

Geography Student Tutors' Perceptions and Experiences in Problem-based Learning Tutorial Sessions

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ABSTRACT In this study, a qualitative case study design situated within the social constructivism was used to explore Geography Education student tutors' perceptions and experiences in the problem-based learning (PBL) tutorial sessions within a South African context. Individual interviewing (n=12) and student tutors' learning journal entry analyses (n=25) were used to generate data. Findings from the study indicate that most of the Geography student tutors experienced the PBL tutorial sessions as very positive. Participating tutors believed that their engagement as student tutors improved their effectiveness in facilitating and guiding small group learning, enhanced their understanding of the Geography themes and also gave them a holistic interdisciplinary view of the themes that were discussed. Some of the challenges highlighted by the student tutors included that some student tutors were uncertain of their roles in PBL tutorial sessions, students expected the tutors to take a traditional behaviouristic approach, and some students did not attend the PBL tutorial sessions or came to these sessions unprepared. Most of the tutors in the study were of the opinion that it is important for a tutor to have the necessary subject knowledge to facilitate student learning effectively during the PBL tutorial sessions.

INTRODUCTION

Facilitation is a different style of teaching (Roberts 2010). In the Minimum Requirements for Teacher Education Qualification (South Africa 2011a), the South African Education Department emphasises the importance of teachers facilitating the learning process in classrooms and identifies the learning mediator as one of the collective roles of an educator. This means that the educator will mediate or facilitate learning in a manner which is sensitive to the diverse needs of learners, including those with barriers to learning. The educator will therefore construct learning environments that are appropriately contextualised and inspirational, and he/she will communicate effectively while showing recognition of and respect for the differences of others. Salinitri et al. (2015) pointed out that creative ways to enhancing facilitators training to foster meaningful learning in small group is important. It is therefore clear that students preparing to be teachers have to develop their facilitative skills in an education setting. Unfortunately, it is also clear from South African literature that, despite many years of outcomes-based education and associated constructivist approaches in South

African schools, teacher-centred instruction still prevails in most classrooms (Grosser and De Waal 2008; De Waal and Grosser 2009; Alexander et al. 2010). In most cases, during practical teaching or work-integrated learning, student teachers do not have the opportunity to develop their facilitation skills in South African classrooms. It is therefore understandable that Grosser and De Waal (2008) recommend mediation and facilitation approaches to be nurtured in the teacher training programmes of South African education students. They advocate a focus on balancing direct instruction with a facilitation approach to teaching in South African schools.

It is against this background that the researcher decided to expose the fourth-year Geography Education students in the Geography subject didactic modules in a B.Ed. programme to acting as student tutors in problem-based learning (PBL) tutorial sessions for first- and second-year Geography Education students. PBL tutoring demands a radical shift from teacher to subject content expert to a co-constructor of knowledge within a community of learners (Hmelo-Silver and Barrows 2006; Salinitri et al. 2015). PBL can assist student teachers in this instructional practice transformation to imple-

ment and use a range of instructional strategies in their classrooms. Azer (2009) emphasises the importance of exploring students' views and perceptions of a phenomenon when implementing new teaching and learning strategies. The purpose of this article therefore is to report on an exploration of the perceptions and experiences of fourth-year Geography Education students in facilitating Geography PBL tutorial sessions in a B.Ed. programme.

Research Objectives

The research objectives of this case study were to:

- explore Geography Education student tutors' general perceptions and experiences of general aspects in tutoring in PBL tutorial sessions;
- identify Geography Education student tutors' perceptions regarding the value of being a tutor in PBL tutorials sessions;
- determine the challenges and problems that Geography Education student tutors experienced in the PBL tutorial sessions;
- explore the influence of subject knowledge on student tutors' facilitation skills; and
- take cognisance of recommendations on how to improve the learning environment to develop their facilitation skills further.

Theoretical and Conceptual Framework

The education system in South Africa emphasises learner-centred education (South Africa Department of Education 2003; 2011b), which is based on the constructivist approach to teaching and learning. With the implementation of the new Curriculum and Assessment Policy Statements (CAPS) in 2011, the critical outcomes and development outcomes as stated by National Curriculum Statements (NCS) were renamed General Aims (South Africa Department of Education 2011b). These general aims and geographical skills aims require students to be able to –

- identify and solve problems;
- make decisions using critical and creative thinking;
- work effectively as members of a team;
- evaluate information critically;
- communicate effectively using various modes;

- use science and technology effectively;
- act in a responsible manner towards the environment and health of others; and
- demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation (South Africa Department of Education 2011b).

Among various constructivist approaches, PBL has been advocated as exemplary because it promotes a learner-centred approach that shifts the classroom focus from teaching to learning (Burch 2001; Salinitri et al. 2015). Veldman et al. (2008) clearly state that very few teaching and learning strategies can achieve the quality of learning in a South African context as attained when using PBL. They are of the opinion that PBL satisfies all the requirements to help achieve the educational outcomes and aims as prescribed by the South African government.

Problem-based Learning and Teacher Training

PBL has had little effect on teacher education compared to other professional fields (Hmelo-Silver 2004). Kwan (2008) confirms that little has been done in the related field of initial teacher education. She points out that problem-solving, using authentic problems and scenarios, seems to be the sensible direction to take for preparing young professional teachers. In their research, Pawson et al. (2006) confirm this statement and point out that there is little information available regarding the scope of use of PBL and PBL hybrids in Geography courses and curricula. This is interesting, as Chappell (2001) highlights that the inter-disciplinary nature of Geography can fit well within PBL as a framework for teaching and learning.

PBL Process

In the PBL process, the facilitator or tutor should create a real world problem in line with desired curriculum and learning outcomes as well as student characteristics (Fournier 2002). The problem discussion takes place before students receive other curriculum inputs; their prior knowledge is all-important (Hmelo-Silver 2004). In most instances in PBL, the students are usually organised into small tutorial groups where the stu-

dents function as members of a team and learn collaboratively by sharing their newly acquired knowledge (Dolmans et al. 2001). The students begin to work on the problem and again re-conceptualise their problem into more specific learning issues (Järvelä 2006; O'Donnell 2006). These learning issues are conceptualised into different learning tasks and delegated to different team members who have to complete the tasks in their own time. Using library resources, textbooks, maps and databases, as well as laboratories, field studies, techniques and procedures, the students argue and debate to find answers to and perspectives on their problems and learning needs. The social negotiation of meaning is an important part of the learning process (Järvelä 2006). In the next tutorial, group members come back with new information to share and work together on the problem (Fryenius et al. 2005; Lam 2009). After the students have discussed and analysed the problem in their tutorial groups, they gather and apply their knowledge to solve the problem by presenting solutions (Tick 2007). At the end of the PBL process, students are involved in peer- and self-assessment. The tutor plays an important role in the PBL process and therefore it is necessary to discuss the role of the tutor in the PBL environment in more detail.

Role of the Tutor in PBL

It is clear that with the implementation of PBL as teaching and learning strategy in the Geography classroom, the role of the teacher changes (Maudsley 1999). According to Das et al. (2002) and Tick (2007), the tutor in PBL tutorial sessions is a coach or a guide who facilitates the process of active learning by students and fosters skills of problem-solving, critical and self-directed learning. Therefore, Groves et al. (2005) emphasise that it is important that the tutor allow students to take responsibility for identifying and addressing their own learning needs. The tutor must be active and directive about the learning process to assure that the group stays on target and makes reasonable choices on which issues to study (Donnelly and Fitzmaurice 2005).

In PBL tutorials, one tutor works with one group of students to facilitate the learning process. Initially, the tutor takes a more active role as students learn how to identify learning issues arising from the problems and set goals

and objectives. The tutor assists students in understanding the objectives of each theme, identifying learning resources and collecting information using a variety of resources. The tutor has to be aware of the learning needs of the students to stimulate learning and encourage the students' efforts and contributions (Das et al. 2002). The tutor stimulates the discussion, provides students with relevant content information if needed, evaluates the progress, and monitors the extent to which each group member contributes to the group's work. Tutors should engage actively in didactic conversations with the students and provide appropriate scaffolds by asking questions, pushing for explanations, checking for consensus, giving suggestions, clarifying matters and continually assess students' current state of independent problem solving (Maudsley 1999; Moore and Kain 2011; Salinitri et al. 2015).

Dolmans et al. (2001) point out that effective tutoring is a challenge to implement. In various studies, it is highlighted that tutors sometimes resort to traditional direct instruction when they experience difficulties in the group, listing learning issues for the students, providing resources and even lecturing. Some studies show that tutors are more willing to provide explanations, simplify concepts and make connections for students than to empower students to do these things themselves (Wilkie 2004). For many tutors, it is easier to give answers than to ask questions and direct students to information sources. These tutor behaviours, according to Moore and Kain (2011), deprive the group of situations that would result in elaboration, activation of prior knowledge, and development of self-directed learning skills. Hendry et al. (2003) point out that a dominant tutor causes tension and conflict in groups, which leads to a lack of commitment or absenteeism of students and, as such, hinders the learning process. An effective PBL tutor knows when and how to intervene. Tutors should demonstrate interpersonal actions to stimulate an adequate and effective climate among students. This implies that tutors should know their own strengths and weaknesses and they should be able to accept feedback, motivate themselves, recognise problems in others and show commitment to students (Dolmans et al. 2003). Roux (2009) states that tutors' continuous support is important, but the method or approach the tutor uses should foster indepen-

dence and critical thinking, rather than dependence on the tutor, and the creation and sharing of knowledge.

In literature, the results are contradictory as to whether subject knowledge is necessary to be an effective tutor in PBL tutorial sessions. Caplow et al. (1997) found that tutorials led by subject experts increased student achievement. In another study, Kaufmann and Holmes (1998) found no difference between tutorial groups where some tutors functioned as content experts and others not. Groves et al. (2005) state that both content knowledge and process facilitation skills are necessary but individually not sufficient qualities of effective tutors.

Context of the Study

The on-campus fourth-year Geography Education students of a university in South Africa acted as tutors for the first- and second-year Geography Education student groups during the PBL tutorials. The last three weeks of the first semester and the first three weeks of the second semester Geography modules in the first and second year of the B.Ed. programme (in total six weeks) were selected for the implementation of PBL activities. These modules have preset curriculums, and each module is assessed by means of a final examination. The PBL activities were aligned with the prescribed module outcomes and implemented in one of the five study units of each module.

The fourth-year Geography Education student tutors had been involved in PBL activities as students in their third-year Geography module. In their fourth year, in the Geography didactic module, they also received training in the form of a three-hour workshop about the role of tutors in PBL tutorials and they had to work through various articles and in particular had to note the facilitation skills required of tutors. In their training, special reference was made to Azer's article (Azer 2009) where the author discusses the challenges facing PBL tutors as well as giving tips for successful group facilitation.

This was the fourth-year Geography students' first introduction to acting as tutors in PBL tutorial sessions. They received the necessary support and accompaniment. The Geography lecturer and the tutors met once a week to discuss possible problems, challenges and facilitation issues. Tutors made individual appointments

with the lecturer to give feedback on their experience in the facilitation of PBL tutorial sessions.

The Geography lecturers developed a multiple solution problem based on Tick's approach (Tick 2007) for implementation in each of the Geography modules. The exposure to multiple-solution problems followed Gallagher's (1997) position to assist students with the solving of ill-structured problems with no single or correct answer. The students had to engage different methods to decide on the ideal solution for these open-ended and complex problems (Gallagher 1997). The first- and second-year Geography Education students had three weeks per module to formulate solutions to the stated problems. During this period, the first- and second-year Geography Education students attended two scheduled PBL tutorial sessions per week (each tutorial session lasted 90 minutes) to assimilate information and undertake group work in order to present solutions to the problems.

The tutors set aside extra sessions for consultation and group discussion as well as training during the aforementioned three-hour workshop. The workshop preceded the implementation of the PBL learning experience and included additional notes. The presentation and notes contained important information related to the process of PBL, role expectations of the trainees and tutor, readings on effective group processes and websites discussing PBL.

For this purpose, each tutor had to maintain and update a learning journal. The summary of discussions in the learning journals reported the feelings and perceptions of the tutors with regard to the PBL tutorial sessions. Examples of these records were:

- general perceptions about their first encounter as tutors in PBL;
- facilitation skills that needed some development;
- problems and challenges they experienced as tutors in the PBL tutorials sessions; and
- value of tutorship in PBL.

METHODOLOGY

This qualitative case study design was conducted within a philosophical framework with social constructivism as foundation. Social constructivism, a branch of constructivism, seeks to understand the world in which participants

function and focuses on the subjective meanings of participants (Cresswell and Plano Clark 2011). The fourth-year Geography Education students' experiences and their perceptions of their involvement as tutors in PBL tutorial sessions with first- and second-year Geography Education students were determined. Merriam (1998: 27) states that qualitative research based on the case study design is an appropriate way to provide a "holistic description and analysis of a single instance, phenomenon, or social unit", and she defines the case in a qualitative case study as "a thing, a single entity, and a unit around which there are boundaries". The present case study aimed to understand a human experience, namely Geography student tutors' experiences in PBL tutorial sessions, by interpreting the viewpoints and opinions of those who experienced it.

Data Collection

The researcher collected data from two sources: semi-structured individual interviews with tutors and tutors' learning journal entries.

The semi-structured individual interviews with tutors occurred within a month after the participants' involvement as tutors in the PBL tutorial sessions (Leedy and Ormrod 2001). Tutor interviews concentrated primarily on the tutoring experience based on four themes: general aspects of PBL tutorials, the value and reward of acting as tutors, tutors' perceptions of whether subject knowledge is necessary for effective facilitation skills, as well as challenges and problems that hinder effective tutor facilitation in PBL tutorial sessions. The recording of the interview data took place by means of note-taking and audio recording (De Vos et al. 2005).

Demographically, the interview sample consisted of 12 tutors, six male and six female students. In a short introduction, before each interview started, the researchers briefly clarified the purpose of the interview and asked permission to audiotape the interview. The researchers also emphasised the confidentiality of the data. The researchers explained the interview procedure, obtained informed consent, took notes, asked for additional clarification when necessary and audio-recorded the interviews. A Geography Education lecturer, experienced in small group teaching, moderated the interviews.

Keeping a learning journal is a well-documented means by which student teachers can reflect on their developing practice and experiences (Ezati et al. 2010). The learning journals of the Geography student tutors (n=25) were examined in the study. Tutors were required to make at least two journal entries each week. These entries, containing the tutors' reflection regarding their experiences in PBL tutorial sessions, were used to compile data. In the learning journals, the tutors had to focus on the same four themes as mentioned in the semi-structured interviews.

Data Analysis

The data, consisting of transcribed semi-structured interviews and journal entries, were analysed using a thematic analysis. The transcripts were read and initially coded according to the four prescribed themes as mentioned above. Trustworthiness was enhanced by independent reading and coding by a fellow Geography lecturer. The summaries of the semi-structured interviews were sent to the student tutors for participant verification.

Participants

The participants in this study comprised 25 of the 31 fourth-year undergraduate Baccalaureus Educationis (B.Ed.) Geography Education students of a university in South Africa. The tutors' ages ranged between 22 and 23 years. A total of 10 male and 15 female tutor students accepted the invitation to participate in the study. Of the participants, 24 were Afrikaans-speaking. Afrikaans is the medium of instruction at the North-West University (Potchefstroom campus) (Afrikaans is one of the official languages of South Africa and was also the home language of most of the students).

Ethical Considerations

This study took place within the PBL sub-project as part of the self-directed learning (SDL) project at North-West University. The SDL project was approved by the university's ethics committee and complied with all the ethical regulations of the university. The participants had to provide written consent that the information could be used in this study. Participation was

free and voluntary, and any participant could withdraw at any time.

FINDINGS AND DISCUSSION

The significance of this study is that it aimed to promote the involvement of Geography student tutors in facilitating PBL tutorial sessions to familiarise them with learner-centred instructional approaches. Based on the analytical results, the researcher were able to make a number of interpretations to address their research questions. In this section, the major findings of the current study are organised according to the predetermined themes and illustrated with typical instances.

Geography Tutors' Experiences and Perceptions of General Aspects on Tutoring in PBL Tutorial Sessions

For most of the fourth-year Geography student tutors, this was their first encounter with acting as tutors in the PBL tutorial sessions for first- and second-year Geography students. From the interviews with tutors as well as the entries in tutors' learning journals, it is evident that the majority of tutors were unsure, anxious and nervous at the beginning of the sessions.

The tutors agreed that, with time, their self-confidence in the execution of their task grew. Some of the tutors' remarks made during the interviews and their learning journal entries summarise this well, "Although I was nervous at the start of the PBL experience, I looked forward a lot to working with the Geography students. As the tutors and students got to know one another better, the cooperation between the role-players improved" (Learning journal: Male tutor 11). Some of the tutors pointed out that the availability of the lecturers for advice and support was comforting as well as essential. One of the tutors wrote, "After I made an appointment with the lecturer and discussed my concerns with him, I relaxed and was at ease" (Learning journal: Male tutor 13). Another tutor supported this view and stated as follows, "I was unsure about my role as tutor in the PBL tutorial sessions, could discuss it with the lecturer" (Interview: Female tutor B). Williams (2011) confirms this uncertainty among tutors and ascribes it to the fact that tutors are not aligned to PBL in their pedagogical beliefs and they find it diffi-

cult to be confident that they are actually practising PBL as intended. Jung et al. (2005) also emphasise that novice tutors value discussions with an experienced mentor before and after tutorial sessions, and learn about tutoring through storytelling.

Some of the tutors referred to their theoretical background regarding facilitation in their training as the reason why they enjoyed the facilitating. One male tutor wrote, "Because I was properly trained in the workshop to act as tutor, the uncertainty and anxiety quickly disappeared with time" (Learning journal: Male tutor 7). This remark corresponds with the findings by Jewell et al. (2013), where tutors reported that after completing the tutor training workshop, they felt prepared to apply their new skills in the areas of problem-based learning, interprofessional education, facilitation, evaluating PBLs, practice strategies for PBL, case discussions, PBL case design, and collaborative team building. In this regard Setterud et al. (2015) stated that it may take time for tutors to feel comfortable in facilitating PBL tutorial sessions.

Although the majority of tutors were of the opinion that they possessed sufficient theoretical background about facilitation, not all were convinced that sufficient focus was placed on the development of facilitation skills in their training as teachers. One tutor remarked, "As education students, we did work together in cooperative learning environments, but the lecturers do not facilitate the cooperative learning environment as recommended in the literature. My involvement with the PBL tutorial sessions however removed my misconceptions about the tutor's role" (Interview: Male tutor A).

Only one of the tutors held negative perceptions and experiences about her involvement as tutor. She stated, "Personality differences between me and the group members made my role as tutor in the PBL tutorial sessions difficult. In the group, the students adhered to the expectation that the relevant lecturer had to lead the tutorial sessions and not a student. After the lecturer explained the reasons for the use of tutors to us as a group, the students accepted me as tutor" (Interview: Female tutor G). Williams (2011) also points out that tutors can be influenced by their personal experiences as tutors in cooperative learning environments and this can shape their views of their role as a tutor. These findings concur with Hendry et al. (2002) who

say that the more a tutor facilitates tutorial sessions, the more highly the students' rate the tutor's effectiveness in all aspects.

Value of Being Involved As Student Tutors

In general, most tutors believed that their involvement in the PBL tutorial sessions gave them valuable and meaningful learning experiences. Most of the tutors agreed that after their performance as tutors they had more self-confidence to implement PBL and cooperative learning in their classrooms. The following sub-themes were identified from the interviews and learning journals and support the value of their involvement as tutors in PBL tutorials in the different Geography modules.

Improvement of Facilitation Skills

In the interviews, the tutors emphasised that not only for them but also for most of the Geography Education students it was a new teaching-learning experience. "To support the group members, the tutor had to initially take the lead to have students work together effectively in group context. With time the responsibilities were passed on to the group leader and group members" (Interview: Male tutor E). Another tutor put it as follows, "Only when you perform as tutors, you as student become aware of the demands facilitation in cooperative working environments make on you. It is easy to transfer information to students, but to facilitate group sessions and pass on the responsibility for teaching to learners, make greater demands on you as tutor (Interview: Female tutor J).

With reference to the PBL process, most of the tutors agreed that the first-year students struggled with demarcation of the problem as well as formulation of the learning issues. One tutor said, "I as tutor had to in particular provide sufficient guidance regarding demarcation of the problem and formulation of learning issues. Asking questions, giving feedback on efforts and where necessary explanations were used to help students" (Learning journal: Female Tutor 8). With time, as students became familiar with the PBL process, tutors indicated that facilitation of the students in the tutorial sessions became easier and less challenging. In the follow-up PBL activities, tutors indicated, "group members realised that formulating learning issues for

the problem and finding solutions to the problem, looking for sources, etc. were their own responsibility and not the tutor's" (Interview: Male tutor E). In this regard, Das et al. (2002) state clearly that initially the tutors have to take a more active role as students learn how to identify learning issues arising from the problems and set goals and objectives. This conduct by tutors correlates with what Wilkie (2004) points out, namely that novice tutors tend to be quite directive in their practices. With time, tutors become less directive and give students space to explore the problem.

The tutors pointed out that the assessment rubric, which the students of the different groups had to complete to assess the student tutors' facilitation skills, provided the tutors with the necessary guidelines and valuable feedback, as is evident from the following remark, "Although it is not always pleasant when group members show up your shortcomings as tutor, it was of great value and in the second PBL experience, I could address the identified shortcomings" (Learning journal: Female tutor 18). The necessity for constructive feedback to tutors is supported by Azer (2009: 243), who argues, "without constructive feedback, there will be no champions".

The tutors indicated that their involvement as tutors definitely challenged their perceptions about Geography teaching and learning. One tutor put it as follows, "My involvement in PBL tutorial sessions made me reflect about my own point of view regarding the teaching and learning of Geography. I realise the value of cooperative learning in groups. I have already implemented PBL with great success with learners in the Geography classroom during the practical teaching period" (Interview: Female tutor I). These findings are supported by McCaughan (2008) in that the tutors' involvement in PBL changed their pedagogical beliefs. Wilkie (2004) states that tutors experiencing the dialogic nature of PBL promote changes from using a teacher-centred approach with little dialogue between students to a student-centred approach where dialogue between students predominates.

Holistic Interdisciplinary View of the Geography Themes Discussed in PBL

The implementation of PBL as teaching-learning strategy contributed to tutors and students having a holistic view of the geography

topic/theme discussed in the PBL tutorial sessions. Some of the tutors referred to this pertinently in their learning journals. One journal entry puts it as follows, "The implementation of PBL in Geography modules contributes to the solving of the problem, necessitating students to integrate information from other sub-disciplines of Geography and even other subjects" (Journal entry: Male tutor 7). In the interviews, one of the tutors remarked, "Students consult different sources, read wider about the theme and listen to different views and perceptions of fellow group members about the theme" (Interview: Female tutor J). Another tutor offered the following comment, "In the tutorial sessions, students definitely discussed the theme wider and deeper than I had done in my first or second year modules" (Interview: Male tutor E). In this regard, Sproken-Smith (2005) states that PBL can definitely assist students to see the interdisciplinary nature of Geography. Chappell (2006) mentions that the transition to PBL can prevent the restrictive nature of modularity that causes students to dissociate knowledge and skills developed in one module from the activities in another. Margetson (2000) points out that PBL can lead to a lateral, holistic curriculum design with learning as an integration of knowledge, understanding and practice in increasingly larger and coherent wholes.

Tutors' Involvement in Tutoring Enhances Their Learning and Understanding of the Theme

A very interesting remark that came to the fore during the interviews indicated that some of the tutors were of the opinion that their involvement with the PBL tutorial sessions led them to understand the learning content of the themes in the PBL activities even better. Possible reasons for this were summarised by one of the tutors as follows, "As tutor, I made certain before each PBL tutorial session that I was up to date with the learning issues that the students had to discuss. I searched for sources about the theme myself and read through them to offer the group members the necessary support and facilitation" (Interview: Male tutor L). Another tutor provided some detail as to why she understood the theme better, "Apart from preparing me thoroughly for the tutorial session, group members also consulted different sources about

the theme. In the PBL tutorial sessions the theme was read and discussed in detail. Group members debated about certain issues and as tutor I in some cases became a co-learner in the group" (Learning journal: Female tutor 6). In this regard, Wells, Warelw and Jackson (2009) emphasise that tutors are able to resource their own support, whether it be through reading material, research or the assistance of academic colleagues. The findings from this study concur with Lekalakala-Mokgele's (2010) view that PBL facilitators and students can work together as co-learners and in this way empower students to take responsibility for their learning.

Social and Cognitive Congruencies between Tutors and Students

In the interviews, some of the tutors referred to the fact that the group members felt more confident in the tutorial sessions to ask questions about certain topics and they were not shy to air their views or comment on fellow group members' feedback, as would have been the case had the lecturer acted as tutor. A remark by a tutor during the interview confirms this, "The tutorial sessions were a lot more informal, fun and relaxed" (Male tutor A). Another tutor highlighted, "Group members definitely had more confidence to ask me questions, or make remarks because I acted as student tutor" (Interview: Male tutor E). One tutor summarised it well in her learning journal, "Students preferred to discuss possible conceptual and subject problems with me as tutor. It was easy for me as a student tutor to associate with the problems that students experienced and to support them" (Female tutor 8).

Some of the tutors also pointed out that they were students who not long ago had to deal with some of the themes in the Geography modules, making it easier for them to help the students with problems. These remarks resonate in the theory-based assumptions that students benefit from being taught by student tutors because of cognitive and social congruence (Ten Cate and Durning 2007). Williams (2011) refers to the fact that younger tutors are not so very different in age to the students, and may be linguistically more aligned with them and more aware of issues relating to adolescence. De Grave et al. (1990) are of the opinion that student tutors might be able to understand student prob-

lems, assess prior knowledge and explain concepts using language and examples which students understand better than those used by lecturers.

Problems and Challenges That Student Tutors Experience

It was clear that the tutors were taken out of their comfort zone, and that the new learning environment challenged them. Emanating from feedback from the participants, problems and challenges that student tutors experience can be divided into three categories, namely uncertainty of tutors and students with the implementation of PBL, Geography education students' conduct towards and expectations of the student tutor, and the logistical problems experienced by tutors with the implementation of PBL.

Uncertainty of Tutors and Students with the Implementation of PBL

As mentioned earlier, it was a first encounter for both the tutors and students as role-players in a PBL environment. It was understandable that tutors as well as students would initially be uncertain about what was expected of them. Some of the uncertainties mentioned by the majority of tutors included, "In the beginning students expected the tutor to do everything for them, while as tutor I also wanted to do too much for them. In the meeting with the Geography lecturer, the roles of the tutor, group leaders and group members were emphasised. I had to remind myself that my role as tutor differed from what I was used to. It took a while for me to act as facilitator in the learning process" (Learning journal: Male tutor 11).

Some of the Geography tutors indicated that they were initially unsure about how deep and wide information had to be sought to solve the problem. One tutor put it as follows, "I was especially unsure about when and how much assistance and advice I had to give the students. Sometimes I felt that the group did not address the problem fully, did not obtain enough information, and should have formulated more solutions to the problem" (Interview: Male tutor H). Tutors did not always possess all the knowledge and information about the specific theme. One tutor stated, "I was not always sure if I was giving the students the correct answers or guide-

lines" (Interview: Female tutor J). Maudsley (1999) states clearly that it should not be expected of tutors to be experts in all areas relating to the problem. These findings concur with those of Williams (2002), who states that faculty tutors also express a high degree of uncertainty. In view of this, Al-Drees et al. (2015) highlighted the importance of proper initial tutor training for deep and meaningful learning in PBL tutorial sessions.

Most of the tutors agreed that the PBL process took some time and that students sometimes had to exceed the time planned for the tutorial session. One tutor stated, "Our group met a lot more than the two tutorial sessions per week. When group members mentioned certain matters, in some cases it was necessary to first read up about it more widely. It sometimes felt as if we were progressing too slowly" (Interview: Male tutor A). Another tutor put it as follows, "There also is a fine balance between allowing students to discuss the theme in depth and intervening. I believe that as a tutor gains more experience, his/her facilitative skills will also improve" (Female tutor G). These findings by tutors are also emphasised by Alexson and Kemnitz (2001), namely that the PBL activity can be time-consuming and can take on a life of its own as students raise questions that lead to more questions. The authors also point out that it is important for the tutor to keep the group members focused and on track. Snyder and Snyder (2008) state that when the focus is on learning, students should be given the freedom to explore content, analyse resources and apply information.

The Conduct and Expectations of the Geography Education Students

In several cases, the tutors pointed out in the interviews and in the learning journals that it was clear from the students' conduct and expectations that they expected a traditional behaviouristic approach from the tutor. Some of the tutors' entries in their learning journals confirm these expectations. "Some of the Geography students in my PBL group expected me to fill the traditional role of a teacher and explain the learning content to them. With time the students realised they were responsible for their own learning, and that the tutor merely acts as facilitator and companion" (Male tutor 11). Another entry

supports this remark, “Some of the group leaders also shifted their responsibilities on to the tutors. I constantly made the PBL group aware of the PBL process and of the different roles that each had to fill in the PBL” (Female Tutor 18).

In the interviews, the conduct of certain students in some of the groups was highlighted by the tutors, namely:

- “In certain groups, group members distrusted the tutor and fellow students, and wanted the lecturer to present the class” (Male tutor A).
- “Some of the group members did not come to the PBL tutorial session prepared” (Male tutor E).
 - “Some of the group members did not turn up for the tutorial sessions” (Female tutor J).
 - “Group members expected the tutors to do all the work for them. This led to dissatisfaction between the different role-players” (Male tutor L).
 - “When group members reported back as a group in the PBL tutorial sessions, they spoke to me as tutor and not to the group members” (Female tutor G).

Tutors’ learning journal entries concurred with the above statements made during the interviews. The literature indicates the problem of group dynamics, including that some students do not like to work in groups (freeloaders), time-consuming activities (Pepper 2009; Sproken-Smith 2005), lack of direction and uncertainty in the PBL task (Pepper 2009), the difficulty of some students to find solutions to the problems, and the uncertainty of others to find the correct and final answers or information collected, since the tutor only guides without lecturing or providing information (Cheong 2008).

Where more than one of the students were absent or students were not prepared for the tutorial session, the group could not continue. Some of the tutors reported handling the problem as follows, “To save time I as tutor explained the content to them with a short lecture” (Learning journal: Female tutor 13). Roux (2009) also indicates that the students in her study did not prepare well for the tutorial sessions and placed unnecessary pressure on the tutors. According to her, this could lead to tutors falling back on traditional direct instruction to convey information to students.

Logistical Problems

It was clear that the study university faculty did not have the necessary infrastructure to support the PBL tutorial sessions. Some of the logistic problems pointed out by tutors in their interviews and in their learning journals included:

- “We always had to change our meeting places because suitable venues, classrooms or offices were not always available on campus” (Learning journal: Female tutor 8).
 - “To accommodate both the tutors and the PBL groups within the existing timetable, alternative times and venues had to be scheduled for the PBL tutorial sessions. It was the tutors’ task in collaboration with the group leaders to inform the group members in time” (Interview: Female tutor B).
 - “Extra-mural activities of students hampered meeting as a group” (Learning journal: Male tutor 7).

The above logistical problems experienced in this study, are also reported in the literature. Perkins et al. (2001) also highlight that students increasingly have to juggle academic and work commitments, and finding times when the entire group can meet to plan preparation can be difficult. Zanolli et al. (2002) mention that the external factor affecting the tutorial sessions indicates that students are involved in too many parallel activities (study groups, scientific research projects, student organisations, etc.). They point out that problems arise when students are involved in several activities at the same time. Students need to balance their academic, political, sports and leisure activities and should try not to have these disturb their participation in their tutorials.

Is Subject Knowledge Necessary to Act as Tutor?

The literature contains diverse opinions about whether subject knowledge is necessary to act as tutor in PBL tutorial sessions. During the interviews, all the tutors indicated that the fact that Geography was their major subject contributed to their meaningful inputs and accompaniment during the tutorial sessions. One of the tutors summarised their sentiment very well, “I would go so far as to say that it would not be possible to give effective accompaniment, in-

puts and feedback in cooperative learning environments if you do not possess the necessary subject knowledge. You can ask more significant and meaningful questions and offer the necessary support to group members if you are a subject expert" (Learning journal: Male tutor 5). Another tutor however directed a warning to tutors who possess the necessary subject knowledge, "Although I think the tutor should possess the necessary subject knowledge about the theme, I as tutor had to be careful not to explain or give the information to the students, but rather to facilitate the learning process. I am of the opinion that in certain cases, subject knowledge can counteract effective facilitation of the PBL process" (Interview: Female tutor B).

The tutors' perception was that content experts facilitate the tutorial sessions better. In their research, Boon et al. (1993) found that the tutor's expertise in the subject matter does play a role in student learning, particularly when it is the students' first encounter with PBL as a teaching and learning strategy, or, as Schmidt et al. (1994) points out, when students' prior knowledge of a topic or theme is lacking. Hmelo-Silver and Barrows (2006) state that tutors use their expertise by asking pertinent questions that scaffold student learning through modelling and coaching. In their study, Ates' and Eyrilmaz (2015) found that the tutors, who were the content experts, intervened the group discussions more frequently than the non content expert tutors. The researcher agrees with Das et al. (2002), Groves et al. (2005), Hmelo-Silver and Barrows (2006) and Couto et al. (2015) that the tutor's subject knowledge is an important factor in students' knowledge construction. However, it is important to take note of the warning by Kaufman and Holmes (1998) that content expert tutors can have a difficult time with the role of tutor and tend to provide more explanations of case content.

CONCLUSION

The overall aim of the present study was to determine Geography student tutors' perception and experiences of acting as student tutors for first- and second-year Geography students. The findings indicate that fourth-year Geography Education student tutors had positive learning experiences in their facilitation of tutorial ses-

sions with first- and second-year Geography students. Involving the student tutors in the PBL tutorials was time well spent on their training as teachers to enhance their facilitative skills as future educators. The results of this study may be valuable for other subject groups using student tutors as part of their educational activities.

RECOMMENDATIONS

With regard to the involvement of geography student tutors in facilitating PBL tutorial sessions to familiarise them with learner-centred instructional approaches, the following recommendations can be made:

- The implementation of PBL and the use of student tutors should continue and be extended to other subject groups in the B.Ed. programme.
- The university and faculty management should render the necessary support to make PBL environments possible, for example providing the necessary venues and synchronising timetables of different year groups in the B.Ed. programme.
- It is of the utmost importance that the student teachers who act as student tutors receive the necessary training, after which the lecturer should still play an accompanying role and act as mentor for tutors in facilitating PBL tutorial sessions.
- Feedback from the lecturer and the group members after the tutor had performed is necessary to develop student tutors' facilitation skills further. Video recordings of the different groups' PBL tutorial sessions can be made to enable the lecturer and fellow tutors to give input and feedback and in this way develop the tutors' ability to reflect on their facilitation skills.
- As the PBL tutorial sessions present the first-year students with a new learning experience and because they do not always possess the necessary prior knowledge of the themes, it is recommended that tutors should possess the necessary subject knowledge.
- Community of practice may provide a vehicle for student tutors to assist them further in the effective facilitation of PBL tutorial sessions.

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