'Theory' for teacher practice: A typology of application tasks in teacher education

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Abstract

Debates about the relation between educational theory and teaching practice are embodied in assessment tasks that prompt student teachers to relate theoretical concepts and simulated or directly experienced practice-based contexts in relation to one another. To establish clarity on the ways in which theory and practice can be positioned in relation to one another in application tasks, the authors revisit the debate between Hirst and Carr (2005) about the role of theory in and for education. They analyse examples of assessment tasks according to a typology showing how such tasks demarcate conceptual and contextual objects of study in ways that are more or less visible to students. They argue that the more visibly the concepts are demarcated, the greater the possibilities are for student teachers to develop systematised bodies of educational knowledge that are able to provide organising insights into their developing practice. While the authors concede that there might be valid pedagogical reasons for doing so, they argue that when conceptual objects are less visible to students, the underlying message that is transmitted to students is that educational theory is neither specialised knowledge nor is it distinctively different from their common-sense perspectives. This approach is less likely to promote their acquisition of systematised knowledge for and of practice.

Keywords: assessment, teacher education, educational theory, theory-practice, teacher knowledge

INTRODUCTION

During initial teacher education programmes, student teachers are introduced to education from a perspective vastly different from what they knew as learners (Lortie 1975). Beginning student teachers are neither familiar with the established body of educational knowledge nor do they yet possess a broad repertoire of experience from which to recognise patterns and interpret classroom-based incidents (Berliner 1994). With this in mind, two important aspects of the socialisation of students into the practices of teaching come to the fore, namely: an introduction to concepts within educational theory; and an introduction to teaching and learning contexts from the perspective of a practitioner.

A broad study into the assessment of student teachers was prompted by a quantitative analysis of the poor performance of a cohort of Bachelor of Education (BEd) students who began their studies at the University of Witwatersrand in 2010, and by reflections on findings from a writing workshop offered to these students at the University of the Witwatersrand (Wits) School of Education (WSoE) Writing Centre. This article, together with three others in this volume, arose from an assessment task analysis of 104 assignment and exam questions taken from four first-year BEd degree courses.[1] These courses work to varying extents with educational theory and the empirical contexts in which the practices of teaching exist. The assessment tasks were varied and included tasks that required students to articulate their understanding of concepts; consider the relevance of theory for practice; analyse simulated case studies; produce artefacts; describe school-based observations; analyse lesson plans; describe their experiences during school-based placements; and so on. The authors of the article titled 'Supporting teacher educator professional learning about assessment: Insights from the design and use of a task analysis tool in a first-year BEd programme' in this volume, report on the task analysis tool developed by the project team, which was used to classify the tasks into three groups, namely: purely conceptual tasks; applied theory tasks; and tasks that required students to generate a scenario or product not provided by the assessor.

Very few tasks in the sample focused exclusively on requiring student teachers to examine concepts or claims in their own right, locate them in their intellectual tradition, and examine ideas in relation to empirical evidence or in relation to previous conceptual developments. Most tasks required some articulation of a concept and then required students either to apply the concept to either a stipulated educational context, or to link it to their own field-based experiences and observations. It is these *application tasks* (that required students to work simultaneously with concepts and empirical contexts) that form the object of study of this article. These tasks required students to reflect[2] on the relevance of concepts for the practice of learning and teaching, or more broadly for education in South Africa. By examining *task delimitation* (Linn and Miler 2005),[3] the task analysis tool enabled lecturers to get a sense of the complexity and cognitive demand of each application task, but the underlying reason that may explain why students struggle specifically with application tasks required further investigation. As part of their socialisation into teaching, student teachers are commonly introduced to educational theory and are assessed on their understanding of concepts and the use of theory for and in practice. Why, then, do students find application tasks difficult?

Bearing in mind the finding from a small case study that showed that average and low-achieving students struggle to access the textual forms of academic writing,[4] the WSoE decided to investigate further the relation between concepts and contexts in application tasks. The current article addresses three questions. Firstly, what is at stake in the contested idea that theory applies to practice? Secondly, and in view of the first question, can the above analysis yield a principled position of a preferred way of studying how to relate theory to practice? Thirdly, can this principled position

help us to understand better the structure of application tasks and the challenges application tasks pose for student teachers?

To establish clarity on the ways in which theory and practice can be positioned in relation to one another in application tasks, we revisit the debate between Hirst and Carr (2005) about the role of theory in and for education. The structure of this debate is very useful in that Hirst and Carr present opposing views on the role of the theory in education. We present the debate as a binary between what we term 'theory-dependent' (Hirst's position) and 'theory-independent' (Carr's position) views of the relation between theory and practice. We neither seek to represent all the nuances of the debate, nor to follow the nuances of the theory-practice debate for teacher education. We use the debate to address our first two questions. We then turn, in the second part of the article, to present a typology of the ways in which application tasks make 'visible' the *conceptual objects of study* and *practice-based contexts* (empirical instances of practice).[5] We argue that the more visibly the concepts are demarcated within application tasks, the greater the possibilities are for student teachers to develop systematised forms of teacher knowledge for and in practice. This claim suggests that these types of application tasks are better able to provide student teachers with the conceptual means to move beyond common-sense interpretations of practice-based scenarios and feel-right responses. We then consider the epistemic implications of how these two objects of study are positioned in relation to one another within the structure of application tasks and the pedagogical imperatives that might influence the construction of such tasks.

THE ROLE OF THEORY IN PREPARING PROSPECTIVE TEACHERS DURING THEIR INITIAL TEACHER EDUCATION

The 'theory-dependent' view of practice is associated with the works of Peters (1966), Hirst (1966, 1973), Hirst and Peters (1970), and, within the South African context, Morrow (2007). It purports that educational theory is a distinctive enterprise external to what teachers do in their day-to-day practice. Getting to grips with the internal coherence of concepts (and understanding of their exact meaning) is foundational to educational theory, and a prerequisite for developing a rational judgement for practice. In this view, the disciplines of education, philosophy in particular, are paramount for prospective teachers because they provide them with conceptual clarity on the nature of knowledge, with ways of systematising concepts, and with methods of justification that can be used to examine deep-seated beliefs, ideas from other disciplines and instances of practice. This hierarchical view positions Philosophy as meta-theory and as the foundation for learning other disciplines (e.g. Psychology, Sociology and History) associated with educational theory. In his debate with Carr (Hirst and Carr 2005), Hirst foregrounds the distinction between *theoretical reasoning* and *practical wisdom*. Theoretical reasoning (in Aristotle's terms, *episteme*), he argues, is primarily concerned with establishing the truth of theoretical knowledge (such as relations between ideas, inferences from ideas, mastery of concepts within a subject and

procedures for testing knowledge claims), and concept clarification (systematisation of ideas). Practical wisdom (in Aristotle's terms, *phronesis*), on the other hand, is concerned with pursuit of practical action and relies on the ability of human beings for discernment in particular circumstances or on contextual wisdom. Hirst argues that with the help of 'structures of justified propositional beliefs' (Hirst and Carr 2005, 616), teachers are able to find rational justification for their practices, and discard presuppositions that have been proved to be false. In Hirst's view, practical wisdom depends on theoretical reason, developed by the disciplines of education 'if it is to begin to be reflectively adequate to all the complexities of educational situations and their possibilities' (Hirst and Carr 2005, 618). Hirst acknowledges (in particular in his later work) that *in-situ* judgements about what and how to proceed with specific educational activities cannot be derived directly from theory. He points out that theoretical reason cannot be *directly translated* into practice, because practice includes a great deal more. Formal study, however, is an attempt to sharply elucidate an educational practice. This perspective gives rise to a conception that teaching is a principled enterprise, initially best learned theoretically, with subsequent application of theory to practice-based contexts.

The theory-dependent view of practice puts forward two precepts that are key for our task here. Firstly, theoretical reasoning and practical wisdom are in direct contrast: theoretical reasoning can be generalised, practical wisdom cannot; theoretical reasoning develops deductive sets of propositions, practical wisdom cannot; theoretical reasoning classifies situations according to an overarching explanatory concept, practical wisdom produces various discernments that are limited by the particular detail of the context and contingences of an activity; theoretical reasoning (in particular philosophical thinking) limits vagueness, practical wisdom tolerates it. Secondly, theoretical reasoning has a logical and sequential priority over practical wisdom – to understand specific educational situations, we need to think in terms of ideas that are abstracted from the situation, to formulate 'propositions on which we can agree in our judgements of truth' (Hirst and Carr 2005, 617). It is necessary to develop propositional understanding about concepts and modes of justification amongst student teachers, with the view to equipping them with an epistemic foundation that will guide their professional judgement.

Practice-based theorists, including Carr and Kemmis (1986), Zeichner and Liston (1987), Elliot (1987) and Schön (1983), have challenged the 'theory-dependent' view of practice. Along post-modernist lines, Carr (2006, 147) argues that the knowledge developed by educational theory cannot escape 'particularity and contingency'. He further argues that educational theory is itself a social practice that is imbued with cultural norms and criteria, which makes it situated and contingent, subject to endless contestations from competing perspectives. The perspective that wins purchase on educational practice, is not decided on the grounds of its epistemic power (the rationality and truth of its propositions), but on social and historical conditions and the prevailing political climate. In his debate with Hirst, Carr (Hirst and Carr 2005, 623) argues against the idea that propositional knowledge can provide standards for

rationality and truth: 'There are no impersonal standards of rationality, no universal criteria of truth, no rigorous philosophical methods that are wholly independent of philosophy's own historically contingent language, culture and practice.'

In a subsequent article, Carr (2006, 137, our emphasis) goes much further and calls for the abandonment of the pursuit of generalisable educational theory:

> Educational theory is nothing other than the name we give to the various futile attempts that have been made over the last hundred years to *stand outside our educational practices* in order to explain and justify them. And what I am going to propose on the basis of this argument is that the time has now come to admit that we cannot occupy a position outside practice and that *we should now bring the whole educational theory enterprise to a dignified end*.

Proponents of the 'theory-independent' view of practice argue that decisions about what is best to do in practice and their justification do not depend on clear understanding of concepts, but rather on the practitioner's ability to 'particularise general forms of knowledge in the light of individual circumstances' (Sellman 2012, 124). Sound judgement depends on the practitioner's ability to reflect on the distinct features of the situation, on its extra-ordinariness, as well as on its cultural and historical specificities. The basis of professional judgement is not attributed to clear concept building; it is attributed to reading the particular through reflection. By reflecting *in* and *on* practice, Schön (1983) argues, practitioners can access their own personalised repertoire of 'tacit knowledge' and make better sense of it as they go along. In this way, over time, with a vast variety of experience in the site of practice, with more experienced practitioners, prospective practitioners will develop fluency of performance, an intuitive mode of action that is unmediated by reference to generalised principles or theoretical perspectives. This position gives rise to a conception of teaching as a craft, best learned through an orientation and apprenticeship programme.

Carr (2006, 150) puts forward two precepts that are key to our task here. Firstly, that educational theory cannot claim any form of independence or higher form of rationality that 'competent members of the community of educational practitioners' cannot access themselves. Educational theory is nothing more than a personal theory that practitioners develop through 'a process of "self-reflective inquiry"' (Carr 2006, 141). Secondly, meaningful educational theory is one that follows certain cultural and dominant beliefs[6] and not because of its rationality or truth (Carr 2006, 152). What seems to prevail here is that knowledge for its own sake is no longer central to the socialisation into practice. Concept-building, it is maintained, is not central to the development of professional knowledge.

IS IT AN IMPASSE?

Our first question asks why it matters how application tasks position theory in relation to practice. The Hirst/Carr debate represents two extremes of fundamentally

opposing views of the role of educational theory and consequently of its application. In the theory-dependent position on whether theory applies to practice (exemplified by Hirst's position), concept-building is given logical and sequential priority. The epistemic activity of formulating 'propositions on which we can agree in our judgements of truth' is a precondition for the application of theory to practice. The main object of formal study is to defend/falsify objectivity, rationality and the truth of propositional knowledge, in order to reduce the particularity and uncertainty of specific situations. In the theory-independent view on whether theory applies to practice (exemplified by Carr's position), all theoretical reasoning is already contaminated by norms and ideologies dominant at the time. The philosophical work of concept-building itself is socially situated and influenced by cultural norms and ideologies. Instead of chasing the impossible project of truthful and rational professional knowledge, formal study it is argued, should be about the cultivation of the natural ability of *phronesis*. Formal study can be done in the form of action research and personal observations, with the view to developing prospective practitioners' ability 'to make wise and prudent judgements about how to realise the goods of *praxis* in a particular situation' (Hirst and Carr 2005, 625).

The answer to our first question suggests that this debate brings us to an impasse. In Hirst's view, learning propositional knowledge is preferred. In Carr's view, learning to reflect on specific situations without relying on a body of educational theory is preferred. In view of our finding[7] that low-achieving students find assessment tasks that involve application challenging, establishing whether there is a preferred way of studying how to relate theory to practice is crucially important for the pedagogy of initial teacher education. In what follows we attempt to move forward from this epistemic impasse. We concede that the view of the role of theory in professional knowledge is contested and we expect that different teacher educators will hold different epistemic positions on either side of the debate. However, we would like to argue that as a principled position, from a pedagogical point of view, teacher educators need aspects of both positions to generate a preferred way of studying how to relate theory and practice. This preferred way, we suggest, provides acquirers with explicit opportunities to systematise the concepts they learn, *inter alia*, by distantiating them from practice-based contexts (Slonimsky and Shalem 2006). Application tasks are a crucial pedagogical tool that can either promote or hinder the acquisition of systemised knowledge in the ways in which they make conceptual objects more or less visible to novices.

In this preferred position we follow what we believe are wise and pragmatic views put forward by Craib (1992) and more recently by Winch (2010). Craib (1992) acknowledges the weaknesses of a theory-dependent view of practice and concedes that modes of systematisation of knowledge can indeed be contested. What is not contested, he argues, is that a *good enough systematisation* of ideas can provide explanations, counterintuitive to everyday thinking. In the journey from common-sense to theoretical thinking, one encounters much debate between competing theories and perspectives (a point emphasised by proponents of the theory-independent view

of practice). Nevertheless, Craib maintains that this contestation does not obliterate the value of theory. The value of theory, he suggests, lies in the questions we pose to it. If we can do this well, if we can use a theory to pose and answer some of our questions 'then our range of effective action increases; we become more free' (Craib 1992, 10). This point by Craib about systematisation of ideas as a condition for effective action is important for our task here. It is also argued by Winch's (2012) motion of 'inferential comprehension'. With this idea, Winch refers to a *relational mode of understanding* in which a true understanding of a proposition commits one to also know what can and cannot be inferred from that proposition.[8] Winch develops the idea of inferential comprehension to defend the view that the core in understanding of a subject matter is in the grasp of its conceptual structure and the methods of investigation appropriate for that subject. Like Craib's notion of systematisation of ideas, Winch's idea of inferential comprehension has a strong leaning towards the 'theory-dependent' view of practice, but does not dismiss the contextual particularities in which practitioners work.

We return to this idea later in the article. The question that the above claims about systemisation pose for us is: Can the structure of application tasks be better understood, and in what ways would this enable student teachers to systematise their understanding of educational theory and practice? We turn to this task in the next section.

DEVELOPING A CODING TOOL FOR DEMARCATING SYSTEMATISATION IN APPLICATION TASKS

By definition, an application task consists of exploring the relation between two objects of analysis, namely, *a conceptual object of study* and a *practice-based context*. By a *conceptual object of study*, we mean systematisation of ideas, ranging in scale from a paradigm, to an educational perspective (specific theory), a claim, or a specific concept. By *practice-based context*, we refer to some or other instance from the field of practice.[9] We will show that the form in which one object binds another makes an application task more or less systematic thereby enabling or constraining students' engagement with the object of study. We refer to this as the *visibility* of application tasks, that is, how the conceptual and the practice-based contexts of an application task and their relationship are demarcated for the acquirer. Demarcation here refers to two sets of relation, roughly borrowed from Hirst's and Carr's respective emphases: (i) concepts in relation to a wider body of educational knowledge (concept-building); (ii) concepts and practice-based contexts in relation to one another (situation-based reflection).

We used 'strongly demarcated' (SD), 'weakly demarcated' (WD), and 'non-demarcated' (ND) to distinguish between three levels of visibility for conceptual objects and for practice-based contexts. By placing the three levels of visibility along the axes of a grid, we identify nine places where a conceptual object intersects with a practice-based context (see Table 1). We, therefore, generate nine categories of application tasks where the conceptual object of study (COS) and the practice-based

context (PBC) are presented at various levels of visibility. For ease of reference, these nine categories have been assigned an alphabetical letter to facilitate the analysis that follows. The alphabetical sequence of the categories follows from the one in which the demarcation in the application task is most visible (Category A) to the one where it is least visible (Category I) or from tasks that enable a systematic study to tasks that constrain it.

Table 1: Typology of application tasks for student teachers

		Conceptual Object of Study (COS)		
		Strongly demarcated COS_{SD}	**Weakly demarcated COS_{WD}**	**Non-demarcated COS_{ND}**
Practice-Based Context (PBC)	**Strongly demarcated** PBC_{SD}	**Category A** Visible COS linked to visible PBC COS_{SD}/PBC_{SD}	**Category D** Fuzzy COS linked to visible PBC COS_{WD}/PBC_{SD}	**Category G** Invisible COS linked to visible PBC COS_{ND}/PBC_{SD}
	Weakly demarcated PBC_{WD}	**Category B** Visible COS linked to fuzzy PBC COS_{SD}/PBC_{WD}	**Category E** Fuzzy COS linked to fuzzy PBC COS_{WD}/PBC_{WD}	**Category H** Invisible COS linked to fuzzy PBC COS_{ND}/PBC_{WD}
	Non- demarcated PBC_{ND}	**Category C** Visible COS linked to invisible PBC COS_{SD}/PBC_{ND}	**Category F** Fuzzy COS linked to invisible PBC COS_{WD}/PBC_{ND}	**Category I** Invisible COS linked to invisible PBC COS_{ND}/PBC_{ND}

In the following analysis, we first consider how visibly the conceptual objects and/or the practice-based contexts, and their relationship are demarcated in the application task. Using the above classification, we intend to demonstrate levels of visibility of the two objects and the implication this has for the opportunity given to students to systematise ideas. Some of the examples of application we provide are taken directly from our sample of 104 tasks, while some have been modified and others are our own construction. It is not our intention to produce a typology that represents the empirical data, but rather to construct a typology of tasks that in principle can be generalisable. In the discussion that follows, we will consider what this classification means for how application tasks can be used as a means for promoting student teachers' systemisation of educational knowledge.

Category A: Application tasks with a strongly demarcated conceptual object of study linked to a strongly demarcated practice-based context (COS_{SD}/PBC_{SD})

A
Explain each of the following concepts that constructivist theorists use in their explanations of how children learn: adaptation; schema; assimilation and accommodation.
Compare and contrast the four stages described by Piaget to explain how children develop cognitively.
What evidence in the lesson transcript (provided) suggests that the teacher has considered the cognitive developmental stage of Grade 4 learners in her explanation of 'space'?

Application tasks in this category posit the two objects of study, with similar precision. The sequence in which the objects of the questions are ordered suggests a dependency relation: a theory is presented as an organising framework that has its own vocabulary, internal structure, hierarchical relations and boundaries. All things being equal, before one examines a particular situation, one needs to articulate organised propositional knowledge. The status of the theory, its criteria of truth and stability of claims is not always offered as a question. Its role in providing organised insights for practice is offered as a precondition for application. Looking at the above task more specifically, the first part requires student teachers to explain the four concepts that are central to Piaget's cognitive constructivist theory of learning. The second part of the question requires student teachers to relate between ideas by following the organizing concept of 'stages of cognitive development'. Both of these steps in the question focus on organised propositional knowledge and require student teachers to work with a conceptual structure. In the case of this task, students are given an opportunity to systematise their understanding of the inferential structure between propositions about *cognitive development* and about *learning*. The third part of the question demarcates a practice-based object in two ways. It selects a specific instance and positions student teachers as investigators, who are required to select evidence appropriate for the inferential structure they first articulated.

Categories B and C: Application tasks with a strongly demarcated conceptual object of study linked to a weakly or non-demarcated practice-based context (COS_{SD}/PBC_{WD}; COS_{SD}/PBC_{ND})

B

According to Durkheim, schools play an important role in maintaining social order in modern industrial societies.
Discuss the above claim, drawn from a functionalist perspective and include relevant criticisms of the theory in your discussion.
Explain why this theory is important for understanding the role of education in South Africa during apartheid.

C

According to Durkheim, schools play an important role in maintaining social order in modern industrial societies.
Discuss the above claim, drawn from a functionalist perspective and include relevant criticisms of the theory in your discussion.
Based on your personal experience as a learner, explain how this claim helps you to understand <u>your</u> past experiences of schooling.

In application tasks that fall into these categories, student teachers are expected to examine a claim advanced by a specific perspective and to argue against it. In the above task, the status of the theory, its criteria of truth and stability of claims are offered as a question, albeit, the propositional knowledge from which criticism of the claim should be drawn is not demarcated. The first part of the question asks student teachers to discuss and evaluate a sociological theory in its own right, and provides

a specific claim to focus the acquirer's analysis of the perspective. As in Category A, concept-building gets logical and sequential priority in these two categories of application tasks. The practice-based context, however, is weakly demarcated: in Category B, it refers to a broad commonly recognisable context; in Category C it refers to a personal experience, idiosyncratic experience. The relation in the two application tasks between a specific conceptual object (sociological claim central to the functionalist perspective) and practice-based contexts must be noted. In both of these application tasks, the process of demarcating the practice-based context appears to be controlled by the acquirer (Bernstein 1977). The difficulty in the Category B task would be to recognise which aspects of the broad and commonly known context one would need to include/exclude in order to operationalise the conceptual claim. Selecting an instance from a private experience in the Category C application task is qualitatively more difficult. The difficulty lies in combining two sets of levels of knowledge: ideas that have been systematised into an organised body of propositional knowledge with discrete and disorganised personal experience.

Categories D, E and F: Application tasks with a weakly demarcated conceptual object of study linked to a strongly/weakly non-demarcated practice-based context (COS_{WD}/PBC_{SD}; COS_{WD}/PBC_{WD}; COS_{WD}/PBC_{ND})

D
In their Taxonomy of Learning, Teaching and Assessing (also known as the Revised Bloom's Taxonomy), Anderson and Krathwohl (2001) classify the different ways of working with knowledge as follows:
Level 6: Creating knowledge
Level 5: Evaluating knowledge
Level 4: Analysing knowledge
Level 3: Applying knowledge
Level 2: Understanding knowledge
Level 1: Remembering knowledge

Use the Taxonomy of Learning, Teaching and Assessing to discuss how this revised taxonomy differs from Benjamin Bloom's Taxonomy of Educational Objectives (1956).
Identify the ways in which learners are expected to work with knowledge in the four 'Activity' questions in the textbook extract provided. Explain the reasons for your choices in each case.

E
How do teachers scaffold learning? Draw on your experiences and observations during your Teaching Practicum to illustrate your answer.

F
In an essay explain the key aspects of the theories of Piaget, Vygotsky, and Feuerstein. Discuss the impact of these key aspects on classroom management with regard to: organisation, resources, planning, teacher's role, learner's role. Substantiate with practical examples.

Consistent with the theory-independent view's emphasis on reflection, these application tasks are designed around a practice-based context, rather than around a conceptual object of study. The conceptual object of study is demarcated,

sequentially, prior to reflection on practice, but because of its weak conceptual demarcation its logical capacity to provide an ordering principle for how to examine the practice-based context is restricted. In categories D, E and F of application tasks, students are positioned primarily as prospective practitioners. They are asked to do something they would do if they were in the real situation (D), match between an idea and what practitioners do in practice (E), or figure out the relevance of theories for classroom management, a common theme in teacher education (F). Two features are common to this set of application tasks. Firstly, the conceptual object of study is fuzzy, albeit, to different degrees in qualitative terms. Secondly, a conceptual object of study functions as a tool for doing something and not as a body of propositional knowledge, in the form of a claim or perspective-based concept. The qualitative difference in Category D is that student teachers are given an opportunity to compare two versions of taxonomy, which enables them to deal with systematisation of knowledge. In addition, the practice-based context to which it is applied (questions contained in a textbook extract) is strongly demarcated. The underlying message conveyed by Category D's application tasks is that a concept (in the form of a particular taxonomy), in principle a theoretical object, is a useful instrument for doing something in practice.

The possibility for systematisation is weakest in Category F: the bigger the body of propositional knowledge student teachers are required to explain, the more numerous instances of practice-based contexts they are asked to examine, the more challenging the application task is. The fuzzier the conceptual object is and the less demarcated the practice-based context is, the stronger the message is that propositional knowledge (in the case of categories E and F, cognitive psychology) is not central to the work of teachers. The challenge to students in these types of application tasks is to figure out on which claims, concepts or ideas from the conceptual object (in Category F referred to as names of cognitive psychologists) and which dimensions of the specific practice-based context they should focus their attention. When the selection rules for both objects appear to be in the hands of the acquirer, the opportunity to systematise ideas is weakened, which greater scope for students to respond with common sense responses. In tasks such as those in categories E and F, reflection will not necessarily promote development of their gaze on or imagination for practice.

Categories G, H and I: Application tasks with a non-demarcated conceptual object of study linked to a strongly demarcated practice-based context (COS_{ND}/PBC_{SD}; COS_{ND}/PBC_{WD}; COS_{ND}/PBC_{ND})

G
Briefly describe the school in which you have been placed for your teaching practicum.
In your answer, consider:
Composition of the learner population (approximate number of learners per class; gender; home languages; socioeconomic backgrounds; dis/abilities);
Geographical location of school (rural/suburban/inner city/township contexts);
Whether the school is public (state funded) or independent (privately funded);
School resources (e.g. access to electricity in classrooms; availability of textbooks; media centre/ libraries; enough desks and chairs for learners; laboratories; sport facilities; etc.);
School system of discipline.

H
With reference to South African schooling, explain why teachers need to know their subject matter well.

I
You have recently spent a week observing schools. Based on your readings and observations, describe what comprises high quality teaching that contributes towards achieving the aims of the Foundation Phase programme.

A common dimension to the last set of categories (G, H and I) is that the underlying conceptual object of study is not demarcated at all. Although the three tasks allude to specialised practice, there is no reference to a theoretical perspective, concept, claim or model that would make visible epistemic criteria that could guide students in systematising (Category G), explaining (Category H), or justifying (Category I) the practice-based context. In three categories, albeit with different degrees of visibility, the underlying message is that observation of an empirical practice-based context, particularly if it is sufficiently specified, is theory-independent. Student teachers first need to determine what criteria to impose on their observations, or alternatively decide what aspects of practice that emerge inductively from their observations are noteworthy. When the concept is invisible and the practice-based context is fuzzy, there is a good chance that students will resort to constructing a common-sense link between the two objects.

As in the previous set of categories, the Category G application task is qualitatively different to categories H and I. This type of observation task is commonly given to student teachers at the beginning of a course, in order to structure their observations in the school to which they are allocated. Student teachers are positioned as researchers of a strong-demarcated practice-based context. The description of the practice-based contexts alludes to conceptual classification of key sociological dimensions of schooling (including racial, gender and class social stratification). These are not distinguished, in logical terms, from experience-near classification, such as resources or school discipline.

To sum up, a strong demarcation of the conceptual object of study in epistemic terms (e.g. categories A, B and C) leans towards a *theory-dependent approach* to

conveying to students that theory informs practice. In application tasks where there is a strong demarcation of the conceptual object of study (particularly, but not limited to when the practice-based context is also strongly demarcated), student teachers are constituted as researchers[10] and as such are required to explain, defend or falsify propositional knowledge with reference to instances of practice and in this way to advance the systematisation of their understanding of practice. They are given an opportunity to develop systematic 'inferential comprehension' (Winch 2012) of that propositional knowledge. When the conceptual object is presented as a tool, albeit with levels of classification as in 'taxonomy' (e.g. Category D), student teachers are constituted as prospective practitioners and as such are required to use concepts as an instrument to do something that 'real' practitioners do. On the other hand, a weak demarcation of the conceptual object in epistemic terms tends to lean more towards a *theory-independent approach* in conveying to students how theory arises inductively from a study of the particular. In application tasks with a weak specification of the conceptual object (and only when the practice-based context is strongly demarcated, as in Category G), student teachers are given an opportunity to partition an object of experience by acquiring, over time, a body of organised propositional knowledge, which they will learn to re-order. In principle, categories E, F, H and I, which do not fall within this discussion, will not necessarily advance students' ability to construct systematised professional and theoretical knowledge.

DISCUSSION

In his recent work on *expertise*, Winch (2010, 104) draws a distinction between 'contingent and discrete propositional knowledge' and 'organised propositional knowledge'. The crux of this distinction lies in his claim that professionals are successful in their action '*because* they apply systematically organised propositional knowledge' (Winch 2010, 104, original emphasis). Winch (2004) puts forward a strong claim for why theory (in particular, Philosophy) is needed in teacher education. He acknowledges the proliferation of Social Science explanations and the ensuing contestation between theoretical perspectives. He also concedes that *knowledge how* to do something is very different from knowledge of justification (*knowledge that*). Each of these modes of reasoning is different and therefore *reflection on action* in specific situations cannot be seen to be directly dependent on thinking about the truth of ideas about action, at least not in any simple way (Winch 2010, 102). Nevertheless, none of these admissions absolves the critics (proponents of the theory-independent view, Carr in particular) from showing 'how propositional knowledge might have a bearing on practice' (Winch 2010, 102) *because* it has a systematic structure.

Winch and Craib's position guides our task here with the following precept: in learning what to teach, student teachers need to acquire propositional knowledge of debates within the subject matter they learn, about the *nature* of the subject. This claim provides an additional criterion for demarcation of the conceptual object of study: ways of validating claims within the subject, understanding what counts

as 'explanatory adequacy' (Winch, 2010, 106), and what kind of research design and data organisation are appropriate for the subject matter at hand. Given the contestation inherent in educational theory, the way forward, Winch argues, is not to drop theory out of a teacher education curriculum but to study it so that it can act as a 'critical friend'. This becomes even clearer if argued from the perspective of professionalisation: once the idea of rationality and truth are challenged, 'the importance of the possession of a systematic body of knowledge as the necessary feature of expertise' is also challenged (Winch 2010, 135). In our modest attempt to be part of this debate, the analysis we offer purports to send a clear message that the less demarcated the conceptual object of an application task, the greater the chances that students will not be equipped with an organising insight into the practice.

THE INFLUENCE OF EPISTEMIC CRITERIA AND PEDAGOGICAL IMPERATIVES ON THE STRUCTURING OF APPLICATION TASKS

We concede that there are various reasons why assessors who do not subscribe to a theory-independent view of practice may make deliberate curriculum or pedagogical-based choices to construct application tasks with weakly or non-demarcated conceptual objects. For example, in order to establish the extent to which students (having built up a body of propositional knowledge) are able to bring a theoretically-informed analysis to make sense of their practice-based experiences prior to qualification, a Category I application task may indeed be useful. It will be useful for teacher educators to evaluate the extent to which final-year students have appropriated sufficient criteria from their study of theory to impose organising insights onto their practice-based experiences. Alternatively, a pedagogic decision to include a non-demarcated conceptual object may be used to expose students' common-sense responses at the beginning of a course. In these cases, teacher educators' decision to set an application task with a weak conceptual object carefully considers the epistemic imperative, but is motivated by a curricular or pedagogical imperative. Hence, there may be some discrepancy between teacher educators' epistemic position on the role of theory and the structure of the application tasks they devise.[11]

Furthermore, introducing student teachers to a body of propositional knowledge is of course firstly, a curriculum question. Curriculum research shows clearly that the structure of educational knowledge, like other Social Sciences, has a multitude of theoretical perspectives competing for dominance, as pointed out clearly by proponents of a theory-independent view of practice, but theorised very clearly in Bernstein's (2000) work on knowledge structures. With that in mind, deciding which educational perspective to introduce at what stage in their professional development, is a complex decision for teacher educators to make. Firstly, they need to decide whether educational perspectives initially are introduced as uncontested theories with contesting perspectives introduced thereafter, or whether they are introduced as contested from the outset. Secondly, student teachers have limited knowledge

and understanding of education, schooling or teaching as a practice. Our point still stands, if teacher educators are to truly enable student teachers to develop a systematised body of educational knowledge, they need to help them see how concepts are positioned within a particular theoretical perspective. The concepts can be then recontexualised into the field of practice, providing future teachers with specialised knowledge-based practice.

In answering our third question, the analysis offered in the article suggests that (especially beginner) student teachers will find it most difficult to access criteria when the application tasks question do not demarcate a conceptual object of study sufficiently in relation to a sufficiently well demarcated practice-based context. Similarly, we urge caution when assessors include references to practice simply in order to make university-based coursework *more relevant* in the eyes of student teachers without due consideration for the epistemic implications of how they structure application tasks. Attempts to make university learning relevant would be deemed superfluous by proponents of the theory-dependent view of practice, but would be embraced by the likes of Craib and Winch, so long as students are required to engage with the nature of the conceptual object, either preceding or following the application to a practice-based context.

CONCLUSION

Part of the work of inducting students into practices of knowledge development within the academy is that students should engage with 'conscious reflection on and systematic investigation of established knowledge' (Slonimsky and Shalem 2006, 42). The use of the typology to analyse texts shows that the more visibly the conceptual object of study is demarcated in application tasks, the greater the likelihood that student teachers will *distantiate* themselves from their everyday experiences and *appropriate* an organising insight for their practice-based context, with a view to re-ordering it conceptually. In contrast, in application tasks where a conceptual object is either vaguely demarcated, or not demarcated at all, students will need to do much more guesswork in terms of establishing valid criteria for selecting appropriate concepts around which to construct a relevant analysis, and to position the concepts into an argument. This, we believe, accounts for some of the challenges beginner student teachers find when confronted with application tasks. Where it is anticipated that the still-undefined concepts will emerge from analysis of practice, we agree with the critics of the *theory-independent* view of practice that this is unlikely to prompt pre-service student teachers to move beyond a common sense response to application tasks. Our concern with the inclusion of weakly or unspecified conceptual objects of study is that such tasks are unlikely to promote anything more than an intuitive response from students, which reinforces a notion that pedagogical decisions are based on 'what feels right' rather than on knowledge-based, principled judgements. If assessors are to use application tasks to enhance student teachers' acquisition of systematised knowledge, they should be mindful of

both the epistemic implications *and* their pedagogical imperatives for how visibly they demarcate the conceptual object of study in application tasks they devise.

NOTES

1. The 104 assessment questions are taken from four core first-year courses, which focus respectively on literacies for teachers, general methodology and studies in education. For detail on the study, conducted at the University of the Witwatersrand, please refer to the 'Introduction' to this cluster of articles, 'Towards successful participation in academic writing: What can we learn from assessment?', in this volume.
2. Both the second and third application type tasks asked the students to reflect on an instance of the practice of teaching. The main difference was that in the applied-theory tasks, students were provided with the instance of practice to reflect on (e.g. a lesson plan); whereas in the creative tasks, students were asked to produce and reflect on the instance of practice (e.g. create a poster and reflect on it).
3. Depending on the number of ideas included, the structure of the task and clarity of instruction, a task is considered more or less delimited.
4. See the article '*I don't understand everything here . . . I'm scared*': Discontinuities as experienced by first-year education students in their encounters with assessment', in this volume.
5. Our work on visibility is broadly drawn from Basil Bernstein's (1977) famous work on the distinction between visible and invisible pedagogy.
6. A case in point, which Carr (2006, 153) brings to our attention, is the use of psychometric theory (in particular IQ testing).
7. See the article '*I don't understand everything here . . . I'm scared*': Discontinuities as experienced by first-year education students in their encounters with assessment', in this volume.
8. Winch gives an example for his idea of inferential comprehension: if one understands the inference from 'Napoleon was crowned Emperor of France' to 'France ceased to be a republic', s/he 'will cease to refer to France in the period after 1804 as a republic and will be able to contrast at least some features of the government of France before and after 1804'. He goes on to argue 'when we assess someone's knowledge of French history these are precisely the kind of understandings that we look for' (2012).
9. An instance of practice can include broad references to schools or other educational contexts to more specific classroom-based incidents, artefacts from classroom-based practice, simulated or clinically constructed lessons that can be located at a particular time and place, and personal observations or experiences of teaching and learning.
10. This is also evident in Category G insofar as students are required to collect evidence (but the principled view is absent).
11. Students who are required to respond to application tasks of this nature are likely to find much posted on the Internet regarding particular theories or concepts and their application to broad educational contexts. While the application of a conceptual object of study to a carefully selected simulated (provided) or personal context is likely to compel students to produce original responses, structuring application tasks with broad applications to education in non-exam conditions might tempt students to access the myriad of texts available on the Internet, which address that particular angle.

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