distance education with expectations of support services from the e-tutors. According to Stevenson, MacKeogh and Sander (2006) Students' satisfaction with tutor support increases course completion rates and reduces student dropout. In a related study, student and tutor perceptions of effective e-tutoring in distance education revealed that students and e-tutors conceptualise effective e-tutoring in different ways. In addition they also found out that students associate effective tutoring with subject expertise, development of critical thinking and interaction with other students (which is more task-oriented), while tutors perceive good tutoring as the ability to facilitate the transmission of knowledge and support learning (which is more student-oriented). Such learning support can be achieved by establishing contact with the students in a tutorial. It has been acknowledged that e-tutoring initially have assisted students in preparing for their assignments and examination respectively. However, as they continued with their studies and realised that their expectations were being met, the students indicated a need for interaction with their peers. In a case of UNISA, this is much easier with the use of myUNISA, which helps student to interact with one another on diverse number of issues pertaining UNISA as a whole.

2.   Problem Statement

Although it is well documented that e-learning can assist a university to advance academic tuition goals, it is important to note that e-learning initiatives fail to take effect because of resistance and scepticism towards a new innovation or even an upgraded one (Bates & Poole, 2003).

In essence, it is critical that lecturers are not only in the correct frame of mind but also have the requisite skills and knowledge that

would render them competent in e-facilitation as well as content development and management (Faheeg, 2011). Given that e-learning predicates that the role of lecturers extends beyond content developers and managers, to include tuition which entails supporting students acting as a buffer between them and the content as well as the e-learning technologies (Proffitt, 2008), it important that their concerns should be recognised. Lecturers are supposed to ensure an optimum level of interactions and discussions with students to enhance the e-learning experience by influencing and motivating students to accept e-learning environment (Ndubisi & Chukwunonso, 2004).

Disregarding the readiness of lecturers to implement e-learning might be dire, as it might negate or undermine not only e-learning deployment and uptake by students, but also the achievement of institutional goals and objectives (Aydın & Tasci, 2005). The notion of assessing the levels of preparedness is likely to highlight the barriers to the use of technology and lessen probable causes of e-learning deployment failure, by ensuring avoidance of risk or resistance

3.   Aim and objectives

This study assesses the preparedness of the lecturers for the introduction of e-learning system at UNISA. The research questions of the study have been formulated as follows:

- What are student's, e-tutors and lecturers' perceptions of e-learning/e-tutoring?
- What are the perceived benefits of e-learning?
- What is the level of readiness for e-tutors, students and academics including self-efficiency toward e-learning interfaces?

- How are e-tutors and lecturers executing and facilitating e-learning?
- What are the factors that are likely to impact on the adoption and usability of e-learning?

4. Literature review

ODL institutions are no longer judged by the quality of the learning material made available to students alone but by the quality of their student support services. This is necessary, considering the fact that most students who enrol for distance education programmes from traditional learning backgrounds are ill-equipped to handle the unique demands of studying at a distance (Lowe, 2005). In addition, the growing volume of open educational resources (OER) suggests that ODL institutions will increasingly be differentiated by the support they offer, rather than the material they provide, especially at higher levels of study. Unfortunately, in spite of its perceived importance, little research has been done in this area (Lee; Zawacki-Richter, 2003)

In view of the confusing terms used to describe activities that form part of student support services, Simpson (2003, p. 6) defines student support services in the broadest terms as 'all activities beyond the production and delivery of course materials that assist in the progress of students in their studies'. It might be both academic and non-academic. Current thinking is that support should be available for every student in all aspects that could directly affect his or her success

However, the main purpose of supporting students is to provide an environment that improves students' commitment and motivation to learn (Qakisa-Makoe, 2005). This becomes necessary because most open and distance student learning occurs

independently of the lectures presence with students focusing primarily on engagement with the material they receive (Faheeg, 2011).Unfortunately, most African countries still depend largely on the first-generation mode of delivery (print). Although advanced technology is slowly becoming an important feature of distance education in Africa, it remains the single-most significant handicap on the continent. According to Mpofu (2009) distance education providers in South Africa have greatly improved in terms of providing student support services. However, access to these services is a very thorny issue (Nonyongo and Ngengebule, 2008).

Around the world (and, most importantly, in Africa) the role of ODL institutions is becoming increasingly crucial as an alternative mode of instruction to the conventional face-to-face method. This is evident from a growing number of African states that are considering ODL as a policy option in higher education (Pityana, 2004). ODL is perceived as a tool contributing to social and economic development, as it is fast becoming an accepted and indispensable part of mainstream educational offerings in both developed and developing countries.

Pityana further argues that the technological advancement in the whole world has made automation of business activities possible and accessible to ordinary citizens, in the form of electronic commerce –popularly referred to as e-Commerce. This comes with various adaptations of the e-Commerce model in different sectors such as education. In the education sector there is electronic learning, popularly referred to as e-Learning

Today, technology has become part of many things which are developed to solve the problems that are associated with human needs. Quality education is one of the key human needs for growth and improving life. Employing and adopting technologies in the learning process that address many educational problems would have greater values. Technology provides the opportunities to change the nature of the learning environment. Technology helps students in learning, in the context of those global issues. The combined effect of software and sophisticated media may support learning, but at the same time it may divert the learning process from the actual track by providing unnecessary information (Lemke & Coughlin, 2009). This should also be known by all parties of the learning system such as the top management, the expert developing the policy and the strategic plans, lecturer planning the programme and university administrator purchasing hardware and software. On the other hand, lecturers and students may choose learning focus on technology, its capabilities, and thus what can be technically accomplished in terms of creating lessons and modules.

According to Harris, Mishra and Koehler (2007), most of the current technology executions in learning are incorrect and failed to create relationship between technology and pedagogy. They emphasised that the perception of how to implement new educational technologies into the learning process must be improved more than the use of tools and has deep implications for the nature of content-area learning. The pedagogical approaches the lecturers select are important and have to be appropriate otherwise it may follow by unnoticed aspect of technology integration approaches.

5. Research design

The qualitative approach was adopted to ascertain the opinions and experiences of academics regarding their preparedness towards e-learning. The researchers used the case study design chosen within the UNISA community). The study employed a variety of data-gathering methods, including observation, in-depth interviews, and document analysis. Eight out of fourteen academics participated. All 15 members of staff were initially targeted for interviews but only eight were interviewed, as others were committed. In addition to this, institutional documents and related literature were analysed.

6. Results and discussions

The study focused at Unisa community,(e-tutors, lecturers and students) highlighting their perceptions, level of readiness, and perceived self-efficiency toward e-learning interfaces. It also identified factors that are likely to inhibit or enhance lecturers' execution and facilitation of e-tuition. The results are presented according to dominant themes

Meaning of e-learning

To set the scene the participants were asked to define the term e-learning. As it has emerged from the literature that e-learning has no universal definition, its boundaries are porous (Mashingaidze & Nyoni, 2013), it was important for the study to determine the how the participants understand the meaning of the term. Five participants acknowledged that e-learning relies heavily on digital technology or web technologies to enable teaching and learning to happen in a virtual environment, allowing students to work at their own pace from any geographic location. After collating the responses it emerged that in its totality e-learning includes tuition, content development and management, content delivery, assessment, interactive participation,

constant monitoring, ability to detect at risk students. One participant indicated that "there is no institutional definition of e-learning culminating from the non-existence of an e-learning policy". Further, she expressed that she does not know the nature, scope and extent of e-learning at UNISA. This is an indeterminate state that would impact on the understanding of the notion of e-learning as well as the implications of the deployment process.

Strategies for executing e-learning

When asked whether e-learning differs from traditional teaching, most participants stated that the pedagogy is still the same, although the medium for executing tuition has is novel and interesting. This is in contrary to the assertion made by Bates and Poole (2003) that e-learning requires lecturers to develop new pedagogies that would maximise the use of the new technology. The perception held by most participants might be that e-learning deployment in the university means the reorientation or change of medium for tuition rather than the altering of the fundamentals of teaching. This is a concern that shows not only the lacuna in the understanding of e-learning but also on the implication and expectations of the new strategy.

Some participants indicated that e-learning means transitioning from traditional teaching mode to the modern e-learning mode through utilising myUnisa. They stated that even before committing to e-learning UNISA as an ODL institution adopted myUnisa to enhance blended teaching and learning. MyUnisa is a synchonomous web-based portal using Sakai that allows academics to develop and teach online courses and which provides online communication, assessment and management tools. At its inception,

myUnisa was not meant to replace printed material but was meant to enhance tuition through a binary learning model that championed blended learning. Some participants indicated that it is not very clear whether the university agenda is changing in 2013 with more inclination towards minimising the hybrid learning method in favour of a single mode of learning which is "paper behind the glass" or e-learning. One participant indicated that from her understanding "the university is still championing the hybrid model of learning and thus emphasising optimal exploitation of the myUnisa platform".

Although, some lecturers have used myUnisa before and they were able to distil enjoyment from the paperless nature of the medium which also meant improvement in connectivity, interactivity with students and the just-in-time communication. Further, the exposure afforded them the opportunity to explore and experience e-learning. Because e-learning at UNISA is conducted through myUnisa there is a danger that lecturers might equate the self-directed experience with myUnisa as e-learning. It has come out in the literature that shifting from traditional teaching to e-learning is an involving process that requires a paradigm shift involving a change of attitude, mind set and work patterns (Schneiderheinze, 2005). Therefore, even though some academics have had the experience of using myUnisa this might not translate into competency or readiness to implement the e-learning initiative.

Benefits of using E-tutoring (e-learning) system

The reason for asking questions about the benefits of e-learning was to determine whether participants understood and appreciated the perceived value of e-

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learning. The study assumes that the perceived value or lack thereof may have a bearing upon the uptake of e-learning. The benefits of e-learning were delineating according to the different variables:

According to Hailegebreal (2012) technology integrated with pedagogy is proposed to improve education. Some of the claimed benefits are listed below:

- It enables to motivate students. Computer assisted learning can provide dynamic pictorial illustration and give an immediate criticism to students that inspires them to learn.
- It can access many geographical areas. Soft copies and software learning materials can access long distance learning environments easily and cheaply, and are accessible to a wider audience.
- It can make the subject easier to learn. Many different types of educational software and programs have been designed and developed to help students at all levels of study, including pre-school, junior school, high school and higher institutions, software, computer simulators, animation and graphics software enable to see things from various perspectives, it makes concepts clear and thus create interesting leaning environments.
- A computer with suitable software or program presents understandable image. When the lesson presented clearly it become easier to monitor and maintain students" attention and to increase interest while they are observing, measuring and doing things for themselves

Benefits for lecturers

First, one participant indicated that the benefit of e-learning was that "lecturers do not need to be physically in their offices to attend to students' queries". Understandably, because of the

omnipresent nature of e-learning, there is an expectation that lecturers can execute their tuition responsibilities anywhere and anytime. This confirms the assertion made earlier by various authors that e-learning is not limited by time, space and location (Cooper, 2009). Contrary to this, some academics stated UNISA has a ruling that inferred that lecturers have to be in their offices for eight hours, which are the official working hours in the institution. Despite omnipresent traits of e-learning that infer virtual execution of tuition the preceding notion was highlighted as a discrepancy that the institution will have to consider and maybe rectify. One participant stated that "realistically it might be difficult for UNISA to manage lecturers in virtual offices and the expense of connectivity for everyone beyond the campus perimeter might stretch its economies of scale a bit". Nonetheless, as the implementation phase of e-learning gains momentum it is hoped that clarity on the issue of meaning of virtual orientation will be provided.

Second, the issue of improving communication through connectivity embedded in networked technologies interactive came out strongly. Communication is critical in ODL teaching and learning. One respondent stated that "e-learning will improve interaction with students, it will facilitate advanced preparation and posting, as well as enhance visibility through involvement in social networks". Since e-learning involves real-time interaction or connectivity (synchronous and asynchronous), it will enable students to readily have access to study material and to also get feedback swiftly. One respondent highlighted that "students can discuss their conceptualisation of academic tasks easily and share ideas at the same time". This prospective cross-pollination through networking will hopefully enrich academic

discourse and enhance the quality of education. Another respondent mentioned that "some students have always been eager to learn using technology; therefore, the e-learning drive will satisfy that quest". Some participants indicated that the online interface will accommodate many practical activities in different formats. This means that with online tuition lecturers could enhance their creativity to make learning interesting by pushing the frontiers posed by traditional teaching and learning methods. Considering that UNISA students are part of the global village, the opportunity to be connected will extend their personal and professional frontiers through networking (Karmakar & Wahid, nd). However, drawing from the use of myUnisa one participant highlighted that "participation in myUnisa discussion forums has not been optimally utilised by students". The discussion forum is a web-based forum on myUnisa for conversations or dialogue between lecturers and students and among students.

Third, it also came through that e-learning will save time with regard to turnaround time for feedback on assignments. One participant indicated that "the online tuition delivery mode could eliminate challenges related to delays in the delivery of tutorial matter". UNISA relies on the South African postal services to send tutorial matter; and assignments between students and the University. The challenge for the University usually emerges when there are protests in the postal services sector. Because of such disruptions mail is not delivered timeously which forces the University to consider rescheduling submission dates to accommodate the disruptions.

Fourth, generally most participants saw the advantage of conducting formative and summative assessments online. Currently, assignment questions are part of the tutorial letter which is sent to students mostly by post, although it also available electronically. With the implementation of e-learning, assignment questions will be posted online, assignments will be submitted and marked online.

Benefits for UNISA
The participants indicated benefits for the university that include the following:
First, the reduction of cost in terms of paper, as e-learning is paperless. There will be no need to print those multiple pages of tutorial letters for approximately 300 000 students in 2012. This will also enhance the institutional drive towards going green. Whether the cost will be redirected to priorities pertinent to e-learning was unknown. Second, the reduction of cost in terms of postage services including the risk of postage delays as indicated earlier. These delays disrupt institutional scheduling processes and procedures. With e-learning, challenges of late delivery or loss of assignments will be minimised. Third, costs related to logistical arrangements of tutors and lecturers travelling to conduct discussion classes will be minimised. Fourth, it was indicated that the new drive might assist the University in widening access and expanding its student base by deploying e-learning as a tool to attract prospective students. Fifth, given that UNISA has had the monopoly of being the only ODL institution in South Africa, it needs to re-strategise and scale-up its systems to maintain its competitive advantage, as many other universities in the country are threatening the monopoly by offering more online courses. Last, e-learning was commended as a good initiative that would enable the University to improve its standard of education in terms of computer literacy and

competency of both staff and students in accordance with international standards. In terms of the timing and relevance of e-learning implementation at Unisa it was highlighted in accordance with national and international trends that the timing of adopting e-learning is perfect and relevant.

7. Conclusions and recommendations

The study set out to determine the perceived perceptions of e-tutors, students and lecturers regarding their understanding of e-learning and their self-efficacy towards e-learning interfaces. For instance, lecturers were unable to infer their competencies to execute e-learning tuition because there is no clear definition or barometer which can be used to measure one's aptitude. Although there is appreciation for e-learning, there are concerns emanating from the indeterminate state of e-learning in the institution. For example there is no institutional definition of e-learning that will lead to a common understanding of the term. Further, there is a need to clarify the institutional agenda and inclination towards a dominant or equivalent teaching and learning mode (s). This is a critical anomaly that has to be earnestly considered for the e-learning initiative to be successfully implemented with positive outcomes.

Furthermore, although the benefits of e-learning are recognised there are concerns related to the aptitude of most students as well as the accessibility of e-learning technologies. Since the implementation of e-learning is still in its infancy it is hoped that the results of this study will lead to a better understanding of the predicament and position of academics by those who drive e-learning initiatives. This could enable them to provide appropriate strategic leadership, clear institutional e-learning goals and implications as well as customised support interventions for academics. The study recommends that the UNISA seeks more enlightenment on the understanding, prerogatives and implications of e-learning in order to craft a strategic trajectory that will underpin and butress a meaningful development of e-learning. Similarly, e-learning training interventions should be informed by a skills audit that will map out the capabilities and gift zones of lecturers. Last but not least, the institution should consider developing a more clear strategy on e-learning that will lessen indeterminate state and apprehension about e-learning.

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Postgraduate students' perceptions on institutional support during research supervision at a selected university in KwaZulu-Natal

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Abstract

Universities have the obligation of supporting postgraduate students in the development of knowledge that stimulates the economic growth of the nation. They are expected to provide appropriate postgraduate research supervision and ensure that there are strategies in place which promote an intellectual climate within the institution. A review of related literature indicates that postgraduate students will be negatively affected if the university has insufficient resources to support the research process and has no strategies in place to promote an intellectual climate. Many students fail to complete their degrees, with many dropping out at an early stage due to the problems related to their research and the supervision process. This study was conducted at a selected school of nursing in KwaZulu-Natal to explore the perceptions of coursework masters nursing students on the support they receive from the university in terms of resources and intellectual climate. The study adopted a positivist paradigm, and a quantitative and descriptive approach. A non-convenience sampling method was used to select participants. 56/80 coursework masters students who were available and voluntary participated in this study. The results indicated that 50% (28) of the respondents perceived a high level of available resources for their research and the majority of respondents (62.5%; n= 35) perceived the intellectual climate at the school at a moderate level.The lower score of postgraduate students with respect to the intellectual climate highlights a need to look for strategies that might enhance the intellectual climate within the institution.

Keywords: institutional support, postgraduate students, research supervision

1. Introduction

Universities are expected to support postgraduate students in the research process in this era of a knowledge based economy. In addition to support from research supervisors, postgraduate students need a logistical and intellectual climate within the institution to enjoy the process of research. According to the Oxford Learning Institute (2012), a good intellectual climate prevents isolation, enhances student progress and supports the supervisory role. Institutions have to take responsibility for the quality of research training and its coordination (Brockbank and McGill, 1998). In many instances, not enough attention is given to the aspect of research supervision, with the result that far too many students fail to complete their degrees, with many

dropping out at an early stage due to the problems related to research and the supervision process (Thompson, Kirkman, Watson and Stewart, 2005; Ismail, Abiddin and Hassan, 2011). An additional problem in the South African context is the increasing number of postgraduate nursing students from disadvantaged backgrounds who lack sufficient experience in research (Lekalakala-Mokgele, 2008).

2. Literature review

Postgraduate research drives national development and stimulates economic growth (UNESCO, 2007; Leru, 2007 cited in Abdullah and Evans, 2012). According to Blass, Jasman and Shelley (2012), postgraduate students are regarded as the most important sources contributing to the development of knowledge. Therefore, the quality of the postgraduate research supervision process in higher education institutions is fundamental to train scholars and ensure that useful knowledge is being produced(Blass, Jasman and Shelley, 2012).This process involves the postgraduate students, research supervisors and the school administrators representing the institution. In addition to managing and directing the organization, one of the administrative functions of an institution is to support students in their endeavors toward the completion of their research projects (Abiddin, 2007). The school is expected to provide the necessary resources and to foster an intellectual climate which facilitates a conducive learning environment for postgraduate research students.

However, it has been documented that lack of resources constitutes a challenge to the success of postgraduate research and this is a common problem, particularly in developing countries. A study conducted in the Philippines revealed that the insufficiency of journal subscriptions in

most of the universities resulted in inadequate support for staff and students in their research (Calma, 2011). Only half of the participating staff (n=53) reported satisfaction with the availability of research facilities and resources for themselves and their students (Calma, 2011). Ina study conducted at Deakin University in Australia, 60.8% of the postgraduate students reported that they had access to equipment necessary for their research, but only 51.1% (n=1200) were satisfied with the provision of computing resources and facilities(Abdullah and Evans, 2012, p. 791).Furthermore, it is reported that many postgraduate students use free online resources, such as Google and Wikipedia as they are unaware of universities subscription's to academic online databases (Green, Segrott, Priest, Rout, McIvor, Douglas et al., 2007). Institutions must therefore ensure that postgraduates are aware of resources that are available to them to facilitate their research journey.

Postgraduate faculties are required to support access to funding for student research, and guide students on how to make their research results public (CHE, 2007). However, problems with finance hinder the progression of many postgraduate students in their research journey and in many cases the results of completed projects remain unpublished. In UK, Hodsdon and Buckley (2011) found that only 57.4% of their respondents had appropriate financial support for research activities while Abdullah and Evans (2012) found that only 50.4% had access to financial resources. In a study conducted at the University in Sydney, the number decreased with only 31% of the respondents having appropriate financial support for their research activities (University of Sydney, 2010). In a study conducted in South Africa, Lekalakala-Mokgele (2008) found that some 68.2% of

the respondents were not aware that the university had a responsibility for assisting them with finances.

Postgraduate students also face various challenges with regard to the supervision process. The face to face research supervision model is failing, partly due to many postgraduate students moving from full time to part time study (Zhao, 2003). Students have also reported having irregular contact with supervisors, who are busy with administrative or teaching responsibilities, have too many students or are away from the university too often (Ismail et al., 2011; Singh, 2011).Van Biljon and De Kock (2011) reported that lack of prompt feedback; communication breakdowns; ambiguous instructions; technical difficulties; isolation; and time management, due to multiple responsibilities negatively affect the supervision process. Online research supervision has become more prevalent in this era of technology and schools are expected to put different strategies in place to stimulate enjoyment of the research journey. An institution that provides a conducive environment to promote research leads to scholarship development for both postgraduate students and research supervisors (Byrne and Keefe, 2002; Peralta and Raju, 2012).

Postgraduate students, academic staff, administrators and managers are becoming increasingly fragmented (Rowland, 2002) due to obsession with accountability, standardisation and managerial control in a competitive society (CHE, 2007). This has an effect on the intellectual climate of an institution(Australian National University, 2012). In a survey conducted by the University of Sydney among postgraduate students in the faculty of Health Sciences, only 40% (n= 213) agreed that they were integrated into their departments/schools (University of Sydney, 2010). The Higher Education Academy found that 58.2% of postgraduate students agree that there was ambiance in their department which stimulates their work (Hodsdon and Buckley, 2011).

Little focus has been placed on postgraduate research supervision by nursing scholars worldwide. Despite the extensive growth of the coursework master's degree in professional disciplines, little is known about students' experiences of research or research supervision, both of which are central components of the degree (Drennan and Clarke, 2009). Not enough attention has been given to the aspect of research supervision, with the result that far too many students fail to complete their degrees, with many dropping out at an early stage due to problems related to their research and the supervision process (Thompson et al., 2005; Ismail et al., 2011). Chikoko (2010) argued that the part-time masters students seem to be inadequately engaged and integrated into the academic culture of the university and therefore frequently drop-out. The high drop-out rate, poor graduation and retention rates are unacceptable and represent a huge waste of resources, both financial and human (Ministry of Education, 2001).

Between 2000 and 2006, the College of Health Sciences at the University of KwaZulu-Natal noted ahigh dropout rate of56% for thesis based work (Tettey, 2010). This motivated the researchers to explore perceptions of coursework masters nursing students on the way the university support them in terms of resources and intellectual climate.

3. Methodology and ethical issues

This study used a positivist paradigm and a quantitative, descriptive approach. A non-convenience sampling method was used to select participants. Ethical clearance was obtained from the Ethics Committee of the University of KwaZulu-Natal, where this study was conducted. Of the 80 nursing students who were registered in the coursework master's program in 2012, 56 students who were available voluntarily participated in this study. Data was collected using a borrowed instrument (postgraduate research experiences survey) designed by a Higher Education Academy in the United Kingdom. However, the sample size was small compared to the other studies which have used the instrument of postgraduate research experience (PRES) among graduates at entire institutional and/or national level. The questionnaire contained six items to assess postgraduate students' perceptions on resources available for support in their research projects and five items to assess the intellectual climate. The scale ranged from 1, meaning strongly disagree [SD], to 4, meaning strongly agree [SA].

After obtaining ethical approval from the Ethics Committee, permission for data collection was obtained from the Dean and Head of the School of Nursing and Public Health. Data collection started in July 2012 and ended in September of the same year. A pilot study was conducted among 5 coursework masters students, who did not constitute the final sample. The test of reliability was done by performing the Cronbach's alpha test, which revealed the following results: Resources (α=0.74) and Intellectual climate (α=0.80).To analyse data, the SPSS 19 version was used to provide descriptive statistics from this study.

4. Data analysis

Demographic data in this study was composed by age, gender and marital status of the respondents, while academic data included the mode of attendance, status within university, previous qualification and current specialization. Descriptive statistics were computed such as the frequency, percentage, mean and standard deviation.

The students' scores were added together to determine their perceived levels of satisfaction in relation to available resources and the intellectual climate. Scores between 80-100% (scores from 19.20 to 24) indicated a high level of satisfaction, while scores between 50-79.9% (scores from 12 to 19.19) indicated a moderate level of satisfaction and scores of < 50% (scores of 9.99 and below) indicated a low level.

5. Findings

The minimum age of respondents was 28 years and maximum age was 61 years, with a mean of 43.02 years. The largest proportion of the total sample was female (n= 47; 83.9%), with males representing only 16.1% (n=9). The findings indicated that the majority (69.6%; n=39) of the postgraduate students were married.

Forty five (n=45; 80.4%) of the respondents were part time, whereas 11 (19.6%) were full time. The results of this study also revealed that 46 (82%) were national students, while 10 (18%) were international. In terms of previous qualification, 46.4% (n=26) had a bachelor's degree, 44.6% (n=25) had an honours degree and 8.9% (n=5) had a Bachelor of Nursing, Advanced Practice [BNAP]. This question was intended to establish whether the students were at a level where they could undertake research independently, with minimal support. Thirteen (n=13; 23.2%) of respondents were specializing in

community health nursing, 12 (21.4%) in nursing administration, 10 (17.9) in nursing education, 8 (14.3) in critical care, 7 (12.5) in midwifery, and 6 (10.7%) in mental health nursing. See Table 1.

Table1: Socio-demographic characteristics of the sample

Socio-demographic variables	Attributes	Frequency	Percentages
Gender	Female	47	83.9%
	Male	9	16.1%
Marital status	Single	7	12.5%
	Married	39	69.6%
	Divorced	9	16.1%
	Widow	1	1.8%
Mode of attendance	Full time	11	19.6%
	Part time	45	80.4%
Status within university	National	46	82%)
	International	10	18%
Previous academic qualification	Bachelors	26	46.4%
	BNAP	5	8.9%
	Honours	25	44.7%
Nursing specialisation	Administration	12	21.4%
	Education	10	17.9
	Community Health	13	23.2%
	Mental Health	6	10.7%
	Midwifery	7	12.5%
	Critical Care	8	14.3%

This study revealed that the majority of respondents (66.1%; n=37) strongly agreed, 32.1% (18) moderately agreed and 1.8% (1) moderately disagreedthat they had access tonecessary equipment for their research, with a mean of 3.64. In terms of availability of suitable working places, 57.2% (32) strongly agreed, 33.9% (19) moderately agreed and 8.9% moderately disagreed, with a mean of 3.48. However, in terms of finance, the majority of respondents were dissatisfied. A large proportion of the respondents (33.9%; n=19) strongly disagreed that they had adequate financial support for research activities, 19.6% (11) moderately disagreed,

25% (14) moderately agreed and 21.5% (12) strongly agreed, with a mean of 2.34.

Table 2: Postgraduate Students' perceptions on resources

Scores: Strongly disagree[SD], Moderately disagree [MD]Moderately agree [MA], and Strongly Agree [SA]	SD	MD	MA	SA	Tot	Mean	Std. Dev
I have adequate access to equipment necessary for my research		1.8% (1)	32.1 (18)	66.1% (37)	100% (56)	3.64	0.52
I have a suitable working space		8.9% (5)	33.9% (19)	57.2% (32)	100% (56)	3.48	0.66
There is appropriate financial support for research activities	33.9% (19)	19.6% (11)	25.0% (14)	21.5% (12)	100% (56)	2.34	1.16
There is adequate provision of computing resources and facilities		5.4 % (3)	28.5% (16)	66.1% (37)	100% (56)	3.61	0.59
There is adequate provision of library facilities		1.8% (1)	28.6% (16)	69.6% (39)	100% (56)	3.68	0.50
I have the technical support I need		8.9% (5)	58.9% (33)	32.2% (18)	100% (56)	3.23	0.60
Overall perceptions on resources						**3.33**	

Among respondents, 66.1% (37) strongly agreed that they have adequate provision of computing resources and facilities, 28.5% (16) moderately agreed and 5.4% (3) moderately disagreed, with a mean of 3.61. A large proportion of respondents (69.6%; n=39) strongly agreed that they have adequate library facilities, 28.6% (16) moderately agreed and 1.8% (1) moderately disagreed, with a mean of 3.68out of 4, equating to 92%.More than half of respondents (58.9%; n=33) moderately agreed, 32.2% strongly agreed and 8.9% (5) moderately disagreed that

they get the necessary technical support, with a mean of 3.23.

Table 2 shows that respondents tended to choose the strongly agree and moderately agree options on all resources apart from the item relating to financial support, with an overall mean of 3.33 out of 4, equating to 83.25%. This means that the respondents were generally satisfied with the resources that were available at the institution to support their research projects. However, the lowest level of perceived satisfaction was in terms of finance available to support

their research projects, with a mean of 2.34 out of 4, which equates to 58.5%.

In terms of students' perceptions on intellectual climate, only 17.9% (10) of the participants strongly agreed that the school provided them with opportunities for social contact with fellow researcher students, while more than a half of the respondents (53.6%; n=30) moderately agreed, 21.4% moderately disagreed and 7.1% strongly disagreed with the given statement. Only 12.5% (7) strongly believed that the school provided them opportunities to become involved in the broader research culture, while half the respondents (50.0%; n=28) moderately agreed, a quarter (25%; n=14) moderately disagreed and 12.5% (7) strongly disagreed with the given statement. Only 12.5% (7) strongly agreedthat the research ambiance in their school stimulated their work, while more than half of respondents (53.6%; n=30) moderately agreed; 24.4% (12) moderately disagreed and 12.5% (7) strongly disagreed with the statement.

Table 3: Students' perceptions on intellectual climate

Scores: Strongly disagree[SD], Moderately disagree [MD], Moderately agree [MA], and Strongly Agree [SA]	SD	MD	MA	SA	Tot	Mean	Std. Dev
My school provides opportunities for social contact with other research students	7.1% (4)	21.4% (12)	53.6 (30)	17.9% (10)	100%(56)	2.82	0.81
My school provides opportunities for me to become involved in the broader research culture	12.5 % (7)	25.0% (14)	50.0% (28)	12.5% (7)	100%(56)	2.62	0.86
The research ambience in my school stimulates my work	12.5% (7)	21.4% (12)	53.6%(30)	12.5% (7)	100%(56)	2.66	0.85
I feel integrated into my school's community	8.9% (5)	32.2% (18)	50.0%(28)	8.9% (5)	100%(56)	2.59	0.78
My school provides a good seminar programme for	5.4 % (3)	21.4% (12)	53.6%(30)	19.6% (11)	100%(56)	2.87	0.79

research students							
Overall mean						**2.71**	

Only 8.9% (5) of the respondents strongly agreed that they felt integrated into their school community, whereas half of the respondents (50%; n=28) moderately agreed, 32.2% (18) moderately disagreed and 8.9% (5) strongly disagreed with the provided statement. Only 19.6% (11) strongly agreed that their school provided good research seminars programs for them, whereas more than half of respondents (53.6%; n=30) moderately agreed, 21.4% (12) moderately disagreed and 5.4% (3) strongly disagreed with this statement.

The majority of respondents (62.5%; n= 35) perceived the intellectual climate at the school at a moderate level, with only 26.8% (15) perceiving a high level and 10.7% (6) perceiving a low level.

6. Discussion

Higher education institutions play an important role in providing necessary resources to support postgraduate research students as research informs practice (Frenk, Chen, Bhutta, Cohen, Crisp, Evans et al., 2010).The findings from this study revealed that the majority of respondents (66.1%) strongly agreed that they had access to equipment necessary for their research, followed by 32.1% who moderately agreed, with a mean of 3.64 out of 4on the statement, which equates to 91%. In terms of availability of a suitable working place, 57.2% strongly agreed, 33.9% moderately agreed, with a mean of 3.48 for the statement, which equates to 87%. These results are higher than those found by Abdullah and Evans (2012), where the mean response for access to necessary equipment was 4.15 out of 5, which is 83%, and the mean for availability of suitable

working place was 4.03 out of 5, which is 80.6%.

Among respondents, 66.1% strongly agreed that they have been provided with computing resources and facilities, 28.5% moderately agreed, with a mean of 3.61, meaning 90.25%. Also 69.6% strongly agreed and 28.6% moderately agreed that they had adequate library facilities, with a mean of 3.68. More than half of respondents (58.9%) moderately agreed and 32.2% strongly agreed that they received the necessary technical support, with a mean of 3.23. These findings indicated that the university is well equipped to support research students at a postgraduate level. Abdullah and Evans (2012) found a mean of 3.93 out of 5, which means 78.6% for adequate provision of computing resources and facilities, and 4.39 of adequate provision of library facilities, meaning 87.8%. Nevertheless, the problem of resources has been identified as a factor hindering postgraduate education in developing countries.

Some universities in developing countries are not able afford to subscribe to electronic academic journals to support their postgraduate research (Priest, Segrott, Green and Rout, 2007). These authors also reported that while postgraduate students are encouraged to use open access that is free of charge, their inadequate scholarly online communication skills and the slow internet facilities were factors negatively affecting the use of open access. The same authors reported that only 60.9% of the respondents had accessed and used the resources from open access for their studies. The perceived high level of available resources for respondents of this

study does not mean the exploitation of those resources by the postgraduate students in their research work. It has been found that postgraduate students preferred to use free online resources from Google and Wikipedia, despite the fact that the institution has sufficiently subscribed to online databases (Green et al., 2007). Therefore, this requires further investigation at postgraduate level.

However, students' perceptions in terms of finance tend to be low among respondents of this study. A large portion (53.5%; n=30) disagreed that they have had appropriate financial support for research activities. These results are similar to results of various other studies carried out on postgraduate students' experiences on research supervision. In the United Kingdom, Hodsdon and Buckley (2011) found that only 57.4% agreed that they had appropriate financial support for research activities, and Abdullah and Evans (2012) found 50.4% on the same statement. Thus, this could negatively impact the progression of postgraduate student researchers toward completion of their research projects.

In general, students' perceptions about library resources are highly positive with the mean of 3.68 out of 4, which is 92%, while financial support to their research project has the lowest perception, with the mean of 2.34 out of 4, which is 58.5%. The most frequent responses on resources, except for financial resources, are 'strongly agree' and 'moderately agree'. All resources combined are positively perceived at the rate of 83.3%. The institution where this study was conducted is a research-led university, which is well-equipped with resources for research performance of both students and staff. The library is equipped with printed and electronic material, and academic software, such as Endnote, SPSS and Nvivo, are free for registered students and staff members.

At the beginning of each year, the students have an orientation week where they spend a day in library to inform them about the process of searching for available resources. In addition, there is an interlibrary loan office, where resources that are unavailable in the university library can be obtained after a short period (Naidoo, 2012).

Intellectual climate provides both social and academic integration of postgraduate students. To achieve such integration, the university has the responsibility to foster a sense of collegiality among research students, academics (Oxford Learning Institute, 2012) and administrators.

The findings of this study revealed that the majority of the participants (53.6%) moderately agree that the school provided them with opportunities for social contact with fellow students; with only 17.9% strongly agreeing to the statement. These results are similar to those found in University of Sydney (2010), where 58% agreed that the school provided them with opportunities to interact with fellow research students. The findings of this study revealed that the school concerned does provide some opportunities for postgraduate students to exchange ideas on their research projects, such as during proposal presentations. However, part-time students with full time jobs find it difficult to attend these. Frenk et al. (2010) emphasize that professional health education needs to be transformed with the provision of opportunities for mutual learning. A strategy to foster the integration of part-time postgraduate students into the research culture of the

school would be to include in the timetable workshops and student-led research seminars, in which previous students could present their research dissertations, as well as programs on publishing and disseminating student research (Drennan and Clarke, 2009).

Oxford Learning Institute (2012) recommends that institutions organise journal clubs, seminars and conferences in which students present their papers. They should also provide a common room with facilities encouraging students to meet there. The findings of this study highlights that 50.0% of the respondents moderately agreed that the school had provided them with opportunities to become involved in the broader research culture. This study further revealed that 53.6% moderately agreed that the research ambiance in their school stimulated their work. Only 58.9% (MA and SA) of participants of this study believed that they felt integrated into their school community. These finding concur with those found by Abdullah and Evans (2012) where the total agreement was on this item was 52.10%, and Hodsdon and Buckley (2011) found 54% felt integrated into the school. This suggests that the school need to emphasise different strategies that prevent isolation and facilitate integration of postgraduate students in a research culture. According to Chikoko(2010), the first year masters students found their studies worthwhile, but their levels of integration with the institution were low, thus weakening their coping strategies.

The findings of this study revealed the overall mean of 67.8% on students' perceptions of the intellectual climate. Sharing knowledge, experience and problems are important aspects of developing a collaborative research team (Priest et al., 2007). The successful development of research culture largely depends upon the quality of educators and their positive attitudes toward research (Peralta and Raju, 2012). However, the postgraduate students' perceptions of research culture in higher education are low compared to other aspects of research supervision. (Frenk et al., 2010)argue that poor teamwork is one of major challenges in professional education worldwide. This might be explained by the lack of unity in the lives of contemporary academics. The competitive society in which they operate is obsessed with accountability, standardization and managerial control, which has led to fragmentation within the university (CHE, 2007; Department of Education, 1997).Rowland (2009) mentions that this trend is analyzed in relation to a global market economy and is guided by advanced technology and knowledge.

7. Conclusion

Postgraduate research stimulates economic growth and universities are expected to support postgraduate students during their research journey. This study indicated that the postgraduate students in the selected institution were generally satisfied with the availability of resources provided by the university, except the aspect of financial support. Their perceptions on intellectual climate scored lower, highlighting the need to look for strategies that might enhance the research culture within the institution.

8. Acknowledgement

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Job satisfaction among non-PhD academic staff in Tanzania's private and public universities

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Abstract

This study was conducted to investigate the overall job satisfaction of non-PhD academic staff in universities in Tanzania. The study was based on Herzberg's Two-Factor (motivators and hygiene) theory. As organizations undertake measures to ensure employee retention, employee job satisfaction to the organization has now become more critical than ever due to the fact it is an essential determinant of employee job performance which ultimately translated into realization of organizational core functions. The study is motivated by the situation of Tanzanian universities, whereby universities as critical institutions which were tasked to prepare corps of educated elite to serve the community and entire nation. Over the last three decades, for instance, public universities have been facing numerous challenges which have affected their ability to motivate and retain their academic staff. This has been as a result of the economic crisis the country has been experiencing since late 1970's. Consequently, physical facilities are run down, student riots are on increase while academic staff are dissatisfied due to variety of factors including inadequate and non-competitive salaries and non-monetary factors led into high turnover of academic staff in many universities to other seemingly promising economic sectors while those have remained are actively seek alternative activities to supplement their income. Crumbling situations in public universities is further characterized by limited capacity to absorb all the qualifying applicants has necessitated the increase number of private universities. The study employed cross-sectional survey design in collecting data from non-PhD academic staff in both public and private universities in Tanzania. The data for this study was collected using questionnaire which were distributed to 150 non-PhD academic staff. The study finds that non-PhD academic staff from selected were not satisfied.

Keywords: hygiene, job satisfaction, motivators, non-PhD academic staff, universities

1. Introduction

Organisations that have goals to achieve would require satisfied and happy staff in her workforce (Oshagbemi, 2000). First and foremost is the fact that for any university to achieve its strategic goals would strongly depend on its capacity to attract, retain and maintain competent and satisfied staff into its employment. The university being an institution of higher learning that provides corps of educated elite to serve the community and entire nation through both

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the public and private sector must itself be capable of ensuring adequate manpower planning and development she could therefore not afford to neglect need and essentials of workforce satisfaction (Adeniji, 2011). The Tanzanian universities could be classified according to their years of establishment thus first, second and third generation universities.

The first generation universities established in the country in 1960's to 1980's. The second generation universities are those universities established in early 1990's to late 1990's. The third generation university established in 2000's and ahead. Universities whether private or public are training ground for students doing the comprehensive courses in order to translate theory into practice. They conduct training of all kinds of programmes/disciplines. As supported by Nyerere (1966) who outlines major functions of university; these are to transmit knowledge from one generation to the next so that it can serve either as a basis of action, or a springboard to further research, to provide through teaching for high level manpower needs of society. Further, Nyerere (1999) also challenged universities to discover and advance indigenous knowledge and blend it with modern sciences and technologies hence to Tanzania and Africa in general to the world development.

Additionally, Materu (2007) argued that a university is only as good as quality of its academic staff because they are the heart of the university who produce its graduates. Such that, graduates after completion of their studies at universities, return back to society to transmit the knowledge and skills for the society's development, hence academic staff in universities are a critical element as they act as an engine to produce graduates as well

as conduct research and consultancy which eventually benefit the communities. With application of academic staff findings communities produce goods and services which the society requires to satisfy its day-to-day needs. Abagi (1996) adds that in order for the universities to perform their tasks, they need appropriate categories of academic staff to handle academic matters. The smooth running of these academic faculties depends among other things, on the composition of the academic staff which they are supposed to put into maximum use in order to meet their mission of teaching and research effectively.

2. Growth and development of university education in Tanzania

University education in Tanzania can be traced back since 1961 when Tanzania, the then Tanganyika attain its independence whereby a university college was established in 1961 as a constituent college of the University of London which subsequently became the University of East Africa in 1963 to carter for East African countries. In 1970, the University College of East Africa was transformed into three independent national universities namely; the University of Dar es Salaam, the University of Nairobi and Makerere University respectively. Consequently, the University of Dar es Salaam (UDSM) became Tanzania's first fully-fledged university through an Act of Parliament and was charged with the responsibility of training graduates to meet manpower requirements of the government institutions, this was necessary because the demand for higher education in various fields was very high. Sokoine University of Agriculture (SUA) established in 1984 started way back in 1965 as an agricultural college offering diploma training in the discipline of agriculture then transformed into a Faculty of Agriculture of UDSM. The

UDSM has since grown to be largest university in Tanzania.

From 1990s, there has been a remarkable expansion of public universities. To date, 11 public universities have been established, each by an Act of Parliament. SUA was established in 1984 the university best known to its degree programmes in agriculture although it now offers a variety of other programmes in business and education, it has one constituent college, Moshi University College of Co-operative and Business Studies. Open University of Tanzania was established in 1992 offer its courses purely by distance learning mode, with a total number of students stand at 61,860 (Ministry of Education and Vocational Training, 2013), OUT conducts its operations through regional and study centres, currently with 29 regional centres and 69 study centres and one overseas regional centre in Rwanda coordination centre in Nairobi (at the Egerton Centre,

Nairobi) for students based in Kenya (The Open University of Tanzania, 2012).

In addition to the public universities, private universities have also been on the rise in the last two decades. There are presently 19 private universities, out of which 14 are fully-chartered universities and 5 operating with letters of interim authority or certificate of registration from the Tanzania Commission for universities (TCU, 2013). Such expansion of private universities has been attributed by the government efforts to establish private universities through liberalization of higher education in Tanzania by amending the Education Act No. 10 of 1978, which was replaced with Education Act No. 10 of 1995 and later University Act No. 7 of 2005 was enacted. These acts have provisions for the establishment of private higher education institutions. The recent years have seen a rapid increase in the number of universities both public and private, as indicated in Table 1

Table 1: Current Universities in Tanzania

S/N	Public Universities	Year	Private Universities	Year
1	University of Dar es Salaam	1961	University of Iringa	1996
2	Sokoine University of Agriculture	1984	International Medical & Technological University	1996
3	Open University of Tanzania	1992	Hubert Kairuki Memorial University	1996
4	Mzumbe University	2003	Tumaini University Makumira	1996
5	State University of Zanzibar	2002	Aga Khan University	1996
6	University of Dodoma	2006	Zanzibar University	1998
7	Ardhi University	2007	St. Augustine University of Tanzania	1998
8	Muhimbili University of Health & Allied Sciences	2007	Mt. Meru University of Tanzania	2002
9	Nelson Mandela Institute of Science & Technology	2010	Catholic University of Health & Allied Sciences	2002
10	Mbeya University of Science & Technology	2013	University of Arusha	2003
11	Katavi University of Agriculture	2013	Teofilo Kisanji University	2004
			Muslim University of Morogoro	2005
			St. Johns University in Tanzania	2007
			Sebastian Kolowa Memorial University	2007
			University of Bagamoyo	2010
			Eckenforde Tanga University	2010
			Tanzania International University	2010

Source: Tanzania Commission for Universities, 2013

As indicated in Table 1 public universities in Tanzania monopolized the provision of higher education since independence to mid-1990s when witnessed unprecedented growth of private universities. This growth was necessitated by a number of policies instituted by the World Bank in 1991; by cutback on government expenditure to the public sector aimed at reducing fiscal deficit affected the ability of public universities to offer quality education. This resulted into loss of the monopoly that was once a reserve of public universities, hence emergence of private universities to the territory which was once dominated by public universities.

The establishment of private universities began in 1996 with the founding of the then Iringa University College (current University of Iringa, UoI). UoI was issued a charter in 2013 after fulfilling all the requirements stated by Tanzania Commission for Universities. The rapid growth of private universities occurred from early 2000's and at present Tanzania has 19 private universities as follows; 14 chartered universities (that is, fully accredited by TCU); five operating with Certificate of Registration and Letter of Interim Authority (Tanzania Commission for Universities, 2013).

3. Statement of the problem

While on one hand there has been a rapid increase of universities, on the other hand there is constant mobility of academic staff from one university to another, from old public universities to new ones, from public universities to private universities. However, the critical fact that it had been established that some of these academic staff hardly stay for long in such university before moving again (Ishengoma, 2007). These dissatisfiers further have led to brain drain in many universities losing its labour force to other seemingly promising economic sectors such as politics, donor-funded projects and consultancies, leaving a major gap in the academic ranks that cannot be filled in the short term. Furthermore, academic staff who have remained in their universities have opted to seek alternative means of supplementing their income thus compromising their loyalty to their universities. Consequently, Tanzania universities have ranked poorly among top world universities with University of Dar es Salaam being only Tanzania university to appear among the top 5,000 universities at position 2284 (Webometrics, 2014).

Since the majority of studies on job satisfaction of academic staff had been conducted in the developed countries, the extent to which research findings in these countries can be applied to Tanzania universities remained unestablished. The reflected gap of such studies necessitated the need for research-based information in order to fill the information gap on the job satisfaction of academic staff in universities in Tanzania.

4. Purpose of the Study

The purpose is to identify the impact of motivator, hygiene and demographic factors on overall job satisfaction of academic staff members of the universities. The study utilizes the Herzberg's two factor theory in university setting. In Tanzania the studies on job satisfaction mostly concentrated on job in general and there is no significant research on job satisfaction of non-PhD academic staff. The present study will comprehend the clear

understanding of the factor that play major role in the job satisfaction of non-PhD academic staff.

5. Objectives of the study

(a) to determine the relationship of age, gender, qualification and number of years of non-PhD academic staff on compensation, interpersonal relation, policies, recognition and advancement.

(b) to find out relationships of selected job satisfier factors, Compensation, interpersonal relation, policies, recognition and advancement with job satisfaction of non-PhD academic staff.

6. Literature review
Job satisfaction

Job satisfaction can be described as one's feelings or state of mind regarding the nature of the work. Job satisfaction can be influenced by a variety of factors such as the quality of the academics' relationships with their supervisors, the quality of the physical environment in which they work and the degree of fulfillment in their work (Lambert, Pasupuleti, Cluse-Tolar and Jennings, 2008). Job satisfaction is a key factor in productivity (Oshagbemi, 2000). However, job satisfaction is certainly not the only factor that causes people to produce at different rates (Daniels, 2001). One major reason for the continuing interest in job satisfaction, as Wilson and Rosenfeld (1990) pointed out is that, positive and negative attitudes towards work may exert powerful effects on many forms of organizational behaviour. Various research data have demonstrated the importance of job satisfaction in an organization, particularly, in terms of its efficiency, productivity, employee relations, absenteeism and turnover (Baron, 1996, Maghradi, 1999 and Fajana 2001). In addition to being influenced by the level of satisfaction, performance is affected by a worker's ability as well as a number of situational and environmental factors such as mechanical breakdowns, low quality materials, inadequate supply of materials, availability of stocks and market forces (Boro, Thopeson and Patton, 2001). Nevertheless, in the case of lower-level jobs where little ability is required, job satisfaction seems to be one of the key determinants of performance (Cockburn and Perry, 2004; Boro, Thopeson and Paton, 2001).

Therefore, job satisfaction is very important in an organization because if employees are not satisfied, their work performance, productivity, commitment as well as the interpersonal relationships among the management and their subordinates tend to be lowered (Fajana, 1996).

For instance, in an organization where work performance is not recognized through promotion and salary increases, productivity of employees tends to be lowered. The study will determine if this happens in Tanzanian universities among academic staff.

In an effort to satisfy the needs of employees, many managers make use of incentive programmes, despite the fact that research has consistently confirmed that no amount of money will translate into sustainable levels of job satisfaction or motivation (Joyce and Slocum, 2004). Fajana (2002) in his work identified a long range of factors combined to affect individual's level of satisfaction. These include, supervision or leadership (concern for people, task, participation), job design (scope, depth, interest, perceived value), working conditions, social relationships, perceived long range opportunities, perceived opportunities elsewhere, levels of aspiration and need achievement.

Academic staff and job satisfaction in Tanzania

One of the results of a study conducted by Ishengoma (2007) showed that one of the dissatisfaction of the academics in Tanzania's public universities - as in other African countries-is low remuneration and to some extent poor working conditions as manifested by inadequate teaching/learning facilities; large classes; inadequate office space; among others. All these relatively poor working conditions in Tanzania's public institutions can be attributed to funding cuts by the government. Compared to what is paid to similar professionals with the same or at times less academic qualifications and experiences in the non-academic private sector and in politics; academics in the majority of Tanzania's public higher education institutions receive meager pay despite their stressful job characterized by long working hours. Also, Sawyerr (2004) argued that conditions for research in universities have been severely compromised as manifest by the generally poor remuneration, heavy teaching loads, inability to mentor young academic staff and inadequate infrastructure hence poor research performance among university lecturers.

Therefore, one of the reasons that informed this study has to do with the unique importance of job satisfaction among academic staff in universities which affect realization of these universities core functions of teaching, research and community services. In so far as satisfied academic staff are necessary for academic performances, there is the need therefore to find out and examine the relationship between job satisfaction and job performance among academic staff. This is necessary to identify how best to satisfy academic staff in the university and prevent constant brain drain. Since the majority of researches on job satisfaction had been undertaken in the developed countries, the extent to which research findings in those countries can be applied to Tanzania universities (both public and private universities) remained unestablished.

7. Theoretical Framework

Herzberg's Two-Factor theory will be used as a framework for this study. Herzberg's Two-factor theory focuses on those sources of motivation that are essential for an individual to achieve and accomplish goals in the workplace. His two-factor theory was derived from Abraham Maslow's hierarchy of needs. He conducted a widely reported motivational study following Maslow's model using 203 Accountants and Engineers employed by firms in and around Pittsburgh, Pennsylvania, USA.

The theory is outlined in two separate parts, several factors led persistently to employee satisfaction, while some others led persistently to dissatisfaction. The satisfiers were called 'motivators' and the dissatisfiers 'hygiene factors'. Motivators appeared to be closely connected to the job, while hygiene factors were connected with environment. Motivators appeared to produce motivated behavior. However, hygiene factors produced either dissatisfaction or a nil response. In other words, Herzberg described motivators as those aspects of the job that give individuals the desire to perform and provide them with satisfaction, examples of motivators are achievement, recognition, the work itself, responsibility, growth and advancement while hygiene factors are described by Herzberg as those factors that can only bring an employee's job satisfaction level to neutral, such as company policy, supervision, working conditions, interpersonal relations, salary, status, job security and personal life. This

means if attention is paid to the motivators, by improving them, then there will be improvement in organizational efficiency such as higher productivity. On other hand, if attention is paid to hygiene factors then there will be no improvement in job performance.

However, evidence of the application of Herzberg Two-Factor theory to evaluate academic staff job satisfaction in an academic setting particularly in Tanzania is to the best of my knowledge, lacking. Hence, this study will adopts same theory (Herzberg's two-factor theory) to measure academic staff level of satisfaction at work. The study will go a step further to adopt Herzberg's hygiene factors and motivators in universities.

8. Methodology
Data collection
The response population for this study was non-PhD academic staff members of public and private universities of Tanzania. A convenient sampling method was applied for obtaining the data. A total of 150 non-PhD academic staff 100 from public and 50 from private universities of Tanzania were contacted for participation in the survey, 125 academic staff members responded positively at response rate of (83%).

Instrument and Analysis Techniques
The survey was conducted by using job satisfaction index, (Castillo and Cano, 2004). The data was utilized to obtain descriptive statistics. Exploratory factor analysis using Principal component analysis with varimax rotation was applied for the analysis

9. Analysis and Findings
The reliability of the data was checked before the analysis, Cronbach's Alfa results shows that the 81 percent data was reliable for statistical analysis.

Table 2: **Summary of respondents involved in the study**

Demographics	Description	Number	Percentage
Gender	Male	102	82
	Female	23	18
Age	Below 30 years	95	76
	Above 30 years	30	24
Highest Academic Qualification	Postgraduate	110	88
	Undergraduate	15	12
Working Experience	0 - 5 years	59	47
	Above 5 years	66	53
Marital Status	Married	66	53
	Unmarried	59	47

Correlation
Motivator and Hygiene Factors
The correlations were calculated among the demographic and job satisfaction variables of non-PhD academic staff members of universities. The results show that there was highly significant correlation among the job satisfaction variable. The factors of motivator and hygiene were significantly correlated at (.01) level and (.05) level. The job promotion was moderately but significantly related to job advancement at (.54). Professional

development was highly correlated at (.60) with job promotion and at (.64) with job advancement, so it can be concluded that non-PhD academic staff relate their job satisfaction with job promotion, job advancement and professional development. The hygiene factor interpersonal relation was significantly related with job promotion at (.57), job advancement at (.44) and professional development at (.46). So it can be concluded that the non-PhD academic staff relate their hygiene factor with interpersonal relations. The correlation results also show that relationship with the administration were significantly related with job promotion at (.62), at (.58) with job advancement and highly and significantly correlation with professional development at (.72). These results confirm that non PhD academic staff highly relate their career development with interpersonal and administration relationship. It is also observed that performance based relations with supervision/administration were negatively/weakly but significantly correlated at (-.28) with administration relation at (-.22) with interpersonal relation at (-.18). There was negative/Weak

correlation between the understanding of policies and reward for efficient work at (-.28).

The policy hindrances in job were significantly but weakly correlated with interest of administration in performance at(.25). The fair amount payment was highly significant but negatively correlated with job promotion at (-.69) at (-.66) with job advancement at (-.74) with professional development at (.24) with work appreciation at (-.58) with interpersonal relation at (-.75) with unfair administration role at (.30) with interest of administration in performance weak correlation with policy hindrances at (.19) and highly

negative correlation with unclear policies of universities at (-.74). So it can be concluded that the fair payments are significantly effect the job satisfaction of non-PhD academic staff of the universities. The variable increase in salary was negatively but significantly correlated with job promotion at (-.68), job advancement at (-.58), professional development at (-.55), interpersonal relationship at (-.45), unfair administration at (-.62) with role in preparing policies at(-.62) and it has highly positive correlation with the amount paid for fair work at (.71). The hygiene factor competitive package was found to have negative but significant correlation with job promotion at (-.64), job advancement at(-.58), professional development at(-.64) and it was also negatively but significantly correlated with hygiene factors, interpersonal relations at (-.50) administrations interest in performance at (-.67) and with role in policy making at (-.63), however, there is positive and significant correlation among the competitive package and reward on efficient work at(.24), administrations interest in performance at(.24) fair amount at (.84), increase in salary at (.64).

Demographic factors
The demographic characteristics of the non-PhD academic staff were also significantly correlated with motivator and hygiene factor of job satisfaction. The results show that gender has weak but was significant correlation with job promotion at (.45), interpersonal relations at(.20), however, the gender has weak and negatively but significant correlation with desired future at(-.21) and also weak but significant correlation with competitive package at(-.22). The age was moderately but significantly correlated with job advancement at(.46). The academic qualification was weakly but significantly correlated at (.34). The experience was

found to have weak and negative but significant correlation with salary increase at (-.17). The marital status had negatively moderate but significant correlation with job promotion at (-.44), job advancement at (-.39), professional development at (-.45) interpersonal relation at (-.37) unfair administration at (-.51) and role in preparing policies at (-.43), whereas the marital status was positively and significantly correlated with fair amount paid at (.46) and salary increase at (.48).

Response regarding job satisfaction

The statistical results show that 94% of the non-PhD academic staff of the universities is not satisfied from the promotion chances at the universities they are working. 92% are of the view that the universities do not provide adequate facilities for job advancement, 95% responded that there are not sufficient opportunities for the professional development in the universities. So far as work appreciation is concerned the opinion of non-PhD academic staff is mixed, 27% think that they cannot decide, whereas, 43% agree, 18% strongly agree and 11% disagree that the work they do is appreciated. Regarding the rewards for efficient work, 80% academic staff disagree that they are being rewarded for efficient work. More than 77% non-PhD academic staff members responded that, while working for the respective universities they will not achieve the desired future, 22% of the academic staff have mixed opinion.68% academic staff dislike the peoples they work with, 19% are neutral and 12% like to work with colleagues.

The opinion of non-PhD academic staff regarding immediate administration was unenthusiastic, 62% of the academic staff thought that their immediate boss is unfair to them and 34% had mixed opinion. More

than 80% of the academic staff expressed that's the administration does not take interest in the performance of the subordinates and 17% were undecided. At least 78% of the respondents described that many of the rules and policies of the universities hinder their job, 21% responded neutrally. Almost 70% of the academic staff members expressed that the policies of the universities are not clear to them, however, 29% could not decide about the clarity of the policies.

The 73% of the academic staff responded that they do not have any role in preparing policies of the universities the 24% were not clear about the opinion. 89% responded that they are being paid fair amount as compensation for the work they do while 17% remained undecided. As for as the chances of salary increase was concerned, more than 63% of the academic staff members were not satisfied were as, 33% were neutral. 75% of the non-PhD academic staff was of the view that the benefits they receive are not competitive, 18% were undecided and only 3.2% were satisfied from the benefit package.

Factor Analysis

The results of factor analysis of job satisfaction of non-PhD academic staff members of the universities show that KMO test confirm 66 percent of the sample adequacy, Bartlett's test of spharcity was also significant. So it can be concluded that the data was suitable for the factor analysis. The factor analysis has extracted five factors. The factor extracted through varimax rotation included both motivator and hygiene factor of job satisfaction of non-PhD academic staff members of the universities. Factor one mainly shows the variable belonging to motivator component and one variable hygiene, the new factor was named as growth. Factor

two included hygiene components policies, fair payment and benefit package and new factor was created as compensation procedures. Factor three includes motivator component, reward for efficient work and hygiene components policy hindrances in job so new factor recognition was created. Factor four includes motivator component, desired future and hygiene component unfair administration and new factor prospect was created. Factor five has included hygiene component, administration interest in performance of subordinates and role in preparing policies

10.   Conclusion

The study was conducted in the public and private universities. The results of the investigation reveals that majority of non-PhD academic staff in selected universities are dissatisfied. The non-PhD academic staff has shown dissatisfaction with the job motivator and hygiene factors of satisfaction. Their opinion for the promotion, administration, policies and compensation was significantly dissatisfactory. The study reveals that demographic characteristics of the respondents have significant impact on the job satisfaction of the non-PhD academic staff. The response of the male and female academic staff was more or less similar for the professional progress, relationship, policies and compensation.

A considerable number of female academic staff has remained undecided regarding various factors of job satisfaction and understandably so that in our society the female academic staff does not always show their true opinion about the level of job satisfaction. The male academic staff was more concerned about the professional development, policies and compensation. It was also observed that the non-PhD academic staff was very susceptible about the role in preparing policies regarding job. They should be given significant role in various academic forums as they can play their part in altering and formulating policies of the institutions.

The level of job satisfaction of non-PhD academic staff can be improved by preparing flexible promotion policies and initiating advance training facilities for the job and professional development. The improvement of relationship with the administration will have positive impact on the job satisfaction of non-PhD academic staff. The recognition and appreciation for the job done well may significantly improve the job satisfaction of non-PhD academic staff. From the above description, it can be concluded that non-PhD academic staff from both public and private universities were dissatisfied with their job.

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Bachelor of Pharmacy students' opinions of active learning using clickers

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Abstract

Academics are faced with providing 'learning that lasts' despite ever-increasing student numbers. Active learning is an efficient way to engage larger classes, and improve the quality of students' learning. While clickers have been increasingly used as a tool to promote active learning, also in health sciences, little is known about the students' perception towards this. The objective of this study was thus to investigate the opinions of level 2 Bachelor of Pharmacy students towards active learning with clickers. A questionnaire was used to measure students' opinions towards active learning and the use of clickers in particular. Students were also asked to provide examples of the use of clickers that they found most beneficial, in addition to describing what they liked most about the use of clickers. Feedback from eighty-two students with regards to the use of clickers indicates that the students found small group discussion and the involvement with other students very positive. There was also a positive indication that this method of teaching improved students' understanding of the course content – students indicated that they had a better understanding of the lectures and enjoyed using clickers. Active learning was incorporated into an undergraduate Bachelor of Pharmacy module to improve student learning in a larger group. According to student feedback this strategy was effective in that students interacted more with one another, learned from their peers, and had a better understanding of concepts covered. It is thus evident that active learning achieved its goal.

Keywords: Active learning, clickers, pharmacy

1. Background

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. The main advantage of active learning is that it enhances students' learning is that it enhances students' retention of knowledge and promotes learning and critical thinking (Gavaza et al, 2012).

While many active learning strategies are used in pharmacy education, including team-based learning, problem-based learning, case studies, patient simulations, discussion-based learning, and clickers, among others, didactic lectures are still the most commonly used teaching method

used in Pharmacy programmes; this may however not necessarily be the most effective method to convey a large amount of information to a large number of students. As Pharmacy education is changing, the use of didactic lectures may not meet the expectations of students who are raised in the era of the World Wide Web. Academics are therefore continually challenged to develop techniques that can be used in the large lecture settings that engage students and provide them with appropriate experiences that promote 'learning that lasts' (Lui et al, 2010). To promote 'learning that lasts' in pharmacy education, academics need to engage students using alternative teaching strategies, and also provide students with opportunities to apply, problem solve, and evaluate their own learning (Lui et al, 2010). 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, educational technology has not directly caused improvements in education, but rather indirectly influenced positive changes in teaching practice (Monaghan et al, 2011).

Teaching in the Pharmacy programme at the University of KwaZulu-Natal has been mainly didactic. Students numbers have however progressively increased over the past years, making it all the more difficult to ensure active learning. Clickers were thus introduced in a level 2 Pharmacology module in the programme. This was the first time students were exposed to this technology (clickers) in an attempt to improve active leaning. Clickers, or audience response systems, are remote control devices used by students to anonymously respond to multiple-choice questions posed by the instructor. This is integrated into traditional lectures and a form of active learning. The main aim of introducing clickers in lectures is to capture and maintain student attention throughout the lecture, monitor progress and student comprehension so that deficiencies may be addressed immediately, and improve grades and student satisfaction. The peer-learning model, used with the aid of clickers, required that students think and answer questions posed to them first, without being provided with the correct answer. They then spend time in groups discussing a consensus answer, which are then once again submitted via clickers. The class response, as well as the correct answer is then indicated to the class. In this way, each individual student can assess his/her own understanding.

While the use of clickers is increasing in popularity as a tool to aid in active learning in various disciplines, including health sciences (Lui et al, 2010), little information exists in pharmacy training literature as to what students think of active learning (Gavaza et al, 2012; Stewart et al, 2011). The objective of this study was thus to investigate the opinions of level 2 Bachelor of Pharmacy (BPharm) students, towards active learning with clickers.

2. Methods
Ethical approval to conduct this study was obtained from the University of KwaZulu-Natal (HSS/0026/013). A questionnaire, designed by Gavaza et al (2012) was used as a data collection tool, with permission from the author. The questionnaire consisted of five Likert type questions used to measure students' opinions and perceptions towards active learning in general. Additionally, eight Likert type questions were used to measure students' opinions of active learning in which they

had participated in during the specific pharmacology module.

Each item in the questionnaire was rated using a bipolar semantic differential scale anchored by strongly disagree (1) and strongly agree (5). Students were also be asked to provide examples of active learning that they found most beneficial, in addition to describing what they liked most about active learning. Students were also be asked to rate the quality of active learning on a scale of 1 (poor) to 10 (excellent). In addition to the Likert scale questions used in the questionnaire, students were asked in two open-ended questions to provide examples of what they found 1) most beneficial from using clickers and 2) liked the most from these session.

The questionnaire was administered in the form of a self-administered anonymous paper survey distributed in class and students were given time to complete the survey in class. Students were informed that their participation in the study was voluntary. No identifying information was included in the survey. Data was analysed using SPSS 18. Responses to the 13 Likert-type items were collapsed into 3 categories: strongly disagree / disagree, neutral and strongly agree / agree. Chronbach's α were used to measure internal consistency of the scales.

3. Results

Eighty-two students completed the questionnaire of which 17% were male and 83% female. Table 1 represents the general opinions of students on clickers. Feedback from students with regard to active learning was generally positive. Results indicate that the students found small group discussion and the involvement with other students very positive. This indicates that despite the larger class sizes, there is a need for students to interact and discuss material with each other to increase their understanding of content covered during lectures. The majority of students (74.39%) felt that using active learning (AL) in the course was worthwhile or important and not a waste of lecture time (80.49%).

Table 1: General opinions on active learning (n=82)

Item	Disagree/strongly disagree, n (%)	Neutral, n (%)	Agree/strongly agree, n (%)
AL is more effective than lecture-intensive didactic learning	9 (10.98)	34 (41.46)	39 (47.56)
Working in small groups helps me to learn	11 (13.41)	18 (21.95)	*53 (64.63)*
Active discussions and involvement with other students is essential	6 (7.32)	18 (21.95)	*58 (70.73)*
AL is worthwhile / important	5 (6.1)	16 (19.51)	*61 (74.39)*
AL is a waste of time	*66 (80.49)*	13 (15.85)	3 (3.66)

Table 2 presents the students' opinions on active learning in a specific module, in this case a level 2 Pharmacology module. Once again, feedback was generally positive. Students

indicated that this method of teaching improved their understanding of the course. They also felt very strongly that they could see the correlation between the material covered and the active learning sessions.

Table 2: Opinions on active learning in the pharmacology module (n=82)

Item	Disagree/strongly disagree, n (%)	Neutral, n (%)	Agree/strongly agree, n (%)
AL helped me to become a self-directed learner	7 (8.54)	27 (32.93)	48 (58.54)
AL helped me to prepare for exams in the course	6 (7.32)	17 (20.73)	59 (71.95)
AL improved my understanding of the material covered in the course	5 (6.1)	12 (14.63)	***65 (79.27)***
AL improved my attitude toward the subject	8 (9.76)	20 (24.39)	54 (65.85)
There was a direct / discernible correlation between the material covered in class and the AL	2 (2.44)	15 (18.29)	***65 (79.27)***
Sufficient class time was devoted to AL	4 (4.88)	19 (23.17)	59 (71.95)
Group presentations by students were beneficial	16 (19.51)	47 (57.32)	19 (23.17)
Lecturer clearly articulated the purpose of AL	7 (8.54)	35 (42.68)	40 (48.78)

In addition to the Likert scale questions used in the questionnaire, students were asked in two open-ended questions to provide examples of what they found 1) most beneficial from using clickers and 2) liked the most from these session. From the comments in Table 3 it is clear that students felt they had a better understanding of the lectures, both from actively participating as well as from having an 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 (see Table 3).

Table 3: Comments from students on the use of active learning

Comments from students on what they found most beneficial:
Group work in class
Helped with understanding of lectures
Clickers gave an indication of own understanding of work
Comments from students on what they liked most:
Immediate feedback
Participation in the lecture / interactive
Fun
Helped (me) remember better
Helps (me) rate myself

4. Discussion

This study documents the opinions of students towards active learning with the use of clickers. 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 et al, 2009; Caldwell, 2007). The results from this study show that 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, change in the learning environment is stimulated that fosters student-centred 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.

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.

The strength of active learning, also highlighted from student feedback in this study, is the interaction it fosters between students, who often find it easier to understand concepts explained to them by their peers than by the lecturer. Students feel that discussing questions with other students is helpful, as it aids understanding. A possible positive outcome that was not measured in this study was if active learning affected student grades and lecture attendance and further studies are needed to establish the direct and indirect effect of active learning on student grades.

5. Conclusion

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

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

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Community based learning spaces and environments: Pedagogic possibilities and challenges

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Abstract

The purpose of this paper is to compare and analyse the use of different community based learning spaces and environments as a pedagogical resource for student learning through university community engagement. It draws on the findings from a recently completed action research project whereby students responded to non-governmental organisations requests for assistance to work in small teams with grass roots communities. The methodology included initial consultations between non-governmental organisation communities and the participating students with follow up interviews with student and community participants. This paper reports on three case studies involving film making, child development and literacy projects across rural and urban environments. The paper compares student and community reflections of the community engagement experience from the three case studies, drawing on students from four courses across the Humanities and Social Sciences. The findings suggest that the learning spaces and environments enabled students and community members to engage in mutual learning through a dialogic and reflexive process that enabled application of theory as well as broader learning related to power dynamics and co-creation of knowledge between community members and students.

Keywords: community engagement, learning spaces, non-governmental organisations, service learning

1. Introduction

In the South African context, service learning as a form of community engagement was introduced as part of the post-apartheid policy agenda for higher education. The policy purpose was twofold. On the one hand the aim was to engender a sense of community responsibility amongst the relatively privileged population of higher education students. On the other hand it aimed to enhance the notion of higher education as a public good and contribute to redressing the inequities of the apartheid regime (Kotecha, 2011). Since then the notion of service learning has evolved as a pedagogical strategy in its own right, one which encourages reflective, experiential learning. The focus of this pedagogical approach has been on enabling students to develop a critical, reflective stance that explores the application of academic theory to practice in real life settings. The emphasis, therefore, is on how and what students learn.

The South African context has inevitably influenced how service learning is practiced

in this country and writers such as Erasmus (2011) have argued for a more culturally sensitive and pedagogically embedded service learning curriculum which contributes to community empowerment and co-creation of knowledge. Others, such as Kruss (2012) and O'Brien (2010) have explored different models of service learning as a process and resource for knowledge creation. There has been a shift in emphasis, from simply focusing on learning gains for students, to embedding service learning within community engagement philosophy which argues for a community-led approach to engagement and a focus on mutual benefits from the engagement relationship (Preece, 2013). Less attention, however, has been paid to exploring how the community learning spaces themselves have contributed to a community-student learning relationship and in what way those community learning spaces and their environments contribute to the co-creation of knowledge.

This paper draws on empirical findings from three recently completed service learning case studies where students interacted with non-governmental organisations (NGO) organisers and grass-roots community members in urban and rural settings. The policy context for service learning and community engagement in South Africa and the University of KwaZulu-Natal is followed by a discussion of selected literature that addresses learning spaces and environments as pedagogical resources, and drawing on literature that addresses these concerns in the context of service learning. This will be followed by an outline of the case studies and the research methodology. The final sections present the findings from student and community perspectives which are discussed thematically, with attention to power dynamics and the contribution of

community learning spaces to the co-creation of knowledge and also some of the logistical challenges of managing this form of community engagement.

2. Policy context

In South Africa several national policy documents have been produced to promote university community engagement and service learning. These include the White Paper on the Transformation of Higher Education (Department of Education [DoE], 1997), followed by the National Plan for Higher Education (DoE, 2001) which highlight the need for higher education to enhance their responsiveness to national needs through academic programmes, research and community service. The Higher Education Qualification Committee (HEQC) includes, in its publication on Institutional Audits, criteria on both service-learning and community engagement (HEQC, 2004). These sentiments are reinforced in the recent White Paper on Post School Education and Training (DoHET, 2013).

It is within this national policy context that the University of KwaZulu-Natal identified Responsible Community Engagement (RCE) as one of the seven strategic goals of the University (UKZN, 2012). The goal points to strategies that will be employed to operationalise these commitments, which include educating students outside the university, research and use of 'strategic partnerships that enhance the relevance' of university activities (UKZN, 2012, p. 12).

3. Learning spaces and environments as a pedagogical resource

The literature on learning spaces usually refers to how the classroom as a learning space is organised. A 'rich' learning *environment* is understood concomitantly as a space where learners and their

facilitators 'share meaningful experiences that go beyond the one way information flow' (Bickford and Wright, 2006, par. 4.3) that is normally associated with formal teaching situations. The rationale for a more engaged learning experience is that learning environments affect all the senses of a learner, impacting on their emotions, which in turn impacts on cognitive functioning and behaviour (Graetz, 2006). In other words the person and their environment impact on each other.

One of the most popular pedagogical responses to creating such interactive learning spaces draws on the philosophy of experiential education that was initially promoted by Dewey, and which has been subsequently elaborated on by Lewin and others, building on the constructivist theory of learning which asserts that our learning evolves schematically through building on previous experiences (Kolb & Kolb, 2005). David Kolb in particular (1984) introduced a cyclical model of action learning whereby learning and understanding is transformed through a facilitated process of 'concrete experience', 'abstract conceptualisation', 'reflective observation' and 'active experimentation' (Kolb & Kolb, 2005, p. 194). Kolb and Kolb argue that individuals need to experience different learning spaces so that they have the opportunity to employ each of the four processes in order to develop the capacity for self-learning.

It is this interplay between action, reflection and reconceptualization that has captured the pedagogical goals of proponents of community engagement through service learning in higher education (for example, Bender, 2008; Erasmus, 2005; 2011; Berman & Allen, 2012; Maistry & Thakrar, 2012 to name but a few). The essence of this approach is that real life experiences contribute to new learning and knowledge production. Community engagement through service learning entails the interplay of experiencing a community based environment and critical reflection for students. In the context of service learning, however, the expectations for this pedagogical approach extend beyond the classroom space.

4. Service learning

Much has been written about service learning, particularly in South Africa. The focus of this paper is on literature that specifically addresses the role of service learning as a learning space and its contribution to knowledge production as a holistic experience. Some of the key characteristics of service learning in university contexts are that it is a collaborative, mutual learning relationship between students, academics and community members.

Community members may be practitioners from a variety of community development contexts, ranging from non-governmental organizations (NGOs) to grass-roots residents in a particular location. Ideally, the service learning relationship is developed over time, students negotiate with community members an identified need and commit themselves to achieving an agreed outcome or contribution and students are then required to reflect on their learning experience in relation to curriculum theory and are assessed on that learning as part of their degree. Service learning originated as a concept in the United States and the definition of Bringle and Hatcher (1995) still forms the basis for many definitions in South Africa:

A course-based, credit-bearing educational experience in which students (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to

gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of personal values and civic responsibility (Bringle & Hatcher, 1995, p. 1).

The distinctive feature of service learning as a pedagogical tool is that it requires a facilitated process of reflection on the community engagement activity by the student in order to achieve the learning transformation advocated by Kolb and others. In other words, the community engagement experience itself requires a period of facilitated reflection which enables the constructivist process of transformation to take place (Berman & Allen, 2012). The experiential learning pedagogy is structured to create an enabling environment for this to happen (Erasmus, 2005). However, capturing or facilitating this period of reflection is rarely extended to community members themselves in spite of their status as partners (Bender, 2008). There is an assumption that community members actively contribute to the creation of new knowledge – but often the community voice is missing from this loop (Alperstein, 2007). Also seldom discussed are the practical challenges of creating the service learning space (Jordaan, 2012).

5. The service learning space

While some writers have discussed different theoretical approaches to the service learning pedagogy (for example Hlengwa, 2010 in relation to Bernstein's discussion of vertical and horizontal discourses), others have referred to the service learning or community engagement environment as a particular kind of learning 'space' (for example Maistry & Thakrar, 2012; Albertyn & Daniels, 2009; Erasmus, 2007). Many of these writers refer to Gibbons' (2006, pp.

19-29) notion of the 'agora' as a 'public space' wherein a new form of 'socially robust' knowledge is co-constructed through real life interaction. This kind of knowledge, known as 'Mode 2' knowledge, crosses disciplinary boundaries and is embedded in a social context where the environment becomes a 'trading zone' for debate, dialogue, experimentation and construction of new meanings and understandings through transactions between multiple actors. Herein lies the pedagogical resource for academics, students and community alike – the environment itself and the social interaction that this entails. Such arguments can be evidenced more easily in large scale partnership projects which engage with industry but it is not so easy to detect their value in small scale service learning projects.

Equally the power differentials between grass roots community members and university members challenge the extent to which knowledge is genuinely co-constructed (Albertyn & Daniels, 2009). Keeping the balance between community and student learning needs is a challenge. Hill, Birch-Thomsen, Traynor, de Neergard and Bob (2008), in the context of South Africa, argue that the students themselves can often be overwhelmed by community environments and that their 'real-life' experiences also need to be carefully managed. Ringstad, Lyva, Garcia and Jasek-Rysdahl (2012, p. 271) in the context of California, advocate for models of service learning that 'directly engage community members' in order to ensure that community solutions to problems are sufficiently valued. Erasmus (2007, p. 35), in the context of the University of the Free State in South Africa, highlights how, in the impoverished community contexts of a country like South Africa there is often the

need for a 'triad relationship' whereby NGOs act as mediating agencies between community and university. The service learning experience then becomes a shared 'developmental space' which addresses social concerns of empathy and understanding in the co-construction of knowledge.

There are studies which privilege the community voice in university-community engagement projects. A recent example comes from Shalabi (2013). However, an empirical discussion of the relationship between power dynamics, co-creation of knowledge and the opportunity for community reflection in small scale community projects is still relatively rare. The following project explored how students and communities used their learning spaces and environments to address these concerns through an action research process.

6. The project

The project, conducted in 2013, was the second phase of an action research project that started in 2012. This second phase was a partnership between the University of the Free State and University of KwaZulu-Natal. It was funded by the National Research Foundation, with additional funding support from each university. A total of 12 small scale projects were conducted. The University of KwaZulu-Natal undertook 8 case studies in the College of Humanities. Forty students, five courses and six NGOs were involved.

This paper focuses on three case studies. An NGO working on a film to assess hunger needs in Pietermaritzburg recruited two students from a Politics and Policy Studies service learning course (CS1). The learning environment was urban and the community spaces included people's homes as well as the NGO offices. The

second project involved the non-formal learning spaces of people's houses or community buildings in a rural location, approximately an hour's drive from the university in Pietermaritzburg (CS2). The NGO, requiring assistance with monitoring and evaluating five rural reading clubs, involved two students from a Policy Development Masters course working with one service learning student and one Masters student from an Education and Development programme. The third learning space took place in a resident's garden in a semi-rural township (CS3). Two service learning students from the same Education and Development programme responded to an NGO's request for assistance with facilitating an early child development initiative for pre-school age children who were too poor to attend the formal nursery. In each case the NGOs acted as mediating agencies in the form of a triad relationship, as advocated by Erasmus (2011). Both the reading clubs and the early child development project employed community based volunteers. The students working with the film project staff interviewed isiZulu speaking residents concerning their poverty and hunger experiences. All the students therefore had to interact with NGO organisers and residents in impoverished communities. The practice based learning environments and spaces were informal and located on the home turf of isiZulu speaking residents, most of whom had received limited formal education.

The students undertook their placements by negotiation with the organisers for a few hours once or twice a week over a period of between six and eight weeks. Initial negotiations with NGOs took place through two staff from the Schools of Education and Social Sciences. In the case of the reading clubs and early child development programme this was

followed up by student meetings with the NGOs and community participants. The students participating in the film project met with the NGO and film organisers and students subsequently took responsibility for contacting and interacting with community interviewees. Because the reading clubs and early child development projects were a substantial distance from the university campus, transport was provided for the students, funded in one case by the NGO and in the second case by the research funds. Students working on the film project organised their own local transport to a central office but travelled with the film crew for the interviews.

7. Research methodology

Action research tends to be participatory in that the researchers and participants reflect together on the practice and its outcomes. Equally there is a strong focus on ensuring that community voices are heard (van der Linden & Zeelen, 2008). These elements were present in our research approach in that there were two research cycles. Each phase involved dialogue at the beginning and end of the cycle with research participants (students, academics and community members), action was taken to address the challenges raised in the first phase and, within the limitations of access and time, voices from the various community layers (NGO, grass roots) were included in the findings (Stringer, 2004). In addition students from the service learning courses presented their personal reflections on their learning process in class as part of their academic assessment. The more formal data collection process for the above case studies involved recording preparation meetings, interim observation notes by a visiting research assistant and follow-up interview with key participants on completion of the case study. Interviews with community members were

conducted in their first language (usually isiZulu), and translated into English by the research assistant.

The project proposal received ethical clearance from the University of KwaZulu-Natal prior to commencement and all participants signed letters of consent that confirmed their voluntary participation, anonymity and confidentiality.

The recordings were transcribed verbatim and read several times. They were then thematically coded and analysed for content and patterns of responses (Arthur, Waring, Coe & Hedges, 2012). The findings discussed here are transcripts from the formal interviews and categorised under the headings power dynamics, co-creation of knowledge and challenges of using community learning spaces. Student responses are coded S and community responses are coded C.

8. Findings and Discussion

The contribution of the learning spaces and environments to shared learning and knowledge creation was gleaned from the participants' reflections on how they interacted with each other in these community spaces.

The nature of those spaces was discussed only peripherally, but occasional comments gave an indication of their under-resourced nature. For instance a reading club facilitator asked for assistance with providing a proper educational venue 'because we are using my home for gatherings' (for the children's reading activities).

The film project also revealed the impoverished nature of the terrain in which the students were working:

I learnt that it could be visible to society that a certain household is coping ... but in that household things are going wrong that nobody can see. People go days without eating and yet they still work (S1, CS1).

These were the environmental spaces, then in which the student and community members learned from and with each other, reflectively analysing, amongst other things, the use and acquisition of new knowledge, the power relationship between university and community, and ways in which they communicated within those relationships.

Knowledge sharing and co-creation
Both students and community members highlighted examples of learning from each other. The community participants, for instance, illustrated how they both contributed and applied new knowledge in ways that would not have been possible in a classroom interaction space:

If they have an opinion they would share and I would also do the same when I had an opinion about the children ... this one day they finished with shapes and proposed to teach them about robots [traffic light colours]. We told them no, they shouldn't – these children are still young, they shouldn't learn everything at once in a day ... we also learned that whenever you give a child paper they should write their name and surname on top of the page (C1, CS3).

The students confirmed the benefits of learning 'in situ' where they could see that knowledge can also be context specific. Expertise does not rest in one domain:
The experts are the people themselves ...as much as I might sit here at UKZN and learn

about early childhood development and community work ... whatever I have learned at [the community location] for example, it is not the same. The real experts of that area, of that programme are the people that are going through that experience ... (S2, CS3).

These sentiments of mutual exchange were echoed across the three projects:

They [reading club facilitators] also picked up a few lessons from the students ... you here interacting with us, asking us questions. We love things like this, to be able to learn how we can improve our work (C1, CS2).
Even at NGO level, where project ownership was strongest, there were unexpected opportunities for co-learning:

The students themselves, because they sometimes suffer the same issues ... they helped to bring also another dimension of understanding of food insecurity ... they also said things which was quite interesting ... and how there is hunger in the [university] hostels ... it enriched the script because originally we weren't going to think about universities (C1, CS1).

Although not all the research case studies produced such positive outcomes (Preece, Manicom, Tsotetsi & Hlalele, 2014), there was a sense that the grass roots nature of these learning spaces created new insights and opportunities. Some of these insights were revealed most poignantly in the context of how the power differential between university and community could be exploited as a learning curve for the students but also a motivating resource for the community members.

Reflecting on power differentials

Both the reading club and early child development facilitators – as grass-roots community workers - highlighted that the very presence of the university created a sense of pride in the projects and legitimated their work as worthwhile:

The reading clubs that have been visited have become more alert and motivated compared to those that the students have not visited ... also ... the attendance of the clubs has increased because they know students from the varsity will arrive ... even the children have changed (C2, CS2);

I also saw that I am also important ... the children and parents saw this as a legitimate thing ... because some parents thought this was just a game. Some even refused to allow their children to come ... now they saw that this thing of teaching from home is serious (C1, CS3).

But the positive impact of this partnership required sensitive management of differentials in status and a recognition that the students' participation had to be on the community's terms. This was their terrain and it was important that this sense of ownership was not undermined. For example:

What I learned was the facilitators they take this job very seriously, it is kinda like it's their baby and if someone else from the outside tries to intrude somewhere ... you are attacking them personally so ... if you want to intervene ... do it in a way that ... does not seem as if you are attacking them, in a way that we are here to learn (S1, CS3);

There were challenges however, reflecting the more fluid environmental boundaries of real life terrains where student-teacher differentials and learning spaces are not clearly drawn. On some occasions, for instance, the early child development

students felt uncertain about how best to engage with this new environment:

We didn't know how to do certain things with her, how do we engage with her in doing something because ... we took the plastics to her and said 'here are the plastics, what should we do?' ... and she was like 'eish I don't know as well' (S2, CS3).

These community learning environments had to be approached flexibly and with tolerance for different and competing agendas:

We were able to compromise with what we were given by the film makers ... and actually attend when they wanted us to be there and when we were working together we knew when it was your turn, you're the one who's calling, now I'm gonna email, so everything just balanced (S2, CS1).

Perhaps the most insightful observation about the learning environment and the spaces in which community members were working came from one of the students in the early child development project:

The role they [community facilitators] play is ... a very empowering role ... even though they know that they have nothing at all in life but they see that they can do something with their lives ... the parents of the children they are teaching trust them ... even though they know that they are not qualified teachers (S1, CS3).

This latter comment resonates with the comments by Bickford and Wright (2006), cited at the beginning of this paper, where a 'rich' learning environment is described as a space for exchange of meaningful experiences and a place which impacts on all senses, not just cognitive or behavioural. However, the logistics of planning and

maintaining such arrangements pose many challenges.

Challenges of using community spaces and environments

The process of negotiating participation by the six NGOs, and placing the 40 participating students across eight case studies was coordinated by the two research project academic staff members. These negotiations took place over a period of four months prior to the student placements. They entailed efforts to deal with the competing goals and purposes of the different players over such things as academic coursework requirements, university timetables, the NGO management goals and community expectations. Each case study required several visits to and from the organisation involving one or both of the research project academics and NGO staff. While the three case studies discussed in this paper recorded positive experiences, there were occasional transport challenges and problems with trying to communicate at a distance through unreliable cellphone networks. Furthermore not all the student learning spaces were seen in advance by the academics.

There were thus risks in placing students into spaces which had fluid boundaries and which involved unstructured interactions with a wide range of participants. The process was time-consuming and raised communication challenges.

Finally, the time-limited nature of the service-learning approach to community engagement posed sustainability issues, an issue raised by all participants.

9. Conclusion

This study demonstrated that structured community engagement in community spaces as an 'agora' can provide opportunities for mutual learning that contributed to the co-construction of 'socially robust knowledge' (Gibbons 2006). This form of knowledge construction engages many learning senses. However, although the service learning programme requires a formal process of student reflection, in order to maximise the mutual benefits of such learning environments a feedback loop needs to be built in, whereby all the participating layers (academic, NGO, grass roots) are invited to reflect and comment. While the action research methodology facilitated such a process for this study, it is not a standard feature of service learning in the university. The larger study (Preece et al., 2014) revealed that communication between the different participants is necessary throughout the engagement process and that without the follow up reflection process misunderstandings can remain unresolved.

Although community spaces are a rich learning resource, therefore, such open learning environments need careful management and require the opportunity for structured feedback sessions both during and after completion of the project placements. Furthermore, one of the pedagogic challenges for service learning must be to take cognizance of the fact that the ownership of knowledge creation is not confined to academia and opportunities must be built into the community engagement relationship for shared ownership over the learning that takes place in a public space.

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Different access to computer and internet resources introduces inequalities in outcomes for Massive Online Courses

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Abstract

The Massive Online Course format, where lectures and other course materials are accessed online, is becoming increasingly common. This study evaluates the usefulness of the method at Universities in developing world contexts such as UKZN. Approximately half of a module was delivered via traditional face-to-face lectures, and the other half with online lectures and supplementary materials using the Moodle online learning platform. All course readings were delivered online. Results showed that viewing online lectures predicted final course marks, as did attending face-to-face lectures and accessing course readings online. Hierarchical linear regression showed that accessing online and offline lectures predicted final marks independently, but accessing course readings online overlapped with viewing online lectures, suggesting similarity in underlying processes, possibly related to differences in students' access to internet-connected computer facilities. This interpretation was supported by a significant relationship between students' mode of access to the internet (either in university computer facilities or on their own devices) and the extent to which they actually accessed online lectures and readings. Access to online materials was not predicted by previous educational exposure to computers or present comfort with technology; but access to online materials and final marks were predicted by students' means of access to internet-connected computers. These results indicate that using Massive Online Course formats in contexts where students have large differences in access to internet-connected computers introduces systematic inequalities in outcomes.

1. Introduction: The demands of planned tertiary education growth in South Africa

The National Development Plan (NDP) for higher education aims to increase enrollment by at least 70% from 2010 to 2030, but plans to build only two new Universities. Therefore, the bulk of the increase in enrollment will need to be accommodated by existing institutions (National Planning Commission, 2012). Concurrently, the NDP aims to dramatically shift the emphasis of University programmes from undergraduate studies to advanced research degrees, aiming to increase the number of PhD graduates by 350% from 2010 to 2030 (from 1420p.a. to 5000p.a.). However, UKZN is already

pushing against hard limits for enrollment as the number of students enrolled exceeds the capacities of the assigned venues. The challenge facing UKZN is to maintain excellent standards in undergraduate tuition while nearly doubling class sizes and shifting the primary focus to more advanced levels. Thus, it is necessary to engage undergraduates better, while using teaching resources more efficiently. This cannot be done using traditional contact lecture based models of teaching and learning as available resources have already reached their limits for expansion.

This challenge is an important consideration of the UKZN strategic plan (UKZN, 2012), which argues that while increasing enrollment, UKZN must continue to provide a teaching and learning environment that "generates intellectual excitement, [and] fosters rigorous discourse and intellectual growth" (p. 13). Further, the UKZN strategic plan echoes the NDP suggestion that all universities should be encouraged to increase the use of distance education, therefore, allowing greater access to quality higher education, arguing that the university should "continue to offer selected programmes, flexible both in structure and in mode of delivery, that provide opportunities for further education ... for students who cannot study on campus or during working hours" (p. 13). The UKZN strategic plan argues further that these aims may be met by "optimi[zing] the use of appropriate Information Technology in improving teaching and learning by integrating IT networks and communication protocols" (p. 14).

2. The advantages of using Massive Online Courses in teaching and learning

Massive online courses (MOCs) are any higher education courses that employ technology to enable distance learning online through various modes of delivery format (Sit, Chung, Chow, & Wong, 2005). Current pedagogy demands a more generally efficient form of knowledge delivery that has the potential to reach even those without access to schools and an abundance of financial resources; MOCs offer this. Many higher education institutions have adopted e learning as a mode of knowledge delivery as it "will allow for more individualised, passion-based learning by the student, greater access to master teaching, and more opportunities for students to connect to others-mentors, peers,[and] sources- for enhanced learning experiences" (Anderson, Boyles, & Rainie, 2012, p. 4). Not only are MOCs efficient tools for disseminating lecture content and resources but they also allow for synchronous and asynchronous learning making them extremely flexible with regard to geographical dispersion and time management (Anderson, et al., 2012; Sit, et al., 2005).

According to Kwun et al. (2012), Bonnel, (2008) and McDowell, (2008) the asynchronous nature of online learning means that students perceive online courses to be less intimidating due to the semi anonymity and find them more enjoyable than a classroom setting as they feel less anxious than participating in a live lecture. Leber, (2012) suggests that online learning has become a means to offer thousands of individuals the opportunity to gain a quality education in a way that is "technologically sophisticated" (p. 64). Moreover, MOCs not only provide an excellent base for knowledge delivery but they are also a great research tool due to

the abundance of data available. It is possible to assess students' progress, grades, the efficacy of the course material and modes of learning efficiently through MOC platforms and to identify online where individuals are struggling and focus specific aid to students in need (Leber, 2012). There are very promising signs that online learning allows courses to scale to large numbers while maintaining student engagement and learning outcomes (Sit, et al., 2005). A meta-analysis of twelve years of research into online learning (1996-2008) showed that students enrolled in online-only courses generally performed a little better than those in traditional face-to-face courses (Means, et al., 2010).

3. Disadvantages of MOCs in a developing world context

Although developed countries are generally encouraged by the use of MOCs, developing countries are more pessimistic about the effectiveness of MOCs in delivering knowledge to the poverty-stricken masses (Unwin, et al., 2010). Universities in low-income parts of the world such as Africa and South America have struggled to gain government and student support, in terms of finance and skill set (Sife, Lwonga, & Sanga, 2007). For example, according to the International Telecommunications Union (ITU) report for 2013, Africa had the lowest internet penetration rate with only 16% of the population using the internet. From the above, it is evident that the implementation of MOCs would be problematic in the African context as few in the population have access to the internet. In many developing countries, the lack of interest in and effective implementation of MOCs is directly related to the country's infrastructure. Most university students in developing countries cannot afford computer access outside of their institution

let alone an internet connection (Unwin, et al., 2010). Furthermore, most universities in developing countries have a limited number of computers available (Unwin, et al., 2010). Consequently, universities are forced to limit student computer usage to minimal hours a week, this combined with reportedly slow internet speeds, means that the effective implementation of MOCs becomes exceedingly difficult. Unwin et al. (2010) suggest that MOCs will remain ineffective in developing countries until such time as infrastructural provision is improved and learners as well as educators gain knowledge in the use of open source learning packages such as Moodle, that enable MOCS to run.

Educators often assume that each learner has ready access to a computer and an internet connection at home, on campus, at a public library or on a laptop; however, student access to technological resources is considerably uneven (Sife, et al., 2007). Many students do not have access to internet-connected computers and are not sufficiently computer literate or financially prepared to improve this circumstance, and therefore would be ill equipped to deal with the challenges of online learning (Sife, et al., 2007). According to Thomson, et al. (2009, in Callow & Zammit, 2012) students from low socioeconomic schools were on average about three years behind students from middle to high socioeconomic schools in terms of technological literacy. Furthermore, Sit, et al. (2005) reported that students who have never used technology before may find the prospect of engaging with online courses more challenging than the course content itself, thus undermining their ability to learn effectively. This creates what Warschauer (2001, in Callow and Zammit, 2012) refers to as the digital divide. This divide makes teaching at a tertiary level increasingly difficult because

students without technological exposure must swiftly become computer literate in order to adequately compete with those who do. Thus, it is imperative that pedagogy must be socially equitable, relevant and prepare all students for the use of online learning (Callow & Zammit, 2012). In addition, learning institutions should provide "accessibility and affordability of up-to-date computer hardware and software as well as speed and stability of internet access" (Sit, et al., 2005, p. 141).

According to Kassangoya, de Jager and Rugimbana, (2013), some South African universities have adapted quite well to the implementation of online learning. In a study looking at internet adoption and usage patterns at two South African universities, Kassangoya et al. (2013) implemented a survey measuring the student opinion on the topics of economic benefit, convenience, and service levels with regard to online-based courses. The majority of participants agreed that the internet offered economic benefits, convenience, and current information. Nevertheless, according to Unwin et al. (2010) and Sife et al. (2007) this is not the case with all African universities as the technological demand for adequate facilities exceeds financial viability.

4. Aim and Rationale

The primary aim of this research was to explore the efficacy of MOC's in addressing the demands of the NDP and UKZN strategic plan for teaching and learning, and students' and lecturers' experiences of engaging in MOC's in the local UKZN context. Another goal was to assess how offline, as compared to online knowledge delivery formats, predicted final performance. A partially online course (Psychology 223) was implemented to assess whether the UKZN facilities, such as

computer LANS and open Wi-Fi networks, were sufficient to allow the switchover to MOCs. This study also aimed at examining whether the local cultures of learning would support or hinder the adoption of the MOC format in local learning conditions. This goal was attained by assessing how various aspects of online course administration, such as computer access, online and offline lecture attendance as well as techno-savviness and previous exposure to technology, affected students' final performance in a blended online course format.

The module was divided into sections, consisting of a number of lectures where a video clip of the live lecture was superimposed on a power-point presentation; relevant online media, such as YouTube clips or guest appearances by famous theorists; and quizzes or homework exercises. All the module sections had a deadline, but each student could engage with each component of the module in their own time and at their own pace, repeating the component as many times as necessary to achieve understanding. These modules were combined with online forums, where students were able to post questions and provide support to each other, supported by a teaching assistant with sufficient knowledge of the material. Although the start-up cost for such a module is high, it can be offered repeatedly with little additional investment and can be easily scaled to accommodate massive class-sizes with far less human resources than would be required when scaling traditional face-to-face courses.

5. Method
Sample

Participants were sampled from a psychology second level undergraduate course held at the Pietermaritzburg Campus of the UKZN. All participating students were registered for the Social Psychology of Intergroup Relations (PSYC 223) module that combined both online and traditional face-to-face teaching formats. Altogether, the sample consisted of 119 students; only 93 of those completed the online questionnaire indicating demographic details. Of the 93 participants who completed the questionnaire, 72 were female and 21 male. The minimum and maximum ages of the participants were 19 and 42 years respectively. Also included in the sample were those 26 students who did not complete the questionnaire and therefore were not able to contribute to the demographic information provided.

Procedure

Data was gathered via two online questionnaires, one administered at the beginning and end of the course, as well as via attendance and final marks. The questionnaires used in the study did not require students' to divulge any sensitive personal information, however, students were required to give their student numbers in order for the researchers to compare questionnaire responses with other data such as lecture attendance and final marks. The data collected from the questionnaires as well as lecture attendance and final marks, were only privy to the researchers, and the applicable student. Students were given an incentive of 3% toward their final mark for each questionnaire completed. The response rate for the first questionnaire regarding demographic information was 82.3%. Ethical clearance was obtained from the Humanities and Social Sciences Research Ethics Committee.

Measures

Online lectures and total readings accessed were two independent variables used in this study and were captured from the electronic logs indicating resource access available on Moodle and downloaded into Excel. These variables were labelled as accessed rather than attended or completed as the logs available on Moodle only indicated that students had accessed the resource and not whether it was entirely viewed or read. Offline lecture attendance data was gathered from registers signed by students at each live lecture. The means for online lecture access, total readings accessed, and offline lecture attendance was calculated for each student and converted into a proportion from 0 to 1. Mode of internet access was an independent dummy variable, indicating those students who had their own laptops, tablets or computers at home and those who used the LAN, internet cafes or their mobile phones.

High school preparedness and techno-savviness were also included as independent dummy variables separating those students who were exposed to the internet and computers at high school from those who were not, as well as those students who considered themselves technologically competent from those who did not. Final marks were chosen as the dependent variable for this study. Students' final marks were made up of 12 online quizzes covering lecture content from both online and offline sections of the course; two traditional paper-and-pencil tests each containing 30 multiple-choice questions and covered both online and offline lecture content; and a final exam, also written in a live setting, and worth 60% of the final course mark.

6. Results

Table one shows descriptive statistics indicating the mean, standard deviation and maximum and minimum values. Referring to the means presented, the offline lecture attendance mean is greater than that of online lecture attendance suggesting that students attended more offline lectures than online. A hierarchical linear regression analysis showed that all three independent variables were independently significant at predicting final marks with 95% confidence.

Table 1: Descriptive statistics and correlation statistics

	N	Min	Max	M	SD		Final Mark	Offline lecture attendance	Online lectures accessed	Total readings accessed	
Final Mark	110	4.27	94.33	53.55	13.32		1	.476 .000	.396 .000	.481 .000	**Pearson's R Sig**
Offline lecture attendance	119	.00	1.00	.59	.28		.476 .000	1	.475 .000	.455 .000	**Pearson's R Sig**
Online lectures accessed	119	.00	1.00	.51	.33		.396 .000	.475 .000	1	.726 .000	**Pearson's R Sig**
Total readings accessed	119	.00	1.00	.57	.25		.481 .000	.455 .000	.726 .000	1	**Pearson's R Sig**
Valid N (listwise)	110						110	119	119	119	**N**

The first argument presented here is that the students' final marks were significantly predicted by three variables, online lecture attendance, offline lecture attendance, and the proportion of readings students' accessed online ($F=18.313$; $p<0.01$; $df=3$).

The adjusted R^2 value was .323, thus the combination of all three predictor variables accounted for 32.3% of the variation in final marks (see table2). The strongest predictor of final marks was the total amount of readings done with a standardised beta coefficient (β) value of .363. A hierarchical linear regression analysis revealed that all three predictor variables affected final marks independently. According to Nardi (2006), beta coefficients indicate, the slope of a correlation, the direction of the correlation as well as the weight in comparison to other variables within a multiple regression analysis. Therefore, with reference to table 2, when online lectures accessed and offline lecture attandance are combined in the regression analysis, the β value remains positive and significantly indicative of a relationship. However, when online lectures accessed and total readings accessed are combined in a regression analysis the β value for online lecture attendance drops significantly and the relationship with dependant variable becomes inverse (online lecture attendance β: -0.005; FTF lecture attendance β: 0.354; total readings done β: 0.363). Therefore, indicating that online lecture access and total readings accessed have multicollinearity, this is confirmed by the correlation statistics presented in table 1 that indicates a high correlation (.726) between online lectures accessed and total readings accessed. This finding perhaps suggests that online lectures accessed and total readings accessed measure an unknown construct possibly related to online course activity. In sum, the key point of this argument is that offline attendance and online activity independently predict final marks, however, online lectures accessed and total readings accessed do not independently predict final marks.

Table 2: Hierarchical Linear Regression Standardised Coefficients

	Model 1	Model 2	Model 3
β	.396[a]	.242[a] .378[b]	-.005[a] .354[b] .363[c]
T	4.485[a]	2.683[a] 4.195[b]	-.046[a] 4.080[b] 3.241[c]
Sig	.000[a]	.008[a] .000[b]	.963[a] .000[b] .002[c]

a. Online lectures accessed   b. Offline lecture attendance   c. Total readings accessed

The mode with which students' access the internet significantly affected both the number of online lectures they viewed, as well as their final marks. An independent samples t-test compared mode of internet access as the predictor variable with online lectures accessed as the dependant variable. From this analysis it can be concluded that the mode of internet access does significantly affect the amount of online lectures that students accessed (t= -3.535; p<0.05; df= 117). The mean

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difference (-0.2013) indicates in which direction the difference in online lecture attendance occurred. In this case, those students who used their mobile phones, internet cafes or the university LANS accessed less online lectures than those students who had their own laptops, tablets and or computers at home. A further independent samples t-test indicated that mode of internet access did not significantly affect offline lecture attendance (t=-1.8; p>0.05; df= 117).

A Linear regression was run with mode of internet access, online lectures accessed, and the interaction between them as the independent variables and final marks as the dependant variable. The adjusted R^2 statistic indicated that the combined independent variables accounted for 52.3% of the variation in the spread of final marks. The ANOVA produced from the analysis indicated that the independent variables significantly affected final marks (F=40.765; p<0.001; df=3). The β coefficient for the interaction between online lectures accessed and mode of internet access showed a strong positive interaction with final marks, however, mode of internet access showed a strong negative interaction. This finding was explored in a split regression analysis that assessed how online lecture attendance affected final marks for each of the modes of internet access.

The first regression was run for those students who used their mobile phones, internet cafes or the university LANs, where online lecture attendance was the predictor variable and final marks the dependant variable. The R^2 statistic showed that only 9.3% of the variation in final marks was attributable to online lecture attendance for students who did not have their own computers. The p-value 0.03 was significant at a 95% confidence interval. The β weight

was 0.305, indicating a small to medium positive correlation between online lecture attendance and final marks for only those students who did not own their own computers. For those students' who did own their own computers or had access to one at home, the R^2 statistic indicated that online lecture attendance accounted for 16.4% of the variation in final marks.

The p-value (0.001) indicated that online lecture attendance significantly affected final marks with a confidence of interval 99%. The β weight was 0.405 indicating a slightly higher positive correlation between online lecture attendance and final marks for those students able to access the internet at home as compared to those that did not own their own computers. Although, online lecture attendance for both modes of internet access significantly predicted final marks, it appears that for those students who own their own computers, online lecture attendance is a better predictor of final marks.

The final point made in here is that it is not lack of previous technological exposure or techno-savviness that undermine student performance, but rather the inadequate resources and learning environment that they are provided with to access the course material. Three separate t-tests were run, in all three, the dependant variable remained the same (final marks) however, the independent variables for each test were, mode of internet access, high school preparedness, and techno-savviness. The only significant result in all three t-tests was for that of mode of internet access (t=-2.489; p<0.05; df=108), in the other two tests no significant result was found.

7. Discussion
The first argument stands on the basic premise that final performance in an online course will be significantly affected by both

online and offline lecture attendance as well as accessing the prescribed readings available online. This premise was shown to be true by the significant interpretation of the results. Total readings accessed did significantly predict final marks. The results from the hierarchical linear regression indicate that online lecture attendance is severely reduced when total readings accessed is introduced into the regression, thus indicating multicollinearity, perhaps suggesting that both online lecture and readings accessed is a measure of online participation.

Interestingly, as it is incongruent to previous literature, face-to-face lecture attendance was greater than that of online lecture attendance (Anderson, et al., 2012; Sit, et al., 2005). Anderson et al., (2012) suggests that online courses are more enjoyable for students and often encourage greater lecture attendance because online courses are more anonymous and reduce the anxiety of live participation. Means et al. (2006) also suggested that students perform better online than via the traditional face-to-face mode of learning. However, this was not the case with the current study, as students seemed to attend more face-to-face lectures as well as perform better. This is most likely because not all students had access to adequate computer resources necessary for completing online coursework, which may introduce new anxieties regarding accessing internet-connected computers and completing their coursework (Sit, et al., 2005). According to the results in the first argument, face-to-face lecture attendance was also a better predictor of final marks, although online lecture attendance is still significant when combined with face-to-face lecture attendance in a hierarchical linear regression. The β weight for online lecture

attendance drops to 0.242, from 0.396, and the face-to-face lecture attendance β weight dominates the model at 0.378.

According to the results of the second argument, online lecture attendance as well as final marks is both predicted by the mode with which students' access internet-connected computers. Sit et al., (2005) states that in order for MOCs to function institutions need to ensure that all students' enrolled for online courses have access to current computer facilities. However, in the case of this study, students were naturally divided by the mode with which they accessed the internet. Approximately half the students who enrolled for PSYC 223 could access the internet wirelessly on their own laptops or tablets or on internet-connected computers at their home; the other half of the PSYC 223 student population used the LAN at UKZN, internet cafes or their mobile phones.

The results presented in the second argument indicate a significant difference in online lecture attendance between the differing modes of internet access. The descriptive statistics clearly demonstrate where the discrepancy in online lecture attendance occurs with regard to mode of internet access. Students with their own laptops, tablets, or home computers reported with a mean proportion of 0.6072, whereas those students who used the LAN, internet cafes, or mobile phones had a mean proportion of 0.4059. Furthermore, the linear regression indicated that the mode with which students' accessed the internet had a significant inverse relationship with their final marks. In addition, the split file regression confirmed that viewing online lectures from owned computers predicted final marks better although not significantly, than viewing

online lectures in venues such as the LAN. This result, as suggested by Sit et al. (2005), may be due to inadequate facilities that students who do not own their own computers are compelled to use, such as out-of-date computer hardware and software, low bandwidth, and unreliable internet connections as well as possible environmental disruptions than come from using public facilities. Therefore, not all the students' are able to access and or watch the online lectures simply because they do not have the resources available to do so, which subsequently adversely affects those students' final marks.

The schism in student performance echoes what Warschauer (2001, in Callow & Zammit, 2012) refers to as the digital divide although not on the exact same premise. In this case, it is not previous exposure or technological understanding that divides the student body, but rather the difference in student access to the necessary resources that affects performance. It would appear that these findings are in support of much of the previous research regarding the introduction of MOCs in developing countries, where infrastructure in universities is key to effective online learning (Callow & Zammit, 2012; Unwin, et al., 2010).

The final argument made is that previous education and techno-savviness are far less important to implementing a successful online course than having suitable computer facilities and places to work. The finding that previous technological exposure and techno-savviness is contrary to previous findings, for example , Callow and Zammit (2012) suggest that students prepared for computer and internet use at high school were at least 3 years ahead of those students' who were not. One possible reason for results being contrary to those found by Callow and Zammit (2012), is that those students' who were not prepared for internet and computer use and who found the course too difficult, deregistered before any data could be collected from them, thus biasing the sample to students who were more techno-savvy. No record was available of those students who deregistered from the PSYC 223 course and therefore this hypothesis remains unconfirmed.

8. Conclusion

In summary, previous research as well as the findings of this study indicates that most online courses assume that all students will have sufficient internet and computer access, however, in reality, without proper infrastructure and resources, not all students can equitably fulfil online course requirements. This finding is not because students are technologically illiterate or incompetent, but rather that they are required to complete coursework that requires facilities that simply are not adequately available to them. The implementation of online courses in the future is an imminent and promising prospect, which will ultimately allow for greater tertiary enrolment, consistent with the NDP and UKZN strategic plan (2012). However, without the proper facilities, this plan may be ineffectual as it creates inequalities amongst the student body, where only those students who can afford their own computers can satisfactorily complete online course work.

To successfully implement MOCs at UKZN it is recommended that UKZN supply all students enrolled in online courses with tablets, quiet and accessible workstations as well as high speed free wireless internet connection. Also, it is important to allow these students enrolled access to 'youtube' as it is vital to the dissemination of online lectures.

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Social Representations of HIV/AIDS in a Higher Education Business

Management Textbook: A Critical Discourse Analysis.

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Abstract

Empirical studies suggests that social representations of HIV/AIDS are clearly evident in higher education textbooks that present HIV/AIDS as anchoring notions of disease, otherness, death, victimization and culpability. However studies pertaining to the social representations of HIV/AIDS in many social sciences textbooks more specifically Business management textbooks are not so readily available. The main thrust of this article was to unpack the social representations of HIV/AIDS that made up the prescribed 'text'. Using a qualitative framework, this article reports on the findings that emerged from a study using critical discourse analysis (CDA) that drew on the idea of *'Topicalisation'* provided Huckin (1997) as used extensively by McGregor (2003) to debunk the hidden ideological meanings behind the written 'word' presented in the Business management textbook. In effect, the data of this study was in keeping with the literature that reflected HIV/AIDS as a social disease and a social-political concern that was presented to represent the social institutions of society. The recommendations was to create further research into the pedagogical supplementation of the prescribed textbooks to establish if Business management lecturers are critical practitioners in lectures and are not relying extensively on the prescribed textbook as the main legitimate source of pedagogy. Further recommendations were to unpack and expose the hidden perspective and deeper insights in all prescribed textbooks in the commerce modules (Accounting, Business and Economics) at higher education institutions and across all school disciplines. That will ensure that students are empowered and liberalized to reach the ideal of equal and just society in the new democratic dispensation.

Keywords: Business Management; CDA; HIV/AIDS; Higher Education; Textbooks

1. Introduction

A recent study conducted by the United Nations Programme on AIDS (UNAIDS, 2012) reports that South Africa has the biggest HIV-positive population in the world. Empirical research reveals that approximately two and a half million deaths will have occurred from AIDS by the end of 2010 (Horn, 2010). This is said to be accurate as UNAIDS (2012) statistics indicate that 5.7 million out of nearly 48 million South Africans are now living with HIV. Taking into account its prevalence within all nine official provinces, its prevalence in KwaZulu-Natal (KZN) has the highest rate in the country (South African National HIV Survey, 2012). Of great significance is the prevalence between the youth population aged 15–24 years that is still relatively high (26.6%) (Department of

Health [DOH], 2008). Statistics from a higher education institution in South Africa have shown that the age group between 20-24-year olds are to be attending universities and are registered at the undergraduate level. It is therefore imperative to note that students who are dealing with HIV/AIDS are undergraduates who are registered for modules such as "Business Management" that rely extensively on the prescribed Business Management textbook as the main legitimate source of pedagogy.

The context of this study is necessary to understand that the university Business management modules are articulated by means of prescribed textbooks. As the most commonly used pedagogical tool and the vehicle through which the curriculum is delivered, the prescribed Business management textbook has the potential to play a significant part in the implementation of HIV/AIDS education.

Textbook research conducted by Crawford (2003) argued that prescribed textbooks play an important part in any "teaching and learning process" but it further plays a key role in shaping and socializing students. In line with this thinking, Ferguson, Collison, Power, and Stevenson (2009, p. 243) claims that prescribed textbooks also seek to anchor the political and social norms of society that "convey facts, but [they] also spread ideologies. This supports Apple and Christian-Smith's (1995, p. 897) assertion that "it is naïve to deliberate the knowledge conveyed in textbooks as 'neutral' as they claim that the knowledge which is considered most legitimate is often the result of power relations and hegemonic order". Therefore, the context of this study will be looking at one prescribed Business management textbook which will seek to present if text fails to address or problematize the issue of power asymmetry within the context of business management in higher education.

On the basis of the literature consulted and of the concerns of the two researchers, this article was undertaken to unpack the social representations of HIV/AIDS that made up the prescribed 'text' and illustrate how power relations and hegemonic order function within text (McGregor, 2003, p. 17). In effect, this study will look at the content (written words) of the textbook to examine the social representations HIV/AIDS, by paying particular attention to how the content (words) is masked drawing on the tenets of a qualitative framework.

The research approach followed was mainly qualitative because the researches felt that it would provide a description of "exploring and understanding the meaning of individuals or groups to a social or human problem" (Creswell, 2004, p. 4). This means it give us in-depth critical understanding of the phenomenon of the social representations of HIV/AIDS in the prescribed higher education Business management textbook. To this end, this study lends itself to the critical paradigm since it accommodates the theories of 'power' and 'hegemony' (Gramsci, 1971 & Van Dijk, 2008). It is therefore imperative as critical researchers to understand the reality of HIV as shaped by gender, social, political, cultural, economic and other dynamics in the prescribed Business management textbook. In so doing to expose the process of how factors such as power and hegemony play a role in the kind of 'words' that is presented in the prescribed higher education business management textbook (McGregor, 2003, p.12).

Given the above, to address the critical questions of this study, this qualitative methodology drew on the tenets of critical discourse analysis (CDA) specifically the tool of 'Topicalisation' provided Huckin (1997). The reason for this choice of tool assisted the researchers to understand the conditions behind the specific 'words' positioned in the prescribed textbook. In so doing, it assisted the researchers to find out identify the deep, ideological origins of the social representations of HIV/AIDS in the prescribed Business Management textbook (McGregor, 2003). It assisted the researchers debunk the discursive sources of "power and hegemony and how these sources are, reproduced, and transformed within specific social, economic, political, and historical contexts" (Van Dijk, 2008, p.36). In addition it also gave the researchers the opportunity to engage with the text ('words') of the prescribed Business Management textbook which ensured that the HIV/AIDS phenomena in the textbook was thoroughly analysed and understood.

This approach suggested that the prescribed text became more than just words on a page it disclosed how those words are used in a particular social context (Huckin, 1997). Through CDA, the researchers were able to link the text with the underlying power structures in society through discursive practices upon which the text was drawn (Thompson, 2002). The rationale for this sampling of text was informed by the stage at engaging with business concepts and contemporary social issues as becoming active citizens. At this stage they start asking themselves who they are and also start questioning the relevance of the material that is exposed to them in prescribed textbooks. Therefore understanding the social representations of HIV/AIDS in relation to power at this level in the Business management textbook will

reveal the kind of citizenship the government is promoting in the students.

In effect, as researchers, we were cautious to ensure that reporting correctly meant being that every word was checked thoroughly in the prescribed textbook in order to provide a more credible and trustworthy result. This verified in the section which highlights the process followed during data collection. The following paragraphs present the consulted literature which first focused on the representations of HIV/AIDS in KwaZulu-Natal and in the higher education institution. Second, it looked at the theoretical understanding of the social representations of HIV/AIDS around the international and national contexts. In addition, it also looked at the research conducted in the field of psychology and education textbooks paying particular to how and why HIV/AIDS is socially represented in such a way to identify the need for the proposed research.

2. Literature review

HIV/AIDS among students of higher education has caught the attention of many studies (Higher Education South Africa [HESA], 2008; James, 2004). A current study conducted by HESA (2008) argues that HIV prevalence is highest among students at the higher education institution at 16.3% and lowest among academic staff at 1.0%. While the sample sizes used to determine these prevalence rates were small, these rates were not unexpected as HIV prevalence rate in KwaZulu-Natal represents the highest HIV prevalence (39.5%) (DOH, 2008). In 2008/9, the Higher Education AIDS Programme (HEAIDS) conducted a national survey at 21 of the 22 Higher Education Institutions (HEIs) in South Africa. This was to determine the prevalence of HIV infection among staff and students at the higher

education institution under study. Based on the stratified prevalence rates, it was clearly represented that there were about 675 students, 15 academic staff and 240 admin/service staff living with HIV at the higher education institution. It further revealed that HIV /AIDS prevalence slightly higher in women than men (3.1% vs. 2.6%). A trend that was consistent across all higher education institutions around South Africa surveyed (HESA, 2008).

The location of this study was within the Institution of higher education within the sphere of KZN. The higher education institution is one of four African institutions rated among the top 500 universities in the world and is one of the largest universities in sub-Saharan Africa to present (HESA, 2008, p. 20). According to (HESA, 2008) there are about 40 000 students at this university, including international students from more than 70 countries. Like all institutions, workplaces and communities in South Africa, HEIs are affected and impacted upon by HIV and AIDS significantly.

According to James (2004) the extent to which higher education institutions in particular, are able to endure functioning (as part of the essential infrastructure of societies and communities) would influence how well South African societies eventually recover from the epidemic. Higher education institutions educate and train the most sexually active young adults who are most vulnerable to contracting the HIV/AIDS virus due to their risky social and sexual behaviour (James, 2004). Therefore institutions of higher education over the past decade have become increasingly aware of the negative impact of the HIV/AIDS epidemic on their core business areas of teaching and learning, research and community engagement, hence the need to respond forcefully and effectively (James, 2004).

Empirical studies on the social representations of HIV/AIDS

Early work over the decades has revealed that the role of HIV/AIDS have served specific roles of representation as the role of representing social makers in society by engrafting notions of stigmatising, 'othering', subordination and marginalisation (Plummer, 1988). Linguistic representations of AIDS conducted by Horn (2010) showed that amongst the views expressed on this notion, the discourse of AIDS has become inseparably intertwined with many other discourses .For instance, Plummer (1988) draws on three vital discourses operating in the construction of AIDS, one that is explicitly medical and scientific and one that is characterised by social and moral meanings. First, the medical discourse is overlaid by anthologising notions of HIV/AIDS as representing disease. Second, the social or moral implicates the disease as the "notion of intercessions of human frailty and a social disease" (De Waal & Whiteside, 2004, p.13). Third, this followed by the scientific discourse that directly links the disease to a plague or death.

In contrast, Foucault (1973, p. 360) who questioned the political discourse on HIV/AIDS. He maintained that for every era there was an illness that reflects the conditions of that time. Hence, this serves to capture some of the broader social issues and concerns that a 'political role' in constructing dominant meanings of the time. Dorrington, Bradshaw & Budlender (2002) argued that the socio-political strategy in South Africa with respect to HIV/ AIDS was non-existent but was clearly focused on prevention and awareness of which was vital to promoting fewer

infections. However, Leclerc-Madlala (1999) asserted that the government had to go beyond prevention and awareness and not see HIV/AIDS as a social developmental issue but rather as an AIDS-specific issue to tackling the multi-sectorial complexity of the epidemic and its systemic impact.

Textbook studies on HIV/AIDS

Desktop research using the research engines at the higher education institution could not reveal work relating to the social representations of HIV/AIDS in higher education Business Management textbooks. Therefore reflecting on Schoeneman-Morris et al. (2005) psychology textbooks were examined the in light of iconic social representations of HIV/AIDS meanings. The analysis also revealed that AIDS has been presented to represent itself as a disease entity. The analysis further highlighted why individuals depicted in text were overwhelmingly male, white, adult, of unspecified sexual orientation, and undiagnosed with mental disorder (Schoeneman-Morris et al., 2005). The authors thus concluded that abnormal psychology textbooks are used to represent social representations of AIDS as a major source to illustrate and reinforce the anchoring of the disease in concepts such as otherness, death, victimization, and culpability. (Schoeneman-Morris et al., 2005). Therefore, current research has revealed that there is need for this research in South Africa with specific reference to the social representation of HIV/AIDS in higher education social science textbooks more particularly prescribed Business Management textbooks. This gives relevance to our study as its focuses on addressing this research.

3. Methodology: Critical Discourse Analysis (CDA)

According to (Fairclough, 2003, p.2) "discourse refers to articulating oneself using words and maintains ubiquitous ways

of knowing, valuing, and experiencing the world". Therefore the words that we chose to include in my discussion were 'HIV/AIDS/AIDS/HIV', 'positive', 'infections', 'virus' 'epidemic' and 'stigma' has it related directly to the frequency of the key dominant words used in the literature. This assisted the researchers in unpacking the hidden meanings of 'words' in terms of its social representations in the prescribed textbook (McGregor, 2003, p.4). Given the power of the written word, the researchers believed that CDA was necessary for describing, interpreting, analysing, and critiquing social life reflected in text (Luke, 1997). It assisted the researchers to illuminate ways in which the dominant forces in a society construct versions of reality that favour their interests (McGregor, 2003). Therefore, this study purposed to analyse 'words' with a critical lens.

In seeking to accomplish these goals, the researchers identified key concepts of CDA which required further debate and formed the conceptual framework for the study provided by (Huckin, 1997). The study utilised the tool of 'topicalisation' which refers to positioning of a sentence element at the beginning of the sentence so as to give it prominence or foregrounding (Huckin, 1997). However, in this study we used the topicalisation of words as an analytical tool. This assisted the researchers in answering the first question: *How is HIV/AIDS represented in an introductory business management textbook?* In addition the researchers also drew from the constituted concepts of power and hegemony as discussed in the subsequent sections of this article. These concepts assisted the researchers in answering the second question: *Why is HIV/AIDS represented in such a way?* It further aided the researchers in exposing the power and hegemonic relations that go unchallenged

if the text is not critically analysed (McGregor, 2003).

Discourse on power within textbooks

According to Titscher (2000, p. 151) when attempting CDA, "questions of power are of central interest" since power and 'hegemony may have an effect on each of the contextual levels" of production, consumption and understanding of discourse. CDA employs with, analyses and critiques social power and how this is represented and are both explicitly and implicitly in text, particularly, textbooks (Ferguson et al., 2009) According to Van Dijk, (1993, p. 5) "power involves 'control, namely by (members of) one group over (those of) other groups. Ferguson et al. (2009) maintained that in order to understand this power, one needs to understand the role and content of textbooks. The viewpoints of those involved in the production process, in particular, authors, editors and publishers. This confirmed Van Dijk (1993) view that such control may pertain to action and cognition: that is, a powerful group (example the authors, editors and publishers) may limit the freedom of action of others, but also influence their minds. Therefore we believe it was at this crucial point where critical discourse analysis come in managing the mind of others as essentially a function of 'text' (van Dijk, 1993, p.7). If the minds of the dominated can be influenced in such a way that they accept dominance, and act in the interest of the powerful out of their own free will, the term 'hegemony' is used (Gramsci, 1971).

Discourse of hegemony within textbooks

According to Gramsci (1971, p.50) 'hegemony' may be described as the process in which a ruling class encourages all other classes to accept its rule and their subordination. Moreover, hegemony is "a condition in which the governed accept or acquiesce in authority without the need for the application of force (Ferguson et al. 2009, p. 247). According to Ferguson et al. (2009, p.247) 'hegemony' is central to the majority of studies outlined in the preceding review of the extant literature on textbooks. Ferguson et al. (2009) further highlighted that a number of significant themes concerning unequal relations of power and the production/reproduction of meaning in the service of power. According to Crawford, (2003, p. 5) textbooks are crucial in the process of 'constructing legitimated ideologies and beliefs in a particular culture, where certain meanings and practices are selected for emphasis and certain other meanings and practices are neglected or excluded. Therefore this formed the basis of this study by aiding the researchers in analysing and interrogating the practices of meanings presented the prescribed textbook.

Ethical considerations

This study was about textbooks, which were open to public scrutiny not real people who are subject to the dangers of exploitation. Cohen, Manion and Morrison (2007) highlighted that researchers in our position should not fabricate or falsify data in any way. The source of the data which was the prescribed textbook, were readily available and are already in the public domain. However all ethical considerations of the higher education institution regarding this kind of research was observed.

Data analysis from critical discourse analysis

This study examined 'words' that make up the prescribed text and those which were relevant to illustrate how power relations

hegemonic order function within text and how these are represented in the text. To do this, the study drew on the tools presented by Huckin (1997). The tools to be used in the analytical process for this study included the tool called 'topicalisation' (Huckin, 1997, p.12).

The first step to analysed the text was as a "whole", that means checking out what sort of perspective was being presented-what angle, slant or point of view (Huckin, 1997, p. 17). McGregor (2003, p. 4) commended that analysing the text as a whole, is a useful entry point into critical discourse analysis because, "this is usually where textual manipulations have their most powerful effect". First this consisted of approaching the prescribed textbook in an 'uncritical manner', like the manner in which one would read a novel or as Huckin (1997, p.25) points out like an 'ordinary undiscerning reader'. Second, the prescribed textbook had to be approached in a 'critical manner' by placing the text in its in genre which in this study is a textbook (McGregor, 2003, p. 12). Third, to identify the selected 'words', namely HIV/AIDS/AIDS/HIV', 'positive', 'infections', 'virus' 'epidemic' and 'stigma' the researchers used a Microsoft excel (2010) spread sheet. This meant that each page (including the cover) of the prescribed textbook were analysed and marked against the spread sheet. This assisted the researchers in identifying the above words on each page that ensured a trustworthy and reliable result. Therefore the researchers equally used the topicalisation of 'words' of which was linked back to the concepts of power and hegemony and the social representations of HIV/ AIDS to provide meaning to the data.

4. Results and discussion
Drawing from the methodology and literature review of this study, this section provided a view of the qualitative findings obtained from the prescribed Business Management textbook followed by a discussion. We began the analysis using the tool provided by Huckin (1997) named as 'Topicalisation' pertaining to 'words' as subheadings to present the emerged data. In the process of reporting the emerged data we responded to the how and why questions as indicated below. In particular to the subheading mentioned below, we have trailed the following process of manually observing and recording the positioning of the selected 'words' in the prescribed textbook using the Microsoft excel (2010) spread sheet. Therefore within this framework we answered the following critical questions:

- How is HIV/AIDS represented in a prescribed introductory Business Management textbook?
- Why is HIV/AIDS represented in such a way?

Topicalisation
Topicalisation is the positioning of a word element at the beginning of a sentence so as to give it prominence or foregrounding (Huckin, 1997). When answering the how question in relation to the selected 'words' namely, 'HIV/AIDS/AIDS/HIV', 'positive' 'epidemic' 'infections' 'Virus' and 'Stigma'. The results revealed that out of five hundred and ninety one (591) pages, including cover, preference, and content-index, the words 'HIV/AIDS/AIDS/HIV appeared 23 times, 'Infections' appeared 1 time, 'Epidemic' 1 time, 'Positive' 2 times. However, the rest of the selected words such as 'Stigma' and 'Virus' did not appear at all as main headings or subheadings. The section in the prescribed textbook which was limited to one chapter within text and in particular two pages was chapter four entitled "The social environment" (Page 128). The perspective created here was that HIV/AIDS was a social problem that has a

ripple effect. This ripple effect of HIV/AIDS was well documented by the early work of Plummer (1988) who concurred that the social representation of HIV/AIDS are grafted within problematic implications such as, stigmatizing and 'othering'. This later confirmed De Waal & Whiteside (2004) claims that such implications reinforced the "notion of intercessions of human frailty and a social disease" (p. 24).

Furthermore, out of 166 words positioned within the paragraph in which HIV/AIDS was extensively used, the words 'HIV/AIDS/AIDS/HIV' appeared 22 times, 'infections' appeared 1 time, 'positive' appeared 1 time and 'epidemic' appeared 1 time. In relation to the positioning of words, the word HIV/AIDS/AIDS/HIV does not appear 22 times as topics, but appeared to be capitalized and displayed similar font sizes. Given the fact that the word 'HIV/AIDS/AIDS/HIV' appeared 22 times in the social environment the author's influenced the reader's understanding that HIV is extensive and it was a social problem (De Waal & Whiteside, 2004).

However this disputed Foucault (1973) claim that such social diseases captured some of the broader social issues and concerns, and play a 'political role' in constructing dominant meanings of time. However in the literature the reflection of the political role of the South African national government regarding HIV/AIDS was non-existent but with a direct focus on prevention and awareness a key approach to reduce infections (Dorrington et al., 2009). However, Leclerc-Madlala, (1999) asserted that going beyond prevention and awareness was essentially critical as a social developmental issue rather than an AIDS-specific to tackling the multi-sectorial complexity of the epidemic and its systemic impact. Therefore in relation to the issue of positioning of HIV/AIDS within the prescribed textbook, the findings revealed that the positioning of words relating to HIV/AIDS is a socio- political issue.

5. Recommendations
The authors recommend that studies of this nature should move onto using Huckin (1997) framework of CDA as adopted by McGregor (2003) on more minute levels of analysis. Examples of which are sentences and phrases to debunk larger systemic issues of class, gender, age, religion, and culture which seem petty or non-existent. To reveal the 'truth behind the regime' the profound insidious, invisible and power of the written and spoken words (McGregor, 2003, p.8).

Second, despite all the ideological changes done to the prescribed textbook since 1994, lecturers should not heavily rely on the prescribed textbook as the main legitimate source of pedagogy. But rather select additional readings as part of critical discussions in lectures that could expose the hidden perspective and deeper insights of whose interest is being served.

Third, since this study was merely limited to analysing one prescribed textbook. We recommend that studies should look at all prescribed textbooks in the commerce modules (Accounting, Business and Economic Education) at higher education institutions and across all school disciplines. Instead of internalizing existing hierarchical social relations/practices and justifying asymmetrical power relations within the prescribed textbooks. This will ensure that students are empowered and liberalized to reach the ideal of just and equal society. Last, the method of the analysis should not be confined to just one tool and method only, but rather be carried

out in various institutional settings or on various social, political and critical issues by paying attention to the details of what social members actually say and do (Van Dijk, 1999).

6. Conclusion

This study has illustrated that there is a method that can be applied to debunk the hidden ideological meanings behind the written 'word' (McGregor, 2003, p.7). We believe CDA was central in unfolding, understanding, analysing, and critiquing social life reflected in text. In which the dominant forces of a society construct versions of reality that favour their interests (McGregor, 2003 & Luke, 1997). It was clear through the analysis that the prescribed textbook failed to address the issue of power asymmetry within the discourse of business management in higher education. The data emerged supported this claim by revealing that specific knowledge and values in the prescribed textbook are created within social and political processes that make up the texture of the prescribed textbook (Apple, 1995). In light of the social representations of HIV/AIDS, it further showed how 'words' that make up the prescribed text illustrate power relations and hegemonic order portrayed in the text (McGregor, 2003). By drawing on the model and concepts of 'power' and 'hegemony' by Huckin (1997) and McGregor (2003) the researchers were able to interrogate the power and hegemonic relations between the authors and readers position. This was exposed by the authors' authoritative influence over the readers mind to believe the presentation of facts and beliefs pertaining to HIV/AIDS as a social disease and a socio-political issue as legitimate and true.

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Towards a socially responsible Technology education: A case study of a Technology Teacher Education programme

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Abstract

The paper reports on a case study of a socially responsible technology education course which enables students to interact with their communities during their assessment by engaging in service learning. The paper advances the rationale that adopting the pedagogy of service learning in technology education can play a critical role in promoting sustainable development and improving the capacity of the people to address environment and development issues, whilst promoting academic learning as well. It is envisaged that these EDTE 220 Students will not only be competent in the content of the module but will also be disciplined in attitudes, values and behaviours that allow them to participate as critical citizens in society. Consequently whilst developing their knowledge and skills pertaining to EDTE 220, students will be able to reflect on their roles as educators in a broader community and as agents of change in that community. A case study was applied in the EDTE 220 module- plastic section, using education for sustainable development (ESD) as a concept to define some of the content and assessments. The purpose of this study is to explore EDTE 220 students' perception, attitudes and behaviour towards service learning and sustainable development. The research used a qualitative approach. In the first part of this study students engage in participatory action research (PAR) activities in their communities that contributed to communities living more sustainable lives and in the second part the students answered a questionnaire. By utilizing PAR approach the opportunity arises to promote critical citizenship and social responsibility through technology learning. The results of the study indicate that EDTE 220 students show positive attitudes towards service learning and ESD in Technology education. However, their knowledge is vaguely informed in the theoretical sense therefore the implications are a more thorough examination of EDS in technology education is needed.

Keywords: attitude, service learning, socially responsible, sustainable development.

1. Introduction

As a result of greater pressure on higher education institutions to be involved in community engagements and the white paper on education and training (DoE, 1995, p. 35) supporting the idea that education should "create environmentally literate citizens and ensure that all South Africans enjoy a decent quality of life through the sustainable use of resources" the opportunity arose to fuse an existing innovative pedagogical approach, service learning and Education for Sustainable development (ESD) in a manner that responds to the desired learning outcomes

related to the plastics section of the EDTE 220 module. This means that service learning was employed as a heuristic model by which to educate and engage students with respect to sustainability within technology education. Service Learning is defined as teaching, research, and service that are both in and with the community, implying that values of reciprocity and mutual benefit are fundamental aspects of service learning (Bringle, Hatcher, & Holland, 2011).

Within the South African context, the Joint Education Trust (2006), reinforces this definition by stating that service learning is a "thoughtfully organised and reflective service-oriented pedagogy focused on the development priorities of communities through the interaction between and application of knowledge, skills and experience in partnership between community, academics, students, and service providers within the community for the benefit of all participants" (p. 4). This means that service-learning is not haphazard teaching but rather a structured learning experience with explicit outcomes and assessments that combines community service with preparation and reflection. Service learning provides college and university students with a "community context" to their education, allowing them to connect their academic coursework to their roles as citizens. Castle & Osman (2003) consider service learning as both a philosophical approach to education and as a pedagogical tool. This means that engaging students in service learning contributes to both the development of students' discipline concepts as well as their understanding of social issues in their communities. Service learning represents a paradigm shift in higher education because it heightens the role that students and communities can assume, as constructors

of knowledge (Gibbons, 2005). Studies on, student engagement in service learning, report that students showed positive attitudes and values and a better understanding of social issues (Stears & James 2011). Therefore it is envisaged that by engaging pre –service technology education teachers in service learning these graduates will have added values if they are not only technically competent but are also disciplined in attitudes, values and behaviors that allow them to participate as critical citizens in our democracy.

As a result whilst developing their knowledge and skills pertaining to technology education, students will be able to reflect on their roles as educators in a broader community and as agents of change in that community while engaging in service learning. The central focus of ESD is to prepare our younger generation to become responsible citizens of the future (UNCED, 1992) therefore pre-service teachers should learn how to take responsibility for both themselves and their society for today and in the future, (Mogensen & Schnack, 2010). It is in this regard that education for sustainable development (ESD) is seen as a vehicle to bring about social transformation as well as address issues of social justice and social responsibility.

UNCED, (1992) maintains that education is critical for promoting sustainable development and improving the capacity of the people in order to address environment and development issues. In addition the intermediated phase CAPS Science and Technology policy (DoE, 2012) foregrounds social transformation and social justice via ESD. Therefore technology teacher education programmes should respond to the challenge of educating pre-service teachers to teach technology

education in a way that is socially responsible and in doing so educate learners to use their technological knowledge to become socially responsible citizens. Research by Kriek and Basson (2008) has shown how important the knowledge, beliefs and attitudes of pre-service teachers are when it comes to reforms in education. These scholars maintain that knowledge, beliefs and attitudes can act as filters through which new knowledge and experiences are screened for meaning. Furthermore these scholars argue that attitudes and believes also affect how knowledge and intentions are operationalised in class. In support Mogensen & Schnack (2010) contend that teachers will only produce students who are environmentally literate, if they themselves are knowledgeable and have positive attitudes towards the environment. This research therefore seeks to address the following research questions:

What are EDTE220 students attitude towards service learning?

What are EDTE 220 Students understanding and perception of and attitude to sustainable development?

How do their understanding and perception of SD compare to the literature?

2. Literature Review

The word sustainability was first applied to forestry practice in Germany in the 1840 and was brought to the United States by Gifford Pinchot and others (Freyfogel, 2006). Historically the term sustainable was associated to the use of natural resources. Currently one of the most widely used definitions of sustainable development is that proposed by World Commission on Environment and Development (WCED): *"Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs"* (WCED, 1987, p.2). Even though the term

sustainable development is used widely by, educators, economists and politicians, it is often interpreted differently by different interest groups (Scott & Gough, 2003). In this regard, Oskamp, (2002) argues that WCED, definition of sustainability is too basic.

The term sustainability has evolved to include 3 pillars namely, environmental, economic and societal (Schmuck & Schultz, 2002; Newport et al., 2003, Kelly 2009). The three pillar model of sustainability does not attribute priority to any of the pillars. Oskamp (2002) has argued that too much emphasis has been placed on environmental issues while Freyfogle, (2006) believe certain definitions are too anthropocentric. Thaman (2002) reasoned that a cultural element should be considered. She found that many definitions are based on western values and fail to incorporate the meanings and ways of knowing of indigenous people. Put simply this means, one needs to consider the environmental impact and functioning while factoring social justice and generational aspects, as well as economic feasibility when thinking about sustainability (Oskamp, 2002). In support Gough (2002, p. 29) argues that 'we cannot hope to separate our understanding of the environment from our social and economic interactions with it'. This emphasis on the bringing together of environmental, economic and social factors has informed the ways in which the data collected in this study was analysed.

3. Conceptual Framework

As sustainability is a broad and complex term, the definitions that students put forth will be based on their perceptions of the term and their relationship with nature. This means that perceptions act as the underlying cause for decisions and behaviours. It is therefore crucial to

examine first the role perceptions play on the defining and understanding of the concept and second the Human – Nature relationships. According to Dietz and Stern (1994) Human – Nature relationships comprise of three types of connection, these connections could be egoistic with value placed on oneself, altruistic with values placed on others, or biospheric with value placed on nature. In each case, proenvironmental attitudes may occur, however the reason for those beliefs may differ. Schultz (2002) expanded on this work postulating that every person holds some egoistic reason for proenvironmental behavior, as caring for the environment will ultimately benefit humans.

However, he recognized that the type of attitudes will be determined by level of perceived connection to nature. Schultz (2002) proposed that the human-nature relationship is not a simple dichotomy, but that connectedness to nature is better represented as a continuum of overlap between nature and self. Schultz (2002) determined that there is a direct relationship between how connected someone feels with nature and their level of environmental concern and created the Inclusion of Nature in Self (INS) scale to understand this phenomenon. Viewing oneself as a part of or separate from nature is influenced by one's perceived value of the environment. The human-nature relationship will be related to participants' perceptions of sustainability.

4. Methodology

This paper reports on a qualitative analysis of a questionnaire administered to students in the EDTE 220 course who were subjects of the action research programme. Written permission was obtained from the universities ethics committee and relevant personnel to conduct research, within the Technology education cluster. Data was collected in two phases. The paper reports on phase two of the research. In phase one students engaged in participatory action research activities in their communities to identify problem relating to sustainability and jointly find solutions that contributed to communities living more sustainable lives and in the second part the students answered a questionnaire.

The questionnaire was developed by the university researchers after consultation of the literature. The questionnaire was piloted with a group of volunteer students in order to refine it. The questionnaire included a section requiring biographical data as well as open ended and quantitative data-generating responses. The technical assistant of the EDTE 220 course read the project brief to the students during their practical sessions. The lecturer of the module encouraged students to complete the questionnaire on a voluntary basis. One hundred and eighty EDTE220 students completed the questionnaire. The response rate was 82%. Grounded analysis was used within the keyword dataset, to identify the ideas and phrases used by the participants in order to develop categories within the three pillars of sustainability (environment, society, and economics) and gain a general understanding of the ideas and actions participants were linking to sustainability. For the definition and attitudes data, content analysis was performed and central themes and ideas within the datasets were extracted to determine common as well as unique perceptions, attitudes, and definitions of sustainability.

5. Findings and discussion
Biographical data
Sixty seven percent of respondent students were female and 33% were male. The age

analysis showed that 55% of the respondent were between the age group 20-24, 45% of the respondents were between the age group 25 to 29 and 0 % of the respondents were over 30 years. Forty six percent indicated they lived at the university residence while 54% lived at home and travelled to university. Furthermore, 55% indicated their home were in suburbs, 25% came from a large city area and 20 % from rural area.

Service learning
The majority of the student (96%) enjoyed interacting with their communities while engaging in service learning. These students projected a positive attitude towards service learning. They prefer service learning as a teaching strategy as it took them outside the lecture room, was not boring, allowed them to bring about change in their community, made them more aware of sustainability and issues of sustainable development, allowed for the application of the theory from the lecture room into the community and allowed them to identify problem relating to sustainability in their environment that they would have ignored under "normal" circumstances. They reasoned that service learning facilitated the learning of the content of the module, claimed that engaging in service learning contributed to obtaining better marks in assessment, provided them the opportunity to be agents of change in their communities, made them more aware of their civic responsibility towards their community, allowed them to forge ties with their communities and bring about change , promoted team work and helped to improve/encourage communication with class mates that they would ignore in a "normal lecture".

Some students used the adage "if I see and do it I remember it". Four percent of the students portrayed a negative attitude towards service learning. It is interesting to note that these 4% of the students were females between the ages of 20-24 and came from a city but lived in residence. These students maintained they did not enjoy service learning as they did not enjoy community work, found the project messy and dirty, time consuming, too much of an effort, they preferred to have their knowledge applied to a case study in a lecture room. Incidentally these students did not see themselves as belonging to or "rooted" in any community. Furthermore they did not feel they had a civic responsibility to their communities, they did not see themselves as agents of change and they did not enjoy team work. They felt that engaging in service learning did not enhance the learning of the content for the module, nor did it improve their marks in assessments. The findings allude to service learning having implications for improving pedagogy, shaping the scholarship of teaching and learning and contributing to the civic and personal growth of students.

Familiarity and awareness of sustainable development and sustainability
It is interesting to note, none of the EDTE220 students were not familiar with the term sustainability. Sixty seven percent were very familiar with the term sustainability and 33% were quite familiar with the term sustainability. With regard to sustainable development 56 % of respondent indicated they were very familiar with the term while familiar with the term sustainable development.
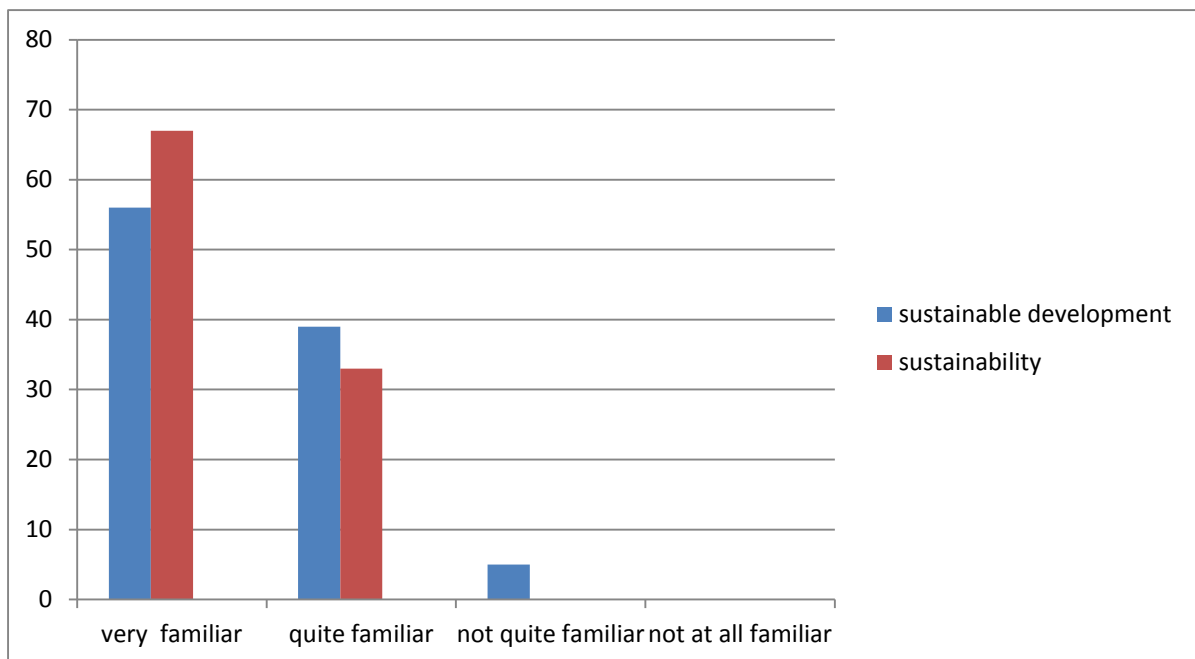
Figure 1: Graph showing familiarity with the term sustainable development and sustainability

Keywords associated with the term sustainability

Respondents (86%) most often mentioned a specific environmental issue, some type of action connected to sustainability, a reference to some aspect of the physical environment, as well as the existence of a temporal factor within sustainability. Within environmental issues, the most mentioned categories included energy, fossil fuels, recycling, and global warming. Even though energy is commonly an area where sustainable principles have been applied, a few of the keyword suggested energy to be the only issue sustainability was meant to address. The most common action suggested was sustaining/ maintaining, reducing, renewing, and conserving. The most common temporal category was mention of the future. Human-related factors mentioned within the keywords dataset included standard of living, population, human needs, as well as innovation and education. Fewer respondents (9%) mentioned environmentalism, being green, and

responsibility. Even fewer (5%) mentioned larger conceptual elements such as processes and impacts.

Definitions

Definitions were categorized as environmental, societal, and/or economical. Environmental responses made up 78% of the responses and include example like global warming, energy, recycling, reusing, pollution, resources, going green and ecosystems. Some examples of the definitions are provided below:

> *"Sustainability is taking care of the environment and using non-renewable resources like coal wisely"*
> *"Sustainability is about recycling plastics, so that less coal is used"*

The definitions relating to the environment were further categorised as addressing resources or support human (egoistic) and those that refer to the environment beyond human centred needs (biospheric). A closer examination of definition espousing the

idea of human support includes human needs, future generation needs, and maintaining resources. It is worth noting that the language used did not represent any underlying value to protecting or conserving the environment as can be seen in the excerpt below:

> "Sustainability is the wise use of resources to meet our needs and the needs of future generations"

Definitions that centered on the environment beyond human needs used language showing support or caring for the environment and its resources as reflected in the excerpt below:

> "Sustainability is looking after the earth, using natural resources wisely, reducing our carbon footprint by going green so that our children and grandchildren will live in a better world"

Societal definition of sustainability made up 22% of the responses and included reference to people, humans, or elements related to people such as generations, or lifestyles. An interesting finding is that the third component of sustainability, economics, was not referred to by the respondents. This particular finding is considered to be antithetical to the goals of technology literacy as sustainable practice needs to be financially viable and generate profit for it to be workable. However, this concept seemed to be lost to most students. The definition and keyword datasets reveals that the respondents comprehend the concept of sustainability in light of environmental and societal factors. They do not envisage or embrace the social justice elements that have been associated with sustainability. Therefore, more instruction is needed to move definitions and perceptions beyond a limited view of the lifestyles and "needs."

In the definition section 47% of the respondents identified natural resources and the natural environment as a context for sustainability while 11% espoused a biospheric viewpoint and recognized the need to maintain or conserve resources, or mentioned protecting the environment. For 42% of the respondents, an egoistic viewpoint emerged in their definitions. In these cases, sustainable practice was viewed to produce these outcomes for the pure benefit of humans. Reference to other elements, as suggested by the literature, such as politics and culture, was also limited. These findings allude to the areas where students could be educated beyond the societal and environmental factors to broaden their understanding of sustainability.

Attitudes towards sustainability

In this section attitudes were coded into one of five categories based on their level of support for sustainability. These categories ranged from enthusiastically do not support to enthusiastically support. Seventy-two percent of respondents supported and 25% enthusiastically supported sustainability while 3% did not support sustainability. Within those who supported sustainability, different levels of importance were revealed with descriptors such as interested, aware, needed, important, extremely important, and most urgent. Examples of responses included,

> "I always do my best to conserve resources for the future; I think sustainability is very important"
> "It is something we have to and must consider if humans are to thrive in the future."

About 3% of the respondents used language indicating they were either neutral or did not support sustainability. Examples included:

> "I am not motivated enough to do something substantial about it."

"I know that in my lifetime the world would not come to an end and I will not see the worst consequences of our current lifestyle."

Responses that stated "I try" were given an additional coding. These responses indicated that students were trying to become sustainable and were performing activities like recycling, not littering and conserving water /electricity, using public transport/car pools and walking. In addition to showing a level of support, many students included a reason why sustainability was not occurring, for example

"It was difficult to remember and practice all the time"

"I alone cannot make a difference to such a large problem; the government needs to be more accountable about sustainability by providing better services".

Three general attitudes towards sustainability emerged from the data, one of support for the concept, one of support but with a reason for not personally performing and one of limited support. What comes to the fore from the data is that a positive attitude prevails in respect of sustainability but behaviour does not always follow. There is a disjuncture between attitudes and behaviour. 72% of respondents, although supportive of sustainability, included a reason or rationalisation for lack of behaviour

Students were asked to consider which sustainability projects they would most like to see implemented on campus. 64% of the students, supported development of

renewable energy sources for campus, Recycling activities follow close behind at 35% , which reveals the importance that is still placed on recycling as a major proenvironmental behaviour, and 1% of the students did not want to be involved in any project as projects on sustainability was hard work and too time consuming. It is worth noting that yet again the perceived importance of energy issues surfaces when students consider projects they would like to implement on campus. This finding begs the question: Does a misconception exist by drawing too much focus on energy, possibly because of its current status in South Africa, the shortage of coal, experiences of power outages, and the increasingly price of electricity and petrol or are students beginning to understand the increasing role energy plays in creating a sustainable world?

6. Conclusion
Service learning allows for practical application of theory to tasks that have real consequences in the world students inhabit. It affords students the opportunity to process information in context, from different perspectives. This means that service learning engages students beyond mere intellectual development- it allows students to know (understand), feel (make meaning) and do (apply their skill) as contributing members in society. The data supports the argument put forth in this paper that service learning can play a critical role in promoting sustainable development whilst improving the capacity of the people to address environment and development issues as well as promoting academic learning.

7. Recommendation
Explicit instruction is needed in the EDTE 220 module to move definitions and perceptions on sustainability beyond a limited view of the lifestyles, energy and needs, In order to embrace all three pillars (environmental, economic and societal) of sustainability. Service learning should

be used as a pedagogical tool to enhance learning as well as civic responsibility in pre- service teachers.

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Students' learning experiences in Second Year Augmented Economics

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Abstract

This study investigated the students' learning experiences in second year Augmented Economics tutorials offered in the academic development programme of the extended Bachelor of Commerce degree. The causal relationship between the learning environment at a higher education institution, the student learning approaches and the students' performance outcomes was explored. Biggs' 3P theory of students' approaches to learning was used to explain the interrelationship between the presage, process and product variables. The Course Experience Questionnaire was used to gather data. The study found strong positive linear correlations between some of the institutional and student factors and academic performance. Significant gender difference in the deep learning approach was also found. Also, the students perceived the augmented economics modules as positively empowering them with generic skills.

Keywords: assessment, augmented economics, learning approach, learning experiences, learning outcomes.

1. Introduction

The second year augmented economics modules are offered as part of the academic development (AD) initiative in the management studies access programme. Since the programme's implementation in 2004, there has not been an evaluation of its effectiveness despite the substantial resources that are allocated to this initiative to support students from poorly resourced schools. This study investigates the link between "teaching inputs and learning outputs" (Shanahan & Meyer, 2001) from the students' point of view. There are no conclusive findings about the interrelationships between the factors that affect students' learning and academic performance, and whether these factors are different between the students' and the lecturers' perspectives (Kyndt & Cascallar, 2011; Hamilton & Singwhat, 2013).

Whilst the interest in these phenomena has been growing in such countries as Australia and a number of European countries (Ramsden, 1991; Biggs, Kember, & Leung, 2001 and Lyon & Hendry, 2002), there has been very limited interest in South Africa (Horn & Jansen, 2008; Horn & Jansen, 2009; Parker, 2006; Smith & Edward, 2007 and Smith & Ranchhod, 2012). This is surprising when considered against the South African context of low throughput rates, low gross participation rates, the high drop-out rates and the shortage of critical skills (CHE, 2007; DoE, 1997; CHE, 2012 and Erasmus & Breier, 2009).

Hence this study aims to investigate three research questions, namely:
What institutional factors affected the students' learning experiences in second year augmented economics?

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How did the students experience learning in second year augmented economics?

What was the relationship between students' learning experiences and the learning outcomes in second year augmented economics?

2. Literature review

Research in students' learning experiences shows a number of approaches by which these experiences are measured and assessed. The studies use the quantitative, qualitative or mixed-approach methods depending on the paradigm, the theoretical and conceptual frameworks being adopted (Cavana, Delahaye & Sekerat, 2001; Neuman, 2011 and Cohen, Manion, & Morrison, 2009).
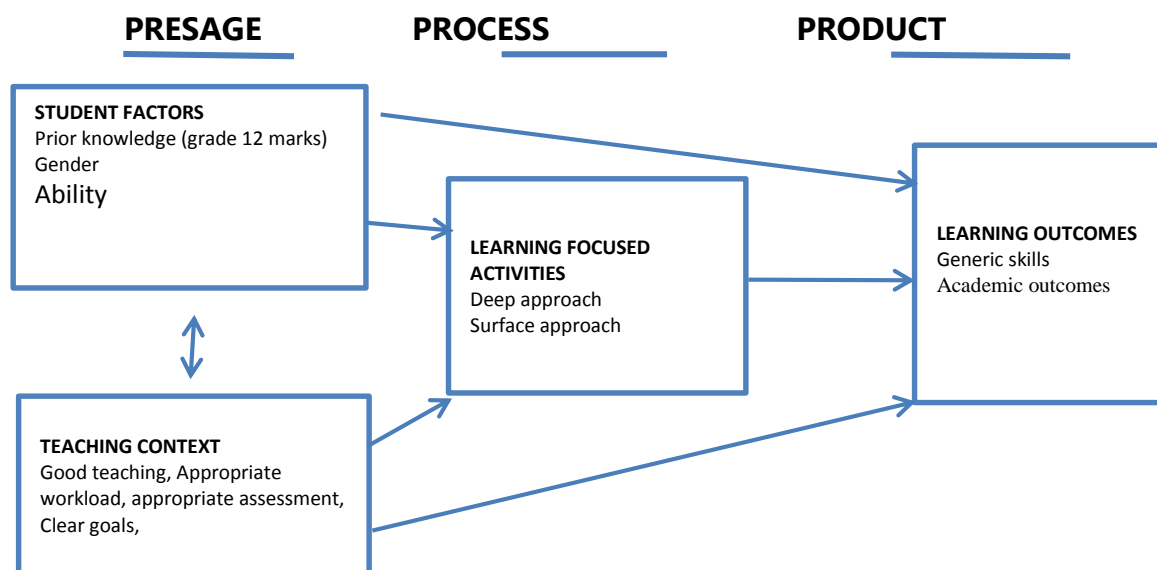
The literature on students' learning experiences is dominated by studies of course experience (Ramsden, 1991 and Ramsden, 2003). The second dominant area of research on students' learning experiences is that of student approaches to learning (SAL) pioneered by Marton and Saljo (1976) and further refined and advanced by Biggs (Biggs, 1991 and Biggs, *et al,* 2001). Other researchers have also used the SAL to explain students' learning experiences (Lyon & Hendry, 2002; Vermunt, 2005; Diseth, 2007; Tural & Akdewiz, 2008; Law & Meyer, 2011 and Dolmas, Wolfhagen, & Ginns, 2010). However, there have been contradictory findings by these researchers on students' approaches to learning and on the factors that affect students' decision on the approaches chosen. The course experience proponents focus on institutional factors as explanatory variables for students' learning experiences. The theoretical justification for this approach is that institutional factors have more impact on the learning and teaching processes (Ramsden, 1991 and Trigwell & Prosser, 1991). For example, in a qualitative research on the relationship between teaching approaches and academic outcomes, researchers Trigwell, Prosser and Waterhouse (1997) found that students' approaches to their learning were heavily influenced by their lecturers' approaches to teaching.

These processes in turn, impacted on the students' resultant learning outcomes, as observed by Hamilton and Singwhat (2013) in their study of the impact of blended teaching on the student performance. In this paradigm, major emphasis is placed on such institutional factors as the quality of the academics, among others (Kember & Leung, 1998; McCullough, 2008 and Frick, Chadha, Watson, & Zlatkovska, 2010). However, the main shortcoming of this approach is the removal of the student from the centre of the inquiry. Whereas CHE (2004) argued that "student learning is arguably the core business of the higher education (HE) endeavour, and students are key participants in the learning process" (p.59), student factors are not treated in the same way as the institutional factors. This study addresses this shortcoming by incorporating student-specific factors in determining how these factors affect students' learning experiences in second year augmented economics.

3. Theoretical and conceptual framework

To explore the institutional factors that affect students' learning; and the relationship between the students' learning experiences and their learning outcomes this study uses John Biggs' (1987) students' learning theory, the 3P model. Biggs' 3P model postulates that there is a direct and causal link between the students' performances and the three variables of presage, process and product (3Ps) as shown in Figure 1.

PRESAGE   PROCESS   PRODUCT

STUDENT FACTORS
Prior knowledge (grade 12 marks)
Gender
Ability

LEARNING FOCUSED ACTIVITIES
Deep approach
Surface approach

LEARNING OUTCOMES
Generic skills
Academic outcomes

TEACHING CONTEXT
Good teaching, Appropriate workload, appropriate assessment, Clear goals,

Figure 1:   Biggs' 3P Model of student approaches to learning

According to the 3P model, the presage variables are separated into student characteristics and institutional factors. The students' characteristics consist of gender and prior academic performance. On the other hand, the teaching infrastructure such as the faculty, assessment, the curriculum design, development and delivery are institutional factors over which the students have no control. However, together the student characteristics and the institutional factors affect the students' choices of learning strategies. The strategy that students adopt in their learning is either a deep or a surface approach. The main focus of SAL is on students' strategies, their motives for learning and the factors that affect that strategy and motive (Duff, 2004 and Phan & Deo 2007).

These phenomena are determined by establishing:

1. The approach students adopt or choose when faced with a learning task;
2. The rationale for learning: whether to succeed in an assessment, increase

knowledge or to acquire a specific skill needed to execute a task.

The approaches to learning are the processes through which students engage with their learning (Marton & Säljo, 1976; Trigwell, *et al*, 1997, Biggs, 1991; Biggs, *et al,* 2001 and Duff, 2004). To explain the constructs of SAL researchers (Biggs, 1987; Ramsden, 1991; Biggs & Tang, 2007 and Entwistle & Tait, 1990) have identified three dominant constructs, namely:

(i)   Deep learning;
(ii) Surface learning;
(iii) The strategic learning.

The deep learning approach is characterized by the students' search for meaning and understanding of the concepts and material being learned. Goel (2009) argues that "deep learning requires learners to create integrated, coherent and trans-contextually transferrable meaning at deeper contextual and revelational levels" (p.280).

Biggs (2001) and Entwistle, McCune and Walker (2001), Ramsden, (2003), Goel (2009) and Kyndt *et al* (2011) characterise surface approach as learning that is:

1. Superficial;
2. Incoherent;
3. Disjointed in its meaning of learning and material being learned and;
4. Emphasising the outcome rather than the learning.

Surface learners thus tend to reproduce learned material while strategic learners focus on the best way of achieving the outcome at the least cost. However, the focus of this paper is the deep and surface learning approaches.

The last component of the 3P model, the product, relates to both the academic and non-academic outcomes of the learning process. The preceding discussion shows that all these three components of the 3P model are interlinked through causal relationships. Hence the choice of this model which is aligned with the methodology used in this study, as presented in the next section.

4. Methodology

A judgement sampling (Cavana *et al*, (2001) approach was used in selecting participants to this study. The students registered for second year Augmented Economics were best placed to provide the required information for this study. These students had been at the university for at least three semesters. As such, the assumption is that these students have a good understanding of the university teaching and learning system and processes (Eley, 1992) as opposed to first year students who would be grappling with transition from high school to university learning system.

The participants comprised of 14 (38%) males and 23 (62%) females. Their ages

ranged from 19 to 25 years. The grade 12 aggregate point scores (APS) ranged from 26 to 36 points. This APS range is lower than that of the mainstream students, which is 31 to 42. The demographic and biographical data was obtained from university records.

The augmented economics modules are offered to students in the management studies access programme as AD. The modules are heavily scaffolded and are additional to the mainstream modules. However, access students undergo the same assessment as the mainstream students but their examinations are coded differently for monitoring and reporting purposes (Zikhali & Bokana, 2012).

The Course Experience Questionnaire (CEQ) instrument is an adaptation of Ramsden's (1991) CEQ and Entwistle, Tait and McCune's (2000) Approaches and Study Skills Inventory for Students (ASSIST) and they comply with Biggs' 3P model. A variant of the CEQ has been used in South Africa (Watkins and Mboya, 1997) to test its validity on Black South African students. In this study, the questionnaire used was adapted from Ramsden's (1991) CEQ, with wording amended and adjusted for relevance to the current study and context. The questionnaire with 26 items was distributed to 70 students (57%) who volunteered to participate. The questionnaire was used to solicit students' experiences of their individual and institutional factors, their approaches to learning, and how these presage and process variables affected their learning outcomes (product). A Likert scale ranging from 1 to 5, with 1 being the least agreeable and 5 being the most agreeable with was used to rate the responses. Response rate was 40 (53%) with 3 (7.5%) incomplete responses that were excluded from the study.

Data was analysed using SPSS version 19 statistical software.

5. Ethical issues

Ethical clearance received from the institutions' Ethics Committee. Students signed a consent form prior to participation in the study.

6. Findings

Table 1:   Pearson correlational scores on presage variables

	Good Teaching	Appropriate Assessment	Clear Goals	Appropriate Workload	Grade 12 Marks	Age
Good Teaching	-					
Appropriate Assessment	0.79	-				
Clear Goals	0.538	0.104	-			
Appropriate Workload	0.459	0.480	0.402	-		
Grade 12 Marks	0.720	-0.190	0.061	-0.074	-	
Age	-0.02	0.078	0.048	0.031	-	-

Table 1 shows that Pearson correlation scores between the institutional and personal variables varied from -0.074 (no linear correlation) between appropriate workload and grade 12 results to 0.79 (strong linear positive correlation) between good teaching and appropriate assessment. A strong positive linear correlation of 0.72 was also recorded between grade 12 results and good teaching. With the exception of age, good teaching generally had positive linear correlation with the other two institutional variables: clear goals (0.54) and appropriate workload (0.46). Grade 12 marks had very weak and negative correlation with the other two institutional variables: appropriate assessment (-0.19) and clear goals (0.06).

Table 2:   Descriptive statistics for institutional factors

Variable	Subscale	Mean	Standard Deviation	Alpha coefficient
Learning Environment	Good Teaching	3.81	0.78	0.787
	Clear Goals	3.86	0.47	0.166
	Work Load	3.12	0.77	0.487
	Appropriate Assessment	3.30	0.97	0.429

Table 2 shows the mean scores from the students' responses about their perceptions of the institutional variables. These mean scores were all positive at 3.81 for good teaching, 3.86 for clear goals, 3.12 for appropriate workload and 3.30 for appropriate assessment. A computation of the mean scores to establish if there were gender differences on the students' perceptions of the institutional variables yielded results that were not statistically significant. For example, the mean for appropriate workload was 3.119 for male students and 3.116 for female students, clear goals was 3.821 for male students and 3.880 for female students, appropriate assessment was 3.536 for male students and 3.152 for female students and good teaching was 3.917 for male and 3.746 for female students.

Of the 37 respondents, 18 (49%) failed and 19 (51%) passed their June examinations. When the mean scores were calculated between students who had passed their June examinations and those that failed, the results were both statistically significant and statistically not significant between the different presage factors. Both groups of students agreed that the module's goals were clear, with mean scores of 3.81 (fail) and 3.86 (pass). Students who failed their June examination agreed marginally less at a mean of 3.71 that there was good teaching than those who passed, mean 3.90. The picture changed when students were asked about their perceptions of appropriate workload. Students who failed their June examination perceived workload as inappropriate, (mean 2.85) while students who passed perceived workload as appropriate (mean 3.37). This difference is highly significant at a p-value of 0.04. Also, statistically significant (p=0.01) is the perception between students who failed their June examinations and perceived

assessment as not being appropriate (mean 2.89) against those students who passed and perceived the assessment as appropriate (mean 3.68).

Students who failed perceived themselves as adopting the deep approach (mean 3.92) more than those who passed (mean 3.89). Of interest from the students' responses is the perception by the students who failed their June examination that the second year augmented economics empowered them with generic skills (mean 3.86), slightly more than the students who passed their June examination (mean 3.55). The responses were also computed according to the students who passed their December and those who failed. In all the responses, the students agreed with all the statements and the differences were all not statistically different.

Male students perceived themselves as adopting deep learning (mean 4.25) more than the female students (mean 3.70). This difference in perceptions is statistically highly significant at a p-value of 0.026. Regarding the two sub-variables in the product (outcomes) variables are examination outcomes and generic skills. The scores for the generic outcomes show no gender differences at mean values of 3.87 for males and 3.59 for females.

7. Discussion

Results from the data analysis show that students strongly agree with Biggs' (1987) posit that there is a strong correlation between the institutional variables and the student variables, and that together these variables (the presage) influence how students experience learning. The strong coefficient correlation between good teaching and appropriate assessment between good teaching and grade 12 marks and between good teaching and

clear goals found in this study are similar to Biggs (1991) and other researchers (Chan & Chan, 2010; Biggs, *et al*, 2001; Vermunt, 2005; Booth, Luckett & Mladenovic, 1999; Trigwell & Prosser, 1991; Ramsden, 2003 and Ramsden, 1991). These results illustrate that the institutional and student factors need to be taken into account when planning and delivering teaching and learning in second year augmented economics. The strong positive correlation between the grade 12 marks and good teaching is important in the context of the (APS) requirements for admission to the management studies extended programme. The students benefit from good teaching and this should have an impact on the quality of the teaching academics.

While students showed a statistically significant difference in their perceptions of appropriate workload between those who passed and those who failed, it was surprising that those who failed perceived themselves as adopting a deep approach more than those who passed. These findings are in contradiction to a number of research findings that show students who perceive themselves as using deep learning approach perform better than those who do not (Biggs, *et al*, 2001; Entwistle, 1991 and Duff, 2004). However, some other studies also found these contradictors findings especially in quantitative subjects like accounting and mathematics.

Parpala, Lindblom, Komulainen, Litmanen and Hirsto (2010) concluded in their research on students' learning approaches that quantitative subjects promote surface learning. Parpala *et al* (2010) conclusions were reached on the basis that some of the learning material in quantitative subjects is mechanistic, repetitive and requires reproduction, for example, mathematical formulae or accounting equations. Since

economics is also quantitative it may be plausible to use Parpala *et al's* (2010) explanation. However, further investigation which was beyond the scope of this study is warranted regarding the analysis of the types of questions related to whether they are either recall or applied. In addition the link between how students are taught and how they are assessed needs to be further explored in future studies. This enquiry is even more crucial if looked against the responses of the students who failed their June examination whereby they perceived the assessment and workload as being not appropriate. The differences between the students who passed and those who failed were statistically significant.

Generally, all respondents strongly agreed with the perception that the second year augmented economics was empowering them with generic skills. This finding bodes well especially against the argument that tertiary institutions do not adequately prepare the students for the job markets (Erasmus & Breier, 2009). The data revealed that male students perceived the second year augmented economics as empowering them with such generic skills as problem solving and independence, more than the female students. This finding warrants further inquiry as it may relate to the teaching strategies employed.

The relationship between institutional variables and learning outcomes is also of particular interest in this study as it will answer the third research question about the relationship between the students' learning experiences and the learning outcomes. The results from the data show a positive and highly significant positive linear correlation between generic skills and good teaching. However, appropriate assessment is negatively and weakly correlated with generic skills. This shows

that assessment in second year augmented economics is probably not assessing this aspect of learning, even though generic skills are being taught. This finding may explain the results that showed failing students perceiving themselves as adopting deep approach to learning while those who passed perceived themselves as adopting a surface approach.

The significant linear correlation found between generic skills and clear goals highlight the importance of these factors when planning the curriculum for second year augmented economics. Since one of the objectives of the second year augmented economics is to empower the students with critical thinking and numeracy skills (Zikhali & Bokana, 2012), the responses from the students show that the modules are achieving this objective.

8. Conclusion

This study set out to answer three research questions about the students' learning experiences in second year augmented economics, modules which are offered as AD to students from socioeconomically disadvantaged schools. These questions were: What institutional factors affected the students' learning experiences in second year augmented economics? Secondly, how did the students experience learning in second year augmented economics? Thirdly, what was the relationship between students' learning experiences and the learning outcomes in second year augmented economics?

Using Biggs' 3P model (Biggs, 1991 and Biggs, *et al*, 2001) and Ramsden's (1991) SAL, the answer to the first question was found from the mean and t-test scores which showed good teaching and clear goals were perceived by the students as positively influencing their learning. Workload and assessment were perceived differently between the students who did

not pass their examination and those who passed. These institutional variables are crucial to take into account when developing the curriculum for augmented economics.

The second research question was on the students' experiences of learning in second year augmented economics. The results showed that the students generally perceived themselves as adopting both the surface and the deep approaches to learning. It is worth mentioning that these two approaches are not mutually inclusive – a student can adopt either or both approaches within the same situation, depending on the learning objective at the time.

The third question seeks to inquire about the relationship between the students' approaches to learning and their learning outcomes. The data showed that students who adopt surface approach to learning did better in their examination than the students who adopt a deep approach to learning. This finding was not in line with some of the literature (Biggs, *et al*, 2001 and Biggs, 1991). A further probe may be warranted for further research.

Generally, this study has shown that there are no gender differences in students' approaches to learning the study also showed that age is not a factor in students' learning experiences. These findings bode well in the context of government's policy of widening access to higher education (DoE, 1997) in order to address the question of skills shortage (Erasmus & Breier, 2009). The study further showed the strong positive linear correlation between good teaching and the matric results in the students. This is an important finding as matric is still one of the minimum entrance requirements to university studies.

The study's limitations were, firstly, the small number of the students available to respond to the questionnaire. This was due to the size of the student body in the access programme. Secondly, the focus of the instrument used was on the students' perceptions only, without a follow up to probe further some of the responses. Thirdly the scope and the time frame imposed by the fact that the purpose of the study was to complete an academic programme. This study has served as a useful starting point to probe further questions especially about the relationship between assessment and learning, as well as appropriate workload and students' academic performance. The small sample size and even lower response rate deprived the study of the findings' generalizability hence further investigation with a larger sample is recommended. Also, a longitudinal study that includes interviews to probe some of the responses further is strongly recommended.

Finally, this study has shown that the second year augmented economics, as AD modules, have a positive impact on the students' academic development in terms of generic skills. This is an important result especially for intervention modules as these modules intend to empower the students with more than academic skills.

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