Knowledge and Learning: Views of a Sample of South African Higher Education Students

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This study explored views of knowledge and learning held by a sample of 14 Black South African first year university students (age range = 18-24, 50% female). Data was collected by means of semi-structured interviews, group interviews and focus group interviews. The data was subjected to thematic qualitative content analysis. A majority of the participants evidenced a pre-reflective epistemological perspective characterized by the beliefs that knowledge is certain and absolute rather than relative; that the source of knowledge is vested exclusively in authorities external to the self, that learning is quick, and that it mainly involves memorization of facts. However, a few participants espoused more advanced, pre-reflective epistemological beliefs via awareness of bias and the idiosyncratic nature of knowledge. Greater epistemological sophistication was associated with the presence of supportive educational role models such as teachers or parents, and personal characteristics such as determination and inquisitiveness.

Keywords: personal epistemology, African students, views of knowledge, views of learning

Students' personal epistemologies, or beliefs about knowledge and learning, as well as their contexts, have been found to constitute a significant aspect of their academic experience and performance (Brown, Collins, & Duguid, 1987; Khine & Hayes, 2010). Personal epistemology is a system of more-or-less independent beliefs about what constitutes knowledge, what the source of knowledge is, what serves as the justification of knowledge, and beliefs about the speed of learning and control over learning (Schommer-Aikins, 2002). Personal epistemology plays an important role in how students interpret their educational experiences (Hofer, 2004), and particularly in their thinking and reasoning processes (King & Kitchener, 1994), skills of argumentation (Conley, Pintrich, Vekiri, & Harrison, 2004; Kuhn, 1993) and classroom learning (Schommer, 1990).

Brownlee (1998, p.1) describes the nature of knowledge as core beliefs (epistemologies-as-knowledge-building), and the process of knowing as more peripheral beliefs. However, there is a problem with this claim as core beliefs and the processes for acquiring the beliefs are somewhat intertwined. Types of learners have been proposed, (although these would likely not characterize any individual learner): a) Absolute knowers who see knowledge as certain and believe authorities are knowledgeable and believable; b) transitional knowers who begin to see the uncertainty of knowledge and who begin to accept that authorities are not all-knowing; c) independent knowers who hold their own opinions as equally valid as those of others and are willing to question those in authority, and d) contextual knowers who hold well informed positions on the grounds of judgment of contextual evidence (Baxter Magolda, 2002). Stage theories in the development of reflective thought have also been proposed. Among these, the best known and most extensively studied model of epistemological development is the Reflective Judgment (RJ) model, developed by King and Kitchener (Pascarella & Terenzini, cited in King & Kitchener, 2002, p. 43). According to this seven stage model, the first three stages of epistemological development are characterized by pre-reflective knowing in which knowledge tends to be viewed as certain, concrete, and vested in external authorities. Stages four and five represent quasi-reflective thinking, in which knowledge is now viewed as uncertain and knowledge claims are seen to be contextual and idiosyncratic to the individual. The final two stages represent reflective thinking where knowledge from a variety of sources is constructed into individual conclusions, based on a process of reasonable inquiry (King and Kitchener, 2002).

In contrast to the conceptions of stage models such as the RJ model, Schommer-Aikins, who considers epistemology to be represented by four more or less independent belief dimensions, maintains that a person may hold a sophisticated view in some dimension(s) but at the same time hold a naive view in another dimension, and this would be true of higher education students. There have been a number of quantitative (Khine & Hayes, 2010; Schommer-Aikins & Easter, 2008), and qualitative inquiries (Brownlee, 2003; Luft & Roehrig, 2007) on students’ approaches to learning. However, no studies on South African students’ construction of their own learning could be found. As such, the South African higher educational context provides a relatively unique opportunity to study black African students’ beliefs about knowledge and learning.

The South African Higher Education Context

A concerted effort has been made since 2001 to redress historical racial inequalities in access to higher education and to provide fair opportunities to succeed (Ministry of Education, 2001). However various factors still pose a major obstruction for students’ success in higher education, such as language of instruction, poverty, inadequate primary and secondary education, and racial prejudice in the education sector.

South Africa has 11 official languages, of which nine are African languages. The language of instruction at secondary schools and higher education institutions is either English or Af-
rikaans (Mdepa & Tshiwula, 2012), disadvantaging African students in at least two ways: Indigenous African languages are undervalued resulting in undervaluing an aspect of the learners' identity, and full mastery of English is not guaranteed (Butler, 2012).

Comprehensive changes in curricula such as the adoption of Outcomes Based Education (OBE) in 1989 by the Department of Education (though abolished in 2011) proved to be unsuccessful and may have led to paying too much attention to procedural knowledge which could have 'treat(ed) learners as little less than functionaries who rather mindlessly execute tasks required of them' (Mason, 2000, p.345). This might be due to the possibility of students being able to search for and find information but not necessarily being equipped to transform the information into knowledge. Furthermore, many teachers resort to traditional teacher-centred didactics which overemphasise propositional knowledge also resulting in unsophisticated beliefs that knowledge is fixed or given (Mason, 2000). One dimensional didactical approaches do not cultivate flexible thinking and have historically frequently been a hallmark of school education.

Racial prejudice in the education sector is still glaringly evident (Happ, 2007; Holtman, Louw, Tredoux, & Carney, 2005; Jansen, 2004). Mostly teachers are not cross-culturally sensitive, and thus unable to handle cultural diversity (Mazibuko, 2006; Meier & Hartell, 2009), leaving learners feeling disregarded and marginalised (Pather, 2005). African students are thus often at a marked academic disadvantage.

Goals of the Study

This study explored the epistemological beliefs of first year students and their approach to learning at a South African University. The aim was to understand their beliefs in order to inform teaching practices in order to more successfully enculturate students into the complex socially constructed cultures of disciplines and professions (Brown, Collins, & Duguid, 1989). Specifically, the study was informed by the following research questions: What are the students’ views and beliefs about: a) what constitutes knowledge, b) what the source of knowledge is, c) what serves as the justification of knowledge, and d) the speed of learning as well as e) the control over learning? In addition, the study set out to explore possible factors that impact student's views of knowledge and learning.

Method

Research Design

The present study explored the conceptions of knowledge and learning of a group of first year black South African students. An exploratory qualitative research design was adopted for the study, which was grounded in an interpretivist paradigm. As virtually no research appears to have been conducted on the learning of a group of first year black South African students, the need exists to adopt an insider-view, exploratory approach. A qualitative mode of inquiry is ideally suited to these aims (Nieuwenhuis, 2007).

Participants and Setting

A total of 14 first year students at a campus of the North-West University participated in the research. The student sample consisted of an equal number of males and females, whose ages ranged between 18 and 25 years, and who were enrolled in a variety of B.A. degree programmes. All 14 first year students were black and thus studied in their second or third language. Whilst the absence of a contrasting non-black sample could be considered a limitation, this was an initial exploratory study. Given the difficulties that often characterize their background (Jansen, 2004; Modisaotsile, 2012; Msila, 2005), the researchers were specifically interested in exploring black African students' views on knowledge and learning.

Procedure

After full ethical clearance for the study was obtained from the NWU ethics committee (ethics number FH-SB-2011-042), verbal and electronic invitations to take part in the study were extended on electronic notice boards and during a contact session. Interviews were scheduled with those students who agreed to take part in the study at a time that was convenient to them. Full informed and signed consent was obtained from each participant, and issues pertaining to confidentiality of their responses, the right to immediate withdrawal without penalty and other ethical matters were clearly outlined prior to all interviews.

Data Collection

Data were initially collected by means of seven semi-structured interviews. Subsequently, a group interview with three students, and an additional focus group interview with four students were conducted (total n=14). Whilst additional interviews were initially scheduled, data saturation was reached fairly early in the study, with very little additional information forthcoming during the course of the last interviews.

The interviews were guided by the research questions that framed the study, and as such, probed student's views about what constitutes knowledge, the source and authority in the acquisition of knowledge; the relativity of knowledge; the effort required for learning, and responsibility for learning. The interviews were audio-recorded with the permission of the participants.

Data Analysis

Data were transcribed and analyzed with the aid of ATLAS TI 6.0. Following this, segments of texts were identified at a meaning-unit level, and then accorded descriptive codes which were subsequently synthesized into conceptual categories and themes (Babbie & Mouton, 2010).

Credibility was ensured by prolonged engagement with participants (Babbie & Mouton, 2010) and initial independent coding of data by the two researchers, which was subsequently refined and clarified through a process of discussion where consensus was reached. Finally, a clear audit trail of the research process was kept. Transferability is enhanced by providing a thick description of participants' context and views and beliefs (Babbie & Mouton, 2010). The following section is devoted to a discussion of the findings that emerged from the analysis.

Findings

Beliefs About the Nature, Source, and Authority of Knowledge

When questioned about their beliefs in relation to the source of academic knowledge, participants (n=11; 78%) generally felt that such a source would be located externally and 'upwards' in relation to themselves. These participants viewed academic knowledge to derive from research conducted by experts in given fields of study, from academic textbooks written as a re-
suil of such inquiry, and from the internet, as the following excerpts from the interviews illustrate:

Knowledge ... I think it comes from the books that we read. From the information that we get from the internet ... (P5)

Most textbooks are there for a long time. It mean(s) the authors or editors do research on the topic. They have worked on the topic a long time. Even if you are unsure about the textbook, you can find another book on the same topic and make sure and gives you a better understanding of what it is all about (P2)

This would suggest that there are empirical and positivist overtones to the students’ personal epistemologies. A noteworthy observation was that only two participants expressed relativist elements in their views of knowledge, as illustrated by the participants’ own words below:

I tend to make some research and all to find out this isn’t true because those are the theories which people have, just researched and as you can see, some person can come with this theory, then another theory still come then maybe there is few. The theory for me, I can say, it cannot always be hundred percent sure but it is something that a person go through the research ... then after that he gives his opinions according to his research. So sometimes ... I criticize some of the things, all to find out sometimes they are right, some of them, yes, don’t get them right (P4)

I am not convinced. ... What happens overseas doesn’t happen here in Africa in my culture. So there is something that I question in the sociology book then it’s basically examples for overseas. (P1)

A few participants (n = 3; 21%) felt that even in the sphere of academic, secular knowledge, religion, and specifically the Bible held the final authority in determining what is to be considered reliable and valid knowledge. Some participants went as far as to bluntly state that whatever is written in the Bible would necessarily be completely infallible and that any contradictory truth claims would be summarily rejected, even if such claims were forthcoming from science or empirical research. Whilst this study focused predominantly on students beliefs in relation to secular knowledge, previous researchers have noted that religious beliefs can and do influence students’ epistemologies within secular contexts such as universities and colleges (King & Kitchener, 2002, p.48), and as such religiously informed beliefs about knowledge cannot be wholly separated from secular beliefs about knowledge.

I think in fact the Bible is infallible. (P7)

Like I am a born again Christian ... So ... whatever God says is right. I believe it. I don’t question it. (P8)

To deal with this dilemma within an academic context, some students (n=3; 21%) who favour a view that gives ultimate credence to religious truth claims stated that they simply write what lecturers want to hear in order to achieve the required pass mark, while privately maintaining their religiously informed perspective on the truth.

Well I think it is very easy - for the sake of getting the marks that you need and moving onto the next semester and the next year. I think just write what they say according to them is fact. But this is what I know is that the word of God is truth and it is not subject to change at all. But scientist’s discoveries are facts so they are subject to change that is why we have had a whole lot of discoveries all over the world.(P7)

From the above it is clear that a degree of polarization exists among some participants in relation to the belief that science on the one hand, or religion on the other, possesses the final truth claim within academic contexts. Those in favour of science pointed out that such an approach to gathering knowledge is based on fact and therefore reliable, whereas those in favour of religion viewed science as fickle and subject to change as new research is done or as multiple researchers reach differing conclusions.

Some participants (n=2; 14%) appeared not to have given the entire matter of the sources of knowledge much thought, and indicated that they consider the internet to be the primary source of knowledge. Information which was produced by search engines such as Google were deemed reliable sources of knowledge, especially when such sources contained a list of references, or when the information in these sources was similar in content to information in other sources. When asked about where knowledge comes from, Participant 4 answered:

Internet, library books. But mostly I use internet. Cause internet I can get anything, I can get a specific book from the internet that I want ... I rely on internet.

R: Do you use any sources on the internet?

P1: Yes, Google ... mostly I use Google.

R: So who puts the information on the internet?

P1: I don’t know. Google.

R: Who’s Google?

P1: I don’t know. I don’t research that. (P4)

Questioning Knowledge

Students were asked whether they would ever question knowledge claims from lecturers or textbooks, and if so, under what circumstances this would be the case. Whereas some participants indicated that they lack the confidence or capability to question what lecturers might be saying, most participants indicated that under certain circumstances they would question what lecturers are saying. Typically this would be the case when what lecturers say disagrees with students’ personal knowledge of phenomena, or with their religious (mostly Christian) worldviews or beliefs. In other cases it would occur when lecturers exhibit signs of bias or are perceived as forcing their own personal and cultural opinions down students’ throats. However, in practice, such disagreements are rarely voiced, and students often end up privately disagreeing with lecturers while outwardly not questioning them. It seems that students’ lack of academic self-confidence in the world of knowledge and fear of losing face might underlie this. It is also plausible that these responses are reactions to teacher-centred approaches to education:

I think I’m not [questioning], because it’s my first year, I am not used to this, to question him [the lecturer]. (P5)

Some things if they do sound kind of wrong, I ... would think about it....if I think it can’t be that [as has been explained] then maybe I will reason [with myself] but I wouldn’t really trust my opinion because I believe that a lecturer is more intelligent than I am. I will not ask a question. (P3)

Beliefs About Knowledge Acquisition and Speed of Learning

During the interviews, students were asked how they approached the study material that formed part of their coursework. It was assumed that students’ views of knowledge would have a significant bearing on the way they approached their studies and the various materials related to it such as textbooks, study guides and lecture slides. Most (n=10; 71%) of the participants totally underestimated the time necessary to master the content of academic modules. Typically, students would
report spending 2-4 hours on mastering a study unit (a subsection of work within a given module, which would usually require between 15 and 20 hours to master, as expressed in the concept of notional hours, and as is clearly indicated in all study guides used at the university. However, this situation might also, at least in part, be reflective of inadequate student orientation by the university.

Furthermore, the study methods employed by the students appeared to parallel their pre-reflective epistemologies. Students’ study methods were primarily characterized by rote learning and memorization. When textbooks were consulted, the engagement was usually limited to mere reading or summarizing.

Additionally, in most cases, students admitted that they would base their studies on the smallest chunks of knowledge related to the module that they could find (such as summaries or class notes made by other students, or, very commonly, on power point slides provided by lecturers). Whilst the possible reasons for this are not explicitly indicated in the interview data, research conducted at the university found that poor academic language proficiency was common among first year students. Sixty four percent of the 2012 first year cohort did not meet the minimum expected standard (Butler, 2012). As such, it is reasonable to suggest that the average first year student will find reading an academic textbook overwhelming. This may disempower them to such an extent that they seek smaller chunks of knowledge (devoid of arduous arguments) for their simplicity.

I would say that the [powerpoint] slides would be that foundation. They would give you the most basic knowledge of what you’re focusing on. Then after you’ve grasped that, go into your text book for the deeper knowledge of the work itself [If you don’t have enough time] then the slides are best really.(P6)

Not surprisingly, participants (n=11/78%) admitted that these study methods were at best effective only in the short term, and that most of the knowledge that they had acquired in this way soon evaporated. This corresponds to what Entwistle (2000) calls a surface apathetic approach to learning, which is characterized by a fear of failure and routine memorization with the aim of meeting minimum course requirements. Various researchers suggest that problem- and learner-centered teaching practices and mindfully structured assessment practices discourage superficial memorization and enhance effective, deep learning (Boud, 2000; Boud & Falchikov, 2006).

Sometimes you do study something of which you study now, maybe today ... tomorrow I will write the test and get that good mark. But then after writing that test some of the info is gone. (P7)

When queried about the notion of knowing versus understanding the study material, most students indicated that they believe they understand the work when they can recall the facts they have memorized.

How do I know that I understand my work? By so getting, when I have jotted the questions, when I get them right, then I know that I already know my work. Okay, so when I know it, it means that I understand it (P4)

The shared implicit notion is that knowing equals the ability to recall and recite the information gleaned from various study materials. As such, the distinction between knowing and understanding is not made by these participants.

Students’ beliefs About Control Over Learning and Views of the Relative Roles of the Student and Lecturer in the Learning Process

In relation to participants’ views on students’ role in learning, most agreed that the brunt of the responsibility for learning lay with the student, rather than with the lecturer. On average participants indicated their own responsibility to be 60%-70% of the learning process, and viewed the remainder to be the responsibility of the lecturer. Specifically, the students who were interviewed felt that their role was to prepare for lectures (which could involve reading the prescribed material in the textbook or making summaries), consulting lecturers when they do not understand the work, to participate in class, and to make their opinions heard. However, participants’ comments in other sections of the interview appear to contradict this notion of students’ beliefs about their responsibility for their own learning.

Secondly, a theme that strongly emerged from the interviews is that students experience a sense of disorientation in the world of knowledge, an anxiety-filled sense of uncertainty and lack of self-confidence in dealing with the demands of higher education, which results in an intense need for and dependence on structure, certainty and demarcation of every aspect of their education. The following quotes illustrate this theme in the participants’ own words:

Let me say there was a large gap between high school and university. Because at high school our teachers, they spoon feed us everything, now that’s not happening. Now it’s just the lecturer gives you what you need to know... And I would say now, what we expect from them is, okay you are giving me the foundation, I get that. But just try and give it to me in such a way that when I go back and I go further on what you’ve given me, I’m going about it in the right way. Give me at least enough for me to take it on my own and make sure that I am doing it correctly and I am learning the stuff. (P8)

Maybe she doesn’t tell you, she doesn’t tell you the outcomes, what exactly is needed for that certain module. Then you have to do a lot of work for yourself. Get everything sometimes you end up failing that module. (P6)

The excerpts given above suggest that students may expect lecturers to provide complete structure and clarity in relation to the work. Typically, students expected lecturers to provide such structure by means of having and making available electronic slides of the lesson content, by providing ample practical examples to illustrate content, as well as by giving clearly demarcated outlines for tests and examinations.

These findings gain even greater significance in light of the fact that all study guides used at the university are written with clear learning outcomes spelled out for each learning unit. Nevertheless, these seem to not provide enough structure for many students.

However, rather than being indicative of students’ beliefs about knowledge, this situation might be reflective of students’ strategic approaches to learning, which has been shown to be influenced by teacher centred approaches to teaching that is frequently adopted by lecturers (Entwistle, 2000).

Factors Influencing Student’s Beliefs About Knowledge and Learning

In analyzing the data for clues as to why some participants espoused more developed beliefs about knowledge and learning, it appeared that they would perhaps be more inclined to do so to the extent that they had access to inspiring educational role models who demonstrated both the intrinsic as well as ex-
trinistic elements of educational success. Their role models appear to have left deep impressions on the participants that positively influenced their own educational approach and aspirations. When asked about factors that influenced his views of learning, Participant 4 said that: ‘... it’s my previous teacher back at high school, who is teaching agriculture, then this teacher of mine is my role model because he always when he came to class, sharing his experiences, all to find out he’s from nowhere but he never allowed the situation back at home to affect what he is today and he used to say that don’t exactly look where I come from but just look where I’m going to. Then he was so motivationally to me because he was always motivating us, each and every time. When we get our result, maybe the term result, then he will come and say, okay, people you did this and this, then let’s come up with the way forward. What went wrong? ... Then he was so motivating me because even now, he’s also busy studying some of the things he learns each and every day, so I just ... want to take some of the things from him and combine with some of the things that I have, then and make my own thing, out of him and also the things that I have, then I will ... be the role model for some other people.’

In the light of the importance of narratives of ascent (Mangcu, 2012) in which the protagonist overcomes significant stumbling blocks in the climb to success, it is perhaps problematic that some participants did not have any role models in relation to education.

Other factors that appeared to play a positive role in promoting a more sophisticated view of knowledge and learning included supportive parents, especially if such parents were themselves educated; language proficiency in English, and personal qualities such as resilience, determination and inquisitiveness. Conversely, the absence of these factors appeared to be associated with more naive epistemological views.

Discussion

When viewed in the light of King and Kitchener’s (2002) Reflective Judgement (RJ) Model, which conceives of the development of reflective thinking as progressing through 7 stages of increasing epistemological sophistication, it would appear that the majority of the participants thinking could be classified as pre-reflective (as found in stages 1, 2 and 3 of the RJ Model). These levels are all characterised to some degree by the belief that knowledge is absolutely certain, or at most temporarily uncertain, and by the belief that knowledge is obtained from external authorities (King & Kitchener, 2002, p. 41). Participants’ expressed needs for certainty and structure, and their low tolerance for ambiguity also seem reflective of pre-reflective thinking. In the Baxter Magolda (2002) model these students might be seen as absolute, and/or at most transitional knowers who either believe in the certainty of authoritative knowledge, or who begin to accept some uncertainty or are willing to concede that authorities are not all-knowing. However, a minority of the participants did exhibit signs of quasi-reflective thinking when they suggested that they would object to perceived personal or cultural bias in knowledge authorities. This reflects stage 4 and 5 thinking, where knowledge claims are viewed as idiosyncratic (stage 4), and as subjective and contextual, filtered through a person’s perceptions (stage 5) (King & Kitchener, 2002, p. 41).

These observations concur with findings reported from a survey of 20 different studies, where the majority of first year college and university students were found to have pre-reflective epistemologies centering on stage 3. On average, senior college students appeared to make the transition to stage 4, quasi-reflective thinking. However, reflective thinking only appeared to fully emerge among postgraduate students, with stage 6 reasoning only being consistently observed among advanced doctoral students (King & Kitchener, 2002, p. 47).

In conclusion, while broad generalizations certainly cannot be made on the basis of a qualitative study sample such as this, which was based on a relatively small, all-black sample of students, the findings nevertheless closely parallel those made in previous studies (King & Kitchener, 2002), suggesting that these findings might indeed be trustworthy and transferable to similar contexts, though additional research would certainly be required in this regard. In the context of the participants of this study, it would appear that in a significant number of instances, students hold limiting beliefs about knowledge and learning that might adversely affect the process of their educational and intellectual development. Such notions may be reinforced by teacher-focused and content-oriented teaching practices and assessments that reward superficial memorization (Entwistle, 2000). In the light of constraints to learning orientation by teaching approach and context, (Biggs, 1989, 1999; Butler, 2012; Entwistle, 2000; Hattie, Biggs, & Purdie, 1996) it also seems likely that contextual factors such as a lack of English language proficiency might exacerbate this situation.

Several implications follow from this study. First, there is an urgent need for remedial educational strategies that would impact all these levels. Second, the findings suggest that educational strategies should be aimed to assist students not only in absorbing and learning content, but in developing students’ skills in thinking and constructing their own understanding of content, following the Vygotskian principle of “the only ‘good learning’ is that which is in advance of development” (Vygotsky 1978, p.89). Lecturers need to be knowledgeable about epistemology in general and understand their students’ probable epistemological positions, enabling them to meet students on the level on which they function.

References


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