Exploring the views of educators and students on privileged knowledge domains in a teacher education programme: a case study

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Abstract

The reported case study solicited the views of teacher educators and students on the teacher knowledge taught and the way it was imparted in a teacher education programme that offered commercial subjects at the Bachelor of Education degree level. The objective was to establish the extent to which the knowledge domains were interconnected or whether some were prioritised. Data was collected from twenty students and seven educators using semi-structured interviews, and analysed using deductive qualitative analysis method. The Minimum Requirements for Teacher Education Qualifications policy framework was used as a source of codes and the five domains of the framework were used as *a priori* codes under which analysed data was placed. The findings confirmed that some knowledge domains were prioritised. A disjuncture was discerned between teacher knowledge and practical experiences of students from disadvantaged backgrounds. The study concludes with a discussion which has implications for teacher education programmes.

Introduction

Different conceptions of teacher knowledge abound. Verloop, Van Driel and Meijer (2001, p.443) provide an all-encompassing definition of teacher knowledge base as "all profession-related insights that are potentially relevant to the teacher's activities". Grossman and Richert (1988, p.54, in Ben-Peretz, 2011, p.8) extend this definition by breaking it down to "knowledge of general pedagogical principles and skills and knowledge of the subject matter to be taught". In other definitions, teacher knowledge is classified into elaborate categories that include a variety of domains such as subject matter/content, curriculum, pedagogy, contexts, learners, formal and material elements of teaching, etc. (see, for instance, Feiman-Nemser, 2001; Cochran-Smith and Lytle, 1999; Shulman, 1987).

In South Africa, the Department of Higher Education and Training (DHET) (2011) has developed a policy framework on the Minimum Requirement for Teacher Education Qualifications (MRTEQ). This framework serves as a blueprint for the knowledge that every prospective teacher has to acquire before they become certified professionally. The framework stipulates five teacher domains, namely, disciplinary, general pedagogical, practical, fundamental and situational knowledge. These will be described in more depth in the literature review. Of the five, the fundamental and situational domains could be viewed as an attempt to redress the imbalances of the past that were created by the apartheid system. During the apartheid era, indigenous languages were denigrated and only English and Afrikaans were given priority and status in the South African education system. Similarly, contexts played a significant role in dividing the South African education system socio-economically into haves and have-nots.

Currently, not much has changed as the quintile system still divides South African public schools into fee-paying and non-fee-paying, depending on the socio-economic status of the community in which the school is situated. In such school contexts, Information and Communication Technology (ICT) creates a great digital divide, with impoverished schools struggling to acquire and have access to technology while affluent schools are well-equipped (Gudmundsdottir, 2010; Prince, 2007; Department of Education, 2003).

As the MRTEQ policy framework was gazetted only in 2011, research which investigates whether the domains as stipulated therein are currently taught in teacher education programmes (TEPs) is scarce. Yet such research may provide information on whether the thinking by teacher educators and policymakers is similar or not regarding teacher knowledge, itself so vital for teacher education. The purpose of this study was to investigate teacher knowledge domains that were taught in a TEP. In particular, this research sought answers to these questions: (1) What domains of teacher knowledge are offered in the teacher education programme? (2) How are they taught? (3) To what extent are they interconnected? (4) Are there knowledge domains that are prioritised?

South African teacher education is still in the process of redefining itself in the midst of new policy frameworks, as well as benchmarking itself against the standards set out by the international world. Against this background, research such as undertaken in the current study is significant as it sheds light on how teacher knowledge is handled in one TEP.

This paper is organised into five parts. The first part presents the literature review, followed by research design and methodology, and findings. Lastly, the discussion is presented and conclusions are drawn.

Literature review

This section discusses pertinent literature on teacher knowledge and includes the views of Shulman (1987); Feiman-Nemser (2001); Cochran-Smith and Lytle (1999); Morrow (2007a,b) and the MRTEQ policy framework (DHET, 2011). Shulman classifies teacher knowledge into seven domains. Emphasising the importance of a deeper understanding of content knowledge or subject matter knowledge (SMK), Shulman (p.xiii) states that teachers must "be well educated, especially in the subject matter content they teach, and their career-long professional educational experiences must continue to be grounded in the centrality of that content". He further identifies general pedagogical knowledge (GPK) which is a combination of classroom management and organisational principles and strategies. Curriculum knowledge (CK) involves an understanding of materials and programs that, according to Shulman, serve as 'tools of the trade' for teachers. Pedagogical content knowledge (PCK) combines content and pedagogical domains.

Shulman also proposes knowledge of learners and their cultures, characteristics and needs, which is crucial as learners' backgrounds are heterogeneous. Gorski (2009) refers to this domain as multiculturalism knowledge. Knowledge of varying educational contexts is equally significant as learners' schooling backgrounds are considerably different. The challenge is for teachers to find ways of adapting their teaching approaches to suit learners who come from and learn in these varying contexts. The last domain is knowledge of educational ends, purposes, and values, and their philosophical and historical grounds.

Unlike Shulman whose focus is on the classification of teacher knowledge, Feiman-Nemser (2001) is more concerned with the developmental aspects of these domains in students. She thus proposes 'central tasks' aimed at developing teacher knowledge at each stage in the continuum of teacher preparation learning. This is important as existing research reveals that neophytes deal with anxiety and developmental concerns at each stage of teacher preparation.

According to Feiman-Nemser, the central tasks of learning to teach should include the development of:

i. Knowledge which allows pre-service teachers to examine and critically analyse their existing and taken-for-granted beliefs and assumptions about teaching and learning, students and content so that they could unlearn existing conceptions and develop new visions of good teaching;

ii. Subject-matter knowledge which she divides into three domains: (i) "central facts, concepts, theories, and procedures within a given field; (ii) explanatory frameworks that organize and connect ideas; (iii) rules of evidence and proof" (p.1017).

iii. An understanding of learners, human development and diversity which helps the neophytes to question their own taken-for-granted assumptions and stereotypes about their learners so that they could adjust teaching and learning accordingly;

iv. A beginning repertoire which enables students to master issues related to curriculum; approaches to effective teaching, learning and assessment; and to make sound judgements;

v. The tools and disposition to study teaching, for which Feiman-Nemser suggests the skills of observation, interpretation and analysis. Evidently, lack of these skills results in teachers who can neither think nor reflect critically.

Although her focus is on the development of teacher knowledge, it is obvious that Feiman-Nemser's domains (ii), (iii) and (iv) correspond closely with Shulman's SMK, CK and GPK classifications. What sets her domains (i) and (v) apart from Shulman's are the inherent developmental aspects in them.

Cochran-Smith and Lytle (1999) distinguish between knowledge-for-practice, knowledge-in-practice and knowledge-of-practice. Knowledge-for-practice assumes that there is a unique teacher knowledge that distinguishes professional educators from laypersons or people practising other professions. This view is not far removed from Shulman's and Feiman-Nemser's. Fenstermacher (1994, in Verloop *et al*., 2001) calls this domain knowledge *for* teachers as it is prescribed for teachers. Knowledge-for-practice is traditional as it portrays teachers as consumers of knowledge that has been

generated for them by mostly university-based researchers and scholars. This view justifies the preponderance of teaching guides and handbooks that are used in teacher-preparation and teacher-professional development programmes.

Knowledge-in-practice conceives of teacher knowledge as grounded in the practice of teaching and learning and as such, cannot be divorced from that practice. Cochran-Smith and Lytle conceive of teachers as acquiring teaching knowledge and skills from the profession itself "through experience and through considered and deliberative reflection about or inquiry into experience" (p.262). This view of knowledge is similar to Schön's (1983) perceptions of teachers as practitioners who reflect in-, from- and on-action.

On the other hand, knowledge-of-practice or knowledge *of* teachers (Fenstermacher, 1994, in Verloop *et al*., 2001) assumes that teachers are central in generating their personal teacher knowledge. This domain is consistent with the principles of constructivism and acknowledges teachers as critical and reflective actors, researchers, investigators and creators of knowledge they use in the classrooms. Referring to this domain, Cochran-Smith and Lytle (1999, p.272) contend that "knowledge making is understood as a pedagogic act- constructed in the context of use, [and] intimately connected to the knower".

Morrow (2007a,b) distinguishes between formal and material elements of teaching, the former which he defines as non-context bound and the latter as context bound. Morrow (2007a) conceives of teacher education as preparing teachers for the professional functions of organising learning systematically so that learners can order, understand and grasp the information they learn. For this to be possible, Morrow (*ibid*, p.72) suggests that teachers should possess professional competences such as programme design and assessment strategies, including providing constructive feedback to learners. In his view, the function of teacher education is to enable and nourish teachers to accomplish this task. Morrow (*ibid,* p.100), however, contends that in our teacher education programmes "we repeatedly define the work of teachers in terms of its material elements" which involve contexts, facilities, resources, conditions, etc. By so doing, we prepare teachers to teach specific learning areas in a specific phase using certain approaches, thus limiting them to specific contexts and precluding them from functioning effectively in any teaching and learning environments.

The Policy on the MRTEQ (DHET, 2011) stipulates the knowledge base for pre-service teachers which resembles Shulman's categorisation and includes:

i. Disciplinary knowledge or subject matter knowledge, which includes education and its foundations;

ii. General pedagogical knowledge which involves knowledge of learners, teaching, learning, curriculum, assessment strategies, as well as specialised pedagogical content knowledge which includes methods, strategies, rules and principles of a discipline;

iii. Practical knowledge or "learning in and from practice" (p.8);

iv. Fundamental knowledge or knowledge of languages, information communication technologies (ICTs) and academic literacies;

v. Situational knowledge or knowledge about contexts, situations, settings or environments for the purpose of meeting the diverse needs of learners.

The review of literature presented different perspectives on what counts as teacher knowledge base. The dominant view is that there exists a body of teacher knowledge out there that makes teachers or the teaching profession unique from other professions. Be that as it may, there seems to be another perception of teacher knowledge as developing the neophytes' critical and reflective practice skills. Furthermore, there is a view of teacher knowledge as tools of the trade that facilitate the process of becoming a teacher. A further perception is that of material elements of teaching as confining teachers in certain specific conditions. What is not clear in the literature is whether all teacher knowledge is or should be acquired in university classrooms or whether it can be learnt on-the-job. If it is the latter, how can it be taught and learnt systematically by all students in such environments?

The MRTEQ framework guided this research because in the near future it will undergird all TEPs in the South African higher education and training (HET) landscape. Using this framework will help to determine how far the domains of teaching offered in one TEP are from the norm as required by the policy (MRTEQ). This will ascertain the amount of work that needs to be done in reconceptualising and redesigning a new curriculum for this TEP in accordance with the stipulations of this policy framework.

Research design and methodology

Design and sampling

The design was a case study of a single TEP. Data was collected from a purposive sample of twenty students selected from first, second, third and fourth years, with five students from each of the TEP levels and seven educators who taught in the TEP. Because of the small number of academic staff in this TEP, the sample size of seven out of nine educators was justified. Factors of race, culture and gender were considered in the selection of students in order to provide diversity as it was believed that the knowledge being taught to them might have impacted on their growth and development in various ways.

This study was undertaken in the Department of Further Education and Training (FET) TEP which offers commercial subjects at the level of a Bachelor of Education (B.Ed.) degree. The TEP is located within a Faculty of Education (FoE) at a higher education institution (HEI) situated in the Western Province. The subject offerings in the TEP are classified according to knowledge domains that pre-service teachers are expected to master before they become credentialed (Appendix 1). Appendix 1 is self-explanatory. It illustrates teacher knowledge offerings at each level as well as subject choices that students have to make. As can be seen, some teacher knowledge domains are compulsory and others are optional.

Educators of subject matter knowledge (SMK) also teach subject didactics or specific pedagogical knowledge (SPK) related to that subject. For example, mathematics educators teach mathematics specific pedagogical knowledge. Thus, students learn specific teaching skills (or PCK) relevant to their majors in SPK. In general pedagogical knowledge (GPK) students learn general teaching skills such as classroom management, and teaching and learning theories and strategies. Practical knowledge (PK) or professional studies mainly prepares students for practice teaching (TP). They mainly learn to develop TP portfolios. Students are placed in schools for TP for a period ranging from four weeks to six months.

Data collection

Views regarding the knowledge domains taught and how they were taught were collected using in-depth, semi-structured interviews. Boyce and Neale (2006) contend that in-depth semi-structured interviews are useful when you want detailed information about a person's thoughts and behaviour or to explore new issues in depth. During the interviews, probing was done in order to clarify any ambiguities. A sample of interview questions appears in Appendix 2. Each interview lasted for a period of approximately 60 minutes. Interviews were tape-recorded with the permission of the participants and transcribed *verbatim*.

Data coding and analysis

Data was analysed using deductive qualitative analysis (DQA) (Gilgun, 2011; Acock, Van Dulmen, Allen and Piercy, 2005 in Bengson, Anderson, Allen, Acock and Klein, 2005). In DQA, researchers use a theory or theoretical framework to guide their research. The MRTEQ framework guided this research and became the source of codes that I used to analyse data. The five domains of the MRTEQ framework were *a priori* codes under which analysed data was placed. Axial coding helped me to identify common emergent themes. These themes were colour-coded, categorised, grouped together and placed under MRTEQ codes. Gilgun describes negative case analysis (NCA) as a procedure which helps researchers to look for data that does not fit with the theory. During data collection and analysis I conducted NCA to check for data that did not fit with the MRTEQ codes. No such data was found. Using DQA helped me to focus my research question and to benchmark the knowledge domains against the MRTEQ framework. Member checking was used to enhance the validity and credibility of analysis.

Ethical issues

Ethical clearance was obtained from the Ethics Committee of the Faculty of Education from which the research participants were drawn. Participants were informed about the confidentiality of information gathered and the voluntary nature of their participation. Throughout the study, pseudonyms were used in order to protect the participants' identities.

Findings

Emergent themes which were categorised under five teacher knowledge domains of the MRTEQ framework are discussed in the findings. They include these domains: disciplinary; fundamental; practical; situational and knowledge about learners; as well as pedagogy.

Disciplinary knowledge

Interviews with educators revealed that disciplinary knowledge was supported in the TEP, as shown by the six major subjects in Appendix 1. Evidently, educators paid particular attention to the extent to which content knowledge taught at university was relevant to that in schools. They mentioned that their collaborations and networks with the Western Cape Department of Education (WCED) helped them to accomplish this. They hinted that they discussed curriculum-related issues and policy frameworks in the Advisory Committee meetings where WCED subject advisors and teacher educators met. These educators perceived collaborations as instrumental in strengthening the knowledge base imparted to the students. Marie, the accounting educator described the importance of this collaboration as follows:

> I work closely with the accounting subject advisor to ensure that I stay abreast of the content which is required of accounting teachers to teach in a particular academic year. The objective of the aforementioned is to ensure that our students are prepared well to teach the topics during teaching practice according to the pacesetter for that specific academic year.

Jacques, the CAT educator who claimed that he regularly attended Advisory Committee meetings and provided in-service training to high school teachers, reiterated the importance of these collaborations. He conceptualised the role of subject advisors as critical in keeping teacher educators abreast of disciplinary and theoretical developments in their respective subjects. In his view, teachers are mentors who provide emotional support and conceptual knowledge to the students. He described the motive for his involvement in these collaborations as key in helping him ascertain if the content he taught was relevant or not.

Educators mentioned that the subject advisors perused their subject guides to ascertain whether disciplinary knowledge imparted in TEPs was compatible with that in schools. Bennie confirmed and resoundingly agreed that:

> By involving subject advisors, we are sure that the content we teach corresponds with that taught in schools. By working together, we avoid a situation which could potentially frustrate students, learners, mentors and the DoE, especially if the content is different from that taught in schools.

The importance of matching disciplinary teacher knowledge with school-based knowledge was reiterated by Marie, the accounting educator who explained that:

> Students studying accounting levels 1 and 2 focus on the content which they are required to teach from Grade 10 to 12. In the third year they focus on content that delves deeper into the aspects of accounting which are not necessarily required at school level.

John, a mathematics educator mentioned that teacher knowledge taught in this subject transcended that taught in school and that it continuously aimed at clarifying learner misconceptions. In his view, mathematics teachers should teach the content in a way that learners would understand rather than present problematic algebraic and geometrical topics in a rote fashion, as often happens in school. He further suggested that mathematics teachers should sequence mathematics activities, taking into consideration the learners' prior knowledge. Additionally, he argued that many mathematics teachers do not know how to assess this subject and recommended the use of Bloom's taxonomy.

Students highlighted the emphasis that educators placed on teacher knowledge domains in their TEP. Nonetheless, some of them expressed dissatisfaction with the fact that their major subject content ended at third year of study whereas specific and general pedagogical knowledge (SPK and GPK) continued up to final year. The concern they raised was that they would not have enough content knowledge when they graduate. Perhaps this explains the imbalance in the emphasis placed on different knowledge domains in the TEP, and the fact that pedagogical knowledge is prioritised over content knowledge. None of the educators mentioned this discrepancy although the accounting educator had insinuated it by being silent about what happened to accounting content knowledge at fourth year level. However, since no direct question had been asked about why content was offered only up to third year, it might be possible that the educators did not perceive it as a source of concern to the students.

Fundamental knowledge

With regard to fundamental knowledge, educators did not give much input. However, students expressed sentiments that pointed to the fact that this knowledge was not prioritised in the TEP. They felt that educators paid lip service to the fundamental knowledge as languages and information communication technologies (ICTs) or computer literacy were offered as non-major subjects and did not incorporate pedagogical knowledge. This implies that students cannot teach these subjects as they do other commercial subjects; as languages are taught solely for communication and learning and teaching (LoLT) purposes, and ICTs only for skills development. Students further raised concern that these subjects were taught only up to second and third year levels, respectively, which they said meant they did not acquire adequate skills in them. It is possible that the programme planners do not perceive fundamental knowledge as central to the development of future teachers. Alternatively, students might be regarding them as more important than mere fundamentals.

Practical knowledge

This domain seemed to receive the highest priority, judging by the efforts made by educators to improve it. These efforts included the use of a debriefing form and initiatives such as TP funded projects, and the use of micro lessons, as discussed below.

Several educators mentioned the debriefing forms which they said were developed in order to provide students with coaching or scaffolding after they had presented TP lessons. This form consisted of two sections. The first required students to reflect on their performance by giving input on the lesson aspects in which, according to their judgment and based on the criteria on the debriefing form, they had done well or not well during lesson presentations. The second required educators to give students feedback on the same items. The reflection was guided by a conceptual framework or criteria against which a student's performance was benchmarked.

One educator explained that this form was developed in reaction to students' dissatisfaction with evaluators who allegedly failed to provide them with detailed feedback after TP evaluations. Educators also indicated that the

instrument was used to facilitate students' reflection on their performance in order to enhance their professional growth and development as reflective practitioners.

Educators had different perceptions about the debriefing forms as developmental tools. According to Bennie, a GPK and professional studies (practical knowledge) educator, the debriefing forms facilitated interactions between students and TP evaluators which he said was vital for students' professional growth as future teachers. This view resonates with that of Brady, Segal, Bamford and Deer (1998) who perceive dynamic interaction between tertiary advisor and student facilitating growth. Another teacher educator, Jacques, described the debriefing form as,

> An analytical tool that affords students with an opportunity to reflect theoretically upon their teaching performance in terms of handling content, methods, theory and practice and learner differentiation, with the sole purpose of enhancing their personal, academic and professional development.

Riana, the GPK educator who initiated the debriefing form had this to say:

> Its basic tenet is to allow the students to practice reflection on their overall TP performance in terms of handling the teaching and learning process. It helps them to think about what they do, how they do it and why they do it the way they do. The form basically teaches them the main ingredients of teaching and learning.

The perspectives of students on this instrument were not much different, as shown by Jabu's utterances below:

> The debriefing form makes both lecturers and us accountable for our learning. We learn to answer for what we taught, how we taught it and why we taught it that way. It also makes the lecturers take care of our learning and not leave us in the dark. I think it should be made compulsory in all teacher education programmes.

Another effort included the TP funded projects. Educators make videos of demonstration lessons which they said they converted into DVDs and web-based materials for use during professional studies periods or at students' leisure. Educators expressed a belief that students learn practical teaching skills such as reflection, handling of content, dealing with learners and pedagogical skills from these materials. Students also articulated satisfaction and admitted that the reflective reports they wrote based on the lessons added new knowledge to their TP repertoire.

The TP award is a new initiative that aims to promote students' practical knowledge. Riana reported that a student who presents a lesson that demonstrates exemplary TP based on a set of criteria such as evidence of disciplinary, pedagogical, fundamental and situational knowledge, as included in the MRTEQ, receives this award. The product of this initiative is DVDs which students, especially those at lower levels of the TEP unanimously agreed provided them with skills that promoted their professional development.

The other initiative is intended to provide assistance and guidance to the struggling students who are at risk of failing TP due to inadequate practical knowledge and skills. Students who need this assistance are either identified by TP evaluators or volunteer themselves. Before TP evaluations take place, they receive guidance and assistance on developing lesson plans and teaching techniques from fellow students whom the evaluators identify as excelling in TP. Interviews with some of these students revealed that the intervention enhanced their practical knowledge and boosted their confidence tremendously.

Micro lessons are perceived by educators and students alike as one of the best strategies for enhancing the students' practical knowledge base. Describing her gains from micro lessons, one of the students, Zama, stated:

> Micro lessons help me to practise and internalise the skills and content I have learnt in class. I learn to sort, sequence and organise the content. The critical feedback I receive or give to my peers helps me to grow intellectually as a teacher.

This view supports the fact that strategies such as micro lessons should be encouraged in the TEP.

Situational knowledge and knowledge about learners

With regard to situational knowledge and knowledge about learners, very little was mentioned by educators. This might point to the low priority given to this knowledge in the TEP. This view is supported by the fact that this knowledge is excluded from the domains that are offered in this TEP. In contrast, some Black and Coloured students gave tremendous input on this domain.

To be precise, only two educators, John the mathematics educator and Sarah the foundations educator highlighted this domain. According to John, it was critical to address classroom realities, such as poor content knowledge of teachers in impoverished classrooms and rote learning or 'rules without reason', which he claimed are prevalent in such contexts. However, he declared that he did not know how to address classroom diversity in mathematics teaching. Sarah reported that in her foundations of education class she taught these domains by giving her students assignments that required them to scaffold slow learners as she realised that learners do not learn the same way. She noted that differentiation should occur and that teachers should understand how to handle content when teaching slow learners as those may come from disadvantaged backgrounds.

Some Black and Coloured students articulated situational barriers or impediments that they believed impacted on their acquisition of teacher knowledge. At the heart of their concerns were philosophical and cultural ideologies that they believed were embedded in some teacher knowledge, and failure of educators to contextualise teacher knowledge to suit their backgrounds. The following utterance made by Sello expressed his concern regarding cultural impediments:

> What our lecturers teach us shows that they don't understand us, our backgrounds and our school contexts. For instance, some of the theories taught to us are too American and fail to reflect our African identities and those of the African learners. As a result, African student teachers are subjected to a 'sink or swim' approach as they find that some of these theories were not meant to be used within their cultures. For example, a theory that stresses the *laissez faire* approach contradicts our strict disciplinary approach in raising the African child.

Students believed that knowledge about contexts was not emphasised in university classrooms. They mentioned that this knowledge was very important since they were placed in schools with varying contexts. During the interviews, Marlin suggested that classroom context was key to pre-service teachers' growth and development. He proposed that this knowledge should be contextualised rather than treated 'one-size-fits-all' as, in his view, there was a vast difference between how one taught in better versus poorly-equipped schools. He contested as follows:

> I have to stress this though that at university what we are taught and the way it's taught is as if we are all going to teach in better equipped schools, neglecting the sad reality that some of us have to teach where there is not even enough learning facilities for learners. Surely, the way one has to teach in these schools can't be the same even though the content is the same.

Similar sentiments were shared by Kayla who asserted that teacher knowledge was not in sync with the realities in impoverished schools as it prepared them only for 'functional' schools. She contended that the ability to apply teacher knowledge was inextricably linked to availability or lack of resources. While calling for students to be placed only in 'functional' schools where they would be able to apply this knowledge, she questioned whether such placements would reflect and represent South African school realities.

Students also identified TP placements as an example of how situational knowledge was ignored in their TEP. In this TEP, students select schools in which they prefer to be placed. More often than not they choose schools that are similar to their own backgrounds. Consequently, they miss exposure to diversity. It was precisely for this reason that Damon, a Coloured student expressed this sentiment:

> It's as if White students in this new South Africa are going to remain in white schools and Black students are going to remain in black schools. What will happen if the only available job for me was in an impoverished black township school? I won't have the vaguest idea of what to do because I've never been placed there and I've never been taught to function effectively there.

Clearly, this student's concern raises issues that call for diverse placements that may allow students to learn to function in varying contexts. It is also worth noting that the students' focus was more on dealing with asymmetrical school contexts than with learners in these environments. In reality, their statements might pave a way for a more inclusive teacher knowledge curriculum that focuses on situational knowledge. As shown in Appendix 1, the TEP does not offer this knowledge base.

Pedagogical knowledge

Although specific, general and curriculum knowledge domains are not similar, educators tended to discuss them simultaneously. It was apparent that some educators expected educators of specific pedagogical knowledge to cover general pedagogical, practical and foundational knowledge domains as well. Yet in the TEP offerings, these domains, except curriculum knowledge which is not included, are clearly demarcated. Be that as it may, it is easy to make this assumption as these domains all do, to a certain extent, fall under the realm of pedagogy or pedagogical knowledge which includes teaching and learning approaches and strategies, classroom organisation and management,

curriculum development, assessment and any other skills that help teachers organise learning systematically.

According to the educators, one of the ways in which they promoted pedagogical knowledge was through active participation in the workshops where discussions of the DHET's national curriculum policy frameworks such as MRTEQ and Department of Basic Education and Training's (DBET) Curriculum and Assessment Policy Assessment (CAPS) took place. They hinted that these workshops occurred at national, regional, inter-varsity, institutional, faculty and departmental levels. Pieter, the economics educator reiterated the significance of their participation in these discourses:

> The DoE frameworks serve as a theory which guides the content and methods of imparting knowledge to our future teachers. Any deviations from these frameworks might have serious implications for the information we impart to our students, how they receive it, as well as how they interpret and transfer it to the schools. This explains why it is crucial for all of us to understand the contents of these frameworks so that we could transfer them to our students.

Other educators cited classroom activities as viable strategies of imparting specific pedagogical knowledge among students. Marie, the accounting educator explained the way in which she handled specific pedagogical knowledge in her subject and how students applied it:

> In my accounting didactics class, I mainly focus on one particular teaching methodology in a particular academic year. Year 1: Direct instruction, Year 2: Simulation, Year 3: Inquiry and year 4: Co-operative. Each student gets an opportunity to apply this methodology by introducing a topic required to teach at school level. In didactics first year I focus on Grade 8 and 9 EMS, second year the Grade 10 accounting syllabus, third year Grade 11 and fourth year Grade 12.

The mathematics educator emphasised the importance of teaching specific pedagogical knowledge to his mathematics students. He cited different concepts related to the pedagogy of his subject which he said were essential in mathematics teaching. These included learner motivation and enjoyment; understanding of conceptual and procedural knowledge; modelling; discussion and reflection; relationship between practising of newly learnt mathematics content and progress; and lesson planning, sequencing, integration and assessment. Surprisingly, he admitted that he did not include theories in mathematics pedagogy as he believed these were taught in other related domains such as general pedagogy, foundations and professional

studies. Instead, he indicated that he made theories practical without naming them, something he called 'Theory in practice' or 'Making theory practical'.

Discussion and conclusions

This study investigated the knowledge base taught in a TEP, how it was taught with a view to establishing whether it was taught coherently or whether some knowledge domains were prioritised. Data from interviews was categorised under the domains of the MRTEQ framework.

Findings confirmed that some knowledge domains were prioritised and others were compromised. For instance, the importance of situational knowledge runs through the thread of the literature conducted for this study. However, it receives low priority in this TEP, judging by the preponderance of students' concerns about the absence of this knowledge in the curriculum and by educators' silence on this domain. Morrow (2007a) argues that teacher knowledge should be responsive to the changing needs. As can be seen in the students' statements, this TEP needs to respond to the current conditions and expressed needs by prioritising situational knowledge. Of further and serious concern is the low priority given to ICTs and LoLT as these are offered only up to second year and L2 up to third year, respectively, and no pedagogical knowledge related to them is offered. As shown earlier, even though these knowledge domains fall under fundamentals, students' comments seemed to suggest that they view them in a more serious light than sheer basic knowledge. Granted, no TEP can cover all the knowledge domains but the curriculum needs to be altered as circumstances demand it.

South African classrooms are inclusive and need teachers who are equipped with skills of dealing with different contexts and learners. Thus, inclusion of this knowledge base is inevitable in the context of South African teacher education, as can be deduced from the specifications of the MRTEQ which is a blueprint for TEPs in this country. Unfortunately, it would be too risky to assume that students would acquire this knowledge and skills of applying it on the job as mentors and teachers may themselves not possess these skills to model them to the neophytes. As a bandage solution, life orientation and inclusive education teacher educators could incorporate situational knowledge in their curriculum. More importantly, however, is that curriculum developers

realise the extent of biases inherent in the knowledge base offered in this TEP.

Data analysis revealed a preponderance of support for practical teacher knowledge, judging by the number of initiatives educators engage in to promote this knowledge. This domain, together with general pedagogical and specific pedagogical knowledge domains are taught up to final year. As was described earlier, these domains provide students with know-how of teaching. Yet subject matter knowledge is taught up to third year of study. This situation could reflect that the theoretical knowledge is seen as surpassing the practice that draws on it. Morrow (2007a) has this to say about this practice "there is a fashion of emphasising 'process' to the detriment of 'content'…process without content is vacuous" (p.66).

Morrow (2007a, p.82) further contends that,

> In Teacher Education there is a strong tendency to pay insufficient attention to *what* is to be taught, to construe teaching and learning as generic activities, with scant reference to the *content* of what is being taught or, learned. In our situation, an underemphasis on the content of teaching is a prevalent and serious problem in schools and other institutions… In the case of teaching, the teacher must know the content being taught. Content knowledge is a precondition for any teaching.

Students might have held the same view, judging by their utterances regarding content subjects ending at third year of study. They might have seen the danger of not being able to master it within such limited period of time. Without adequate content skills, they are likely not to "enable [learners] access to it" (Morrow, 2007a, p.82). In Hayes, Capel and Katene's study (2008), student teachers and mentors also perceived content knowledge as being the most important of all teacher knowledge.

The other question is whether teacher knowledge taught in the TEP is interconnected. Feiman-Nemser mentions the connective tissue which she claims is missing in teacher education. Findings in this study did not confirm the presence of a connecting thread or a set of organising concepts/framework in the TEP offerings. The only thread that seemed to bind the TEP into a coherent entity was the strong and consistent focus on practical knowledge by the majority of teacher educators. From the interviews it was apparent that each educator does her own thing without knowing what and how others do it. Only John seemed to suggest that interconnections might exist in this TEP's knowledge offerings.

Granted, a TEP cannot cover all the domains discussed in the literature of this study. Thus, it is unlikely for South African students to grasp everything within the four-year teacher preparation period. This situation points to the significance of professional development programmes for when the students enter teaching. Unlike the current programmes, teachers need well-structured

and well-organised programmes to facilitate knowledge-in-practice (Cochran-Smith and Lytle, 1999).

Should teacher education provide students with only school-based knowledge? Only two educators concurred that the content they teach transcends school-based content. Morrow (2007a,b) highlights the problem of teacher education's emphasis on material elements of teaching, which he says emphasises conditions, circumstances, contexts and resources that confine teachers to specific subjects, phases and teaching methods. The same applies in this TEP. Students are confined in specific subjects and phases. By doing this, educators limit and bind students to specific contexts rather than prepare them to function under any conditions. As educators, we should provide students with non-context bound formal elements of teaching such as skills of designing a curriculum, planning and presenting a lesson, managing classrooms, etc. as these will enable them to organise learning systematically in any learning situation.

The limitation of this study is the limited sample size drawn from a small TEP. Consequently, the results cannot be generalised to other TEPs. Future studies should use a bigger sample to investigate the same variables. Nevertheless, the study revealed aspects that need to be given more priority in TEPs.

References

Acock, A., Van Dulmen, M., Allen, K. and Piercy, F. 2005. Contemporary and emerging research methods in studying families. In Bengson, V., Anderson, P.D., Allen, K., Acock, A. and Klein, D. (Eds), *Source book of family theory and methods*. Thousand Oaks, CA: Sage, pp.59–89.

Ben-Peretz, M. 2011. Teacher knowledge: What is it? How do we uncover it? What are its implications for schooling? *Teaching and Teacher Education*, 27: pp.3–9.

Boyce, C. and Neale, P. 2006. Conducting in-depth interviews: a guide for designing and conducting in-depth interviews for evaluation input. *Pathfinder International Tool Series, Monitoring and Evaluation-2*.

Brady, L., Segal, G., Bamford, A. and Deer, C. 1998. Student perceptions of the theory/practice nexus in teacher education: a longitudinal study. Paper presented at the Australian Association for Research in Education (AARE), Adelaide, Australia.

Cochran-Smith, M. and Lytle, S.L. 1999. Relationship of knowledge and practice: teacher learning in communities. *Review of Research in Education*, 24: pp.249–305.

Department of Education. 2003. *Draft White Paper on e-Education: Transforming Learning and Teaching through ICT*. Pretoria, South Africa.

Department of Higher Education and Training. 2011. *The National Qualifications Framework Act 67 of 2008: Policy on the Minimum Requirements for Teacher Education Qualifications*. Pretoria.

Feiman-Nemser, S. 2001. From preparation to practice: designing a continuum to strengthen and sustain teaching. *Teachers College Record*, 103(6): pp.1013–1055.

Gilgun, J.F. 2011. An occasional publication for field research from a variety of disciplines. Current *Issues in Qualitative Research*, 2(1).

Gorski, P. 2009. What we're teaching teachers: an analysis of multicultural teacher education coursework syllabi. *Teaching and Teacher Education*, 25(2): pp.309–318.

Gudmundsdottir, G.B. 2010. From digital divide to digital equity: learners' ICT competence in four primary schools in Cape Town, South Africa. *International Journal of Education and Development Using Information and Communication Technology*, 6(2): pp.84–105.

Hayes, S., Capel, S., and Katene, W. 2008. An examination of knowledge prioritisation in secondary physical education teacher education courses. *Teaching and Teacher Education*, 24: pp.2014–2026.

Morrow, W. 2007a. *Learning to teach in South Africa*. Cape Town: Human Sciences Research Council Press.

Morrow, W. 2007b. What is teachers' work? *Journal of Education*, 41: pp.3–20.

Prince, G.L. 2007. Implementation of computers in schools: a case study of five schools in the Makana and Somerset Districts. A thesis submitted in partial fulfilment of the requirements for the degree of Masters in Education, Rhodes University.

Schön, D. 1983. *The reflective practitioner*. New York: Basic Books.

Shulman, L.S. 1987. Knowledge and teaching: foundations of the New Reform. *Harvard Education Review*, 57(1): pp.1–22.

Verloop, N., Van Driel, J. and Meijer, P. 2001. Teacher knowledge and the knowledge base of teaching. *International Journal of Educational Research*, 35: pp.441–461.

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Appendix 1: Teacher knowledge domain offerings in the TEP under study

Knowledge domain	**Study Level**			
	1	**2**	**3**	**4**
Subject Matter Knowledge • Mathematics • Mathematical literacy • Economics • Accounting • Business studies • Computer applications technology (CAT)	**Select 3 majors**	**Continue with 2 from 1st year**	**Continue with 2 from 2nd year**	————————
Specific Pedagogical • EMS (for Accounting, Economics and Business Studies) • CAT • Mathematics • Mathematical literacy	**Select 3 matching majors chosen**	**C** **Take 2 matching your major subjects**	**C** **Continue with 2 matching your major subjects**	**C** **Continue with 2 matching your major subjects**
Fundamental knowledge • Computer literacy • Language of teaching and learning (LoLT) • Communication Language – L2	**C**	**C**	**Take communication language – L2 only**	————————
General Pedagogical Knowledge	**C**	**C**	**C**	**C**
Foundational Knowledge	**C**	**C**	**C**	**C**
Practical Knowledge	**C**	**C**	**C**	**C**

Key: C – Compulsory

Appendix 2: Interview Questions

Sample questions for educators

1. What teacher knowledge domain/s do you teach?
2. What approach/strategies do you generally employ in teaching it/them?
3. Which knowledge domains does your TEP support? Why do you think so?
4. Which knowledge domains does your TEP not support? Why do you think so?
5. Which knowledge domain/s do you feel should be taught in your TEP but it's not taught?
6. Why do you think it should be taught?
7. To which domain/s do you pay the most attention in your subject? Why?
8. To which domain do you pay the least attention? Why?
9. Do you perceive any connections among the different knowledge domains?
10. Do you connect the domain you teach with other domains? If yes, how?
11. Why is it important for educators to make these connections?

Sample questions for students

1. What knowledge domains are taught in your program?
2. Which domains do you think your program supports?
3. Do you think the focus of educators on the knowledge domains is balanced?
4. If not, on which domains do your lecturers focus more?
5. On which domains do your lecturers focus less?
6. Why do you think is the reason for the situation in 3?
7. On which knowledge domains would you like your educators to focus the most? Why?
8. Do your educators make connections among the different knowledge domains? If yes, how?
9. Why do you think it's important for educators to make these connections?