Student teachers' reflective journals on teaching practice experiences

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Abstract

This study investigates the dimensions of reflection in student teachers' teaching practice journal entries. It examines and analyses the entries to determine the pattern and dimensions of reflection of their experiences encountered during teaching practice. It also explores the influencing factors to reflective journal writing process. Problems with the quality, breadth and the varied dimensions in the reflections by student teachers over the years prompted this study. The study aims to determine the dimensions and extent of reflection; establish the factors affecting the process of reflection; and seek appropriate intervention strategies for improvement. A case study design was used and the action research approach adopted. Data was obtained through the student teachers' written journal entries and an open-ended questionnaire. The participants were final year student teachers. The content category analysis and journal critical analysis methods were simultaneously used to analyse and interpret the data. The findings provided useful information on the types of experiences student teachers reflect on, dimensions of reflection, patterns of reflection and influencing factors to reflective journal writing process. The outcomes of the study provided valuable information for improving and strengthening the quality of the teaching practice reflective journal writing process to enable student teachers to become critical thinkers in their professional practice.

Introduction

Student teachers at Madang Teachers College are required to keep a reflective journal during periods of teaching practice in schools. A study was carried out to investigate the dimensions of reflection by student teachers regarding experiences that they encountered during teaching practice. The study focused on analysing the student teachers' written journals to determine the types of experiences they reflected on, the dimensions of reflection, patterns of reflection and problems of reflection.

Four key questions guided the study and they were:
• What types of experiences do student teachers record and reflect on?
• What are the dimensions of reflection observed in the student teachers' reflective journal entries?
• What patterns are observed in the student teachers' reflective journal entries?
• What are the factors that influence the reflective journal entries?

The research problem

According to Han (1995) and Hutton and Smith (1995) there are variations in reflection and reflective learning which embrace a wide range of concepts and strategies. Defining their parameters varies from study to study. Farrell (1998) pointed out that the concepts of reflective teaching and learning are not clearly defined and that there are a plethora of different approaches with sometimes confusing meanings. The teaching practice reflective journal at Madang Teachers College (MTC) is open and allows students to reflect on a wide range of experiences for student teachers.

MTC's mission is '*to produce responsible, reflective and competent beginning teachers to serve the needs of the primary education system in Papua New Guinea*' (Madang Teachers College, 2000:1). In its effort to fulfil part of its mission, MTC encourages reflective approaches to teaching and learning and encourages students to maintain journals during teaching practice. It is a requirement that student teachers record a minimum of four reflective journal entries each week on significant events and/or experiences encountered during teaching practice (Madang Teachers College, 2005).

However, over the last five years there has not been a formal on-campus program that prepares student teachers to write journal entries prior to students undertaking teaching practice programs. Apart from the approved format for their journal entries, students have limited preparation and exposure to reflective learning processes prior to teaching practice. Furthermore, there has not been a study or evaluation done to improve reflective journal writing since the researcher started teaching at MTC nine years ago. Thus it is assumed that student teachers reflect on a plethora of experiences in a range of dimensions and may be facing difficulties in keeping good reflective journals. Therefore, this study attempts to explore the issues and difficulties in journal writing by student teachers at MTC.

Significance of the study

This study is important to establish the dimensions of reflection by the student teachers and the factors that influence the reflective journal process. This will provide valuable information that will inform the researcher on determining appropriate intervention strategies for improving and strengthening the current teaching practice reflective journal process.

Context of the study

The study was carried out with student teachers enrolled in the Diploma in Teaching Primary pre-service program at Madang Teachers College. It is the only government agency college engaged in pre-service primary teacher training in Papua New Guinea. The other colleges are mission agencies. The study was done during the 2005 practice teaching session in rural schools of the Madang Province.

According to Henderson, Napan and Monterio (2004) reflective learning covers a range of activities. This study is focused on reflective journals where student teachers enter reflective commentaries about experiences encountered during teaching practice. The journal does not have a specific focus and is open to student teachers to reflect on a range of experiences encountered during teaching practice. They use an approved journal format that guides their reflective journal entries. The format has been in use for many years and has a general instruction and three key guiding questions that relate to:

- describing the moments, events and issues stating their significance
- critically reflecting on the significant things learned
- discussing future actions and intentions.

Limitations of the study

Two limitations of the study were the lack of literature on a Papua New Guinea context for reflective practices and the accessibility to participants for debriefing sessions on their teaching practice journals. Firstly, the literature on reflective practices that was accessed was not on PNG contexts. However, literature reviewed and used is adequate enough for understanding the purpose and focus of the study. Secondly, the intended debriefing session did not eventuate. Instead student teachers responded to a questionnaire upon submitting their journals. This was because they went for two weeks holiday straight after returning from teaching practice and were unable to meet for the debriefing session.

Literature review

The construction of knowledge involves learning. Thus learning occurs when we absorb information, think about it, make sense of it and fit it with what we already know (Internet, 2005, Keeping reflective journals). Reflection and reflective learning form part of this process and is a cognitive process that enables us to reflect on and examine our experiences, situations and issues that allow for making informed decisions of our actions. Therefore, the literature review focuses on reflection, the reflective process and journal writing as a form of the reflective learning process. The review begins by looking at the definition and theoretical perspectives of reflection and the reflective process and then moves on to journal writing and how it promotes reflective learning.

What is reflection and the reflective process?

John Dewey used the term reflection to describe thinking to resolve problems and issues by chaining ideas and actions and linking them with previous actions (Hutton & Smith, 1995). Dewey believed that associating ideas was integral to thinking and that one has to search for deeper meanings through reflective thinking to understand the core essence of something to transform doubt into understanding further actions (Henderson, Napan, & Monterio, 2004). Dewey's work is seminal to researchers in the area worldwide.

Reflection, in its simplest form can be defined as consciously thinking about and analysing what one has done and is doing (Henderson, et al., 2004).

However, according to arguments by Han (1995), Hutton and Smith (1995) and Farrell (1998) the construction and theoretical perspectives of reflection are wide ranging. Therefore, Hutton and Smith (1995) suggested that the terms reflection and reflective learning should be operationally defined to embrace specific concepts and strategies in given contexts. This study looks at student teachers' teaching practice journal writing as a process of reflective learning. It focuses on the dimensions of reflection on their experiences encountered during teaching practice. Most of the literature reviewed will discuss a range of aspects of reflection and reflective learning to determine the dimensions of reflection.

Farrell (1998) and Bell and Gillett (1996) defined reflection as the construction of our experiences and identifying possibilities for action to build our own educational perspectives to improve practice. According to Hutton and Smith (1995) reflection is a cognitive process that entails reflective thinking and is generally concerned with addressing practical problems. Reflection involves critical thinking that is influenced by beliefs we support or refute and thinking about solutions (Millrood, n.d.).

Furthermore, Schon (1983, 1987, in Hutton & Smith, 1995) argues that critical thinking entails critical reflection and action. Critical reflection adds value to what is learned and action adds to the construction of new knowledge and perspectives. Furthermore, as experience is a central concept to reflective practice, this gave rise to the first of the key questions for this study, that is, What types of experiences do student teachers record and reflect on?

According to Farrell (1998), reflective practice is becoming a dominant paradigm in teacher education worldwide. He referred to reflection in teaching as *'teachers subjecting their beliefs and practices of teaching to critical analysis'* (p.1). Meanwhile Han (1995) and Black (2001) are of the view that reflection helps teachers become empowered decision makers by making appropriate and sound judgments about personal, pedagogical, societal and ethical contexts associated with schools and/or classrooms and their multiple roles. They pointed out that reflection is fundamental to teacher education because of its uncertain, dynamic and complex practice and should be an essential part of teachers' repertoire.

Furthermore, Bell and Gillett (1996) shared similar views with Han (1995) and Black (2001) and asserted that reflection is important in teacher development and should become an aim for teacher education. The reflective process allows teachers to develop abilities to examine their experiences in relation to students, their values, abilities and their strength and weaknesses (Farrell, 1998). Thus reflection is a means to helping student teachers engage in meaningful learning to become effective in their teaching profession.

What is reflective learning?

Reflective learning entails reflective thinking which is a special form of thought in relation to an issue or problem (Hutton & Smith, 1995). Thus reflective learning encourages deeper learning (Bourner, 2003; Henderson, et al., 2004). According to the Teacher and Educational Development Institute of the University of Queensland, deep learning involves: '*active thinking, analysing, critical evaluation, making connections with previous knowledge, more effective retention of what is learned and effective transfer of learning to new situations*' (2003:1). Likewise, Matang (1997) argues that reflective learning is making connection to previous knowledge to better understand what is learned currently. Matang argued that '*learners new experiences become more meaningful if only they are related to previous experiences*' (1997:8).

Evidence of reflective practices includes *reflective learning journals, learning contracts, peer and self evaluations, debriefings, filed diaries, reflective commentaries, action research and collaborative inquiries* (Henderson, et al., 2004:1). This study is about reflective journals whereby student teachers are asked to make reflective commentaries about their experiences during teaching practice. A range of dimensions of reflection may be evident in the student teachers' journal entries.

What are the dimensions of reflection?

Through the review of literature four dimensions of reflection were identified: technical reflection, reflection in action, reflection on action and reflection for action. Explanations of these dimensions are given in Table 1.

Table 1: Explanations of dimensions of reflection

Dimension	Explanation
1. Technical reflection	• focuses on effective application of skills and technical knowledge in the classroom…examining application of skills with immediate feedback…It enables beginning teachers to cope with new classroom situations (Farrell, 1998:3) • is an essential part of initial student teacher development; reflection or evaluation on lessons after teaching is an example (Hutton & Smith, 1995:3)
2. Reflection-in-action	• is an element of knowing-in-action, occurs while an action is being undertaken (Hutton & Smith, 1995:3) • is a spontaneous reflection in the midst of actions (Millrood, nd) • happens when the teacher has a kind of knowing-in-action (Farrell, 1998:3) • is concerned with what we are doing in the classroom while we are doing it (Schon, 1983,1987 in Farrell, 1998:3)

3. Reflection- on-action	• is reflecting on one's action and thought after an action is completed (Millrood, n.d.) • deals with thinking back on what we have done to discover our knowing-in-action…reflecting on our reflecting-in-action (Farrell, 1998:3)
4. Reflection- for-action	• is the desired outcome of both reflection-in-action and reflection-on-action…to guide future action (the more practical purpose) (Farrell, 1998:4) • engages the teacher in reflection to guide future actions (Millrood, nd).

Technical reflection refers to examining and thinking about the application of teaching skills, methods and classroom management strategies in teaching as in lesson evaluation. *Reflection-in-action* refers to examining our actions in situations of teaching and modifying them. *Reflection-on-action* is about pondering on what has happened by examining and analysing our actions and thinking about the next action. *Reflection-for-action* is examining and analysing reflecting-in-action and reflecting-on-action to make informed decisions about future actions. Given that the literature identifies various dimensions of reflection, the second key question guiding this study was: What are the dimensions of reflection observed in the student teachers' reflective journal entries?

What is a journal?

According to the Learning Advisors of the University of South Australia (2005) a journal is a record of the learner's thoughts about learning within a course or professional setting. It is written regularly over a specified period of time in which the learner describes experiences, events and issues associated with his or her study or professional practice and also analyses and reflects on them. The journal keeping process allows student teachers to become reflective practitioners. The analytical and critical elements of the journals enable student teachers to focus on and think about issues, experiences and events encountered. Keeping a journal encourages deeper levels of thought, change and improvement in their practices. Moreover, the journal shows that the learner has been thinking about the process of his or her learning and development of understanding. The third key question to guide this study was: What patterns are observed in the student teachers' reflective journal entries?

Why keep a journal?

A journal is used in many different contexts including professional experiences such as teaching practice. Journal keeping is useful because it helps increase self-awareness of the student teachers about their experiences and observations through the process of reflecting and clarifying perceptions, feeling and thought (Learning Advisors, University of South Australia, 2005). Furthermore, keeping a reflective journal is a process that makes student teachers become reflective. In keeping a reflective journal one does not only

record what happened or was observed but also develops new ideas and understanding to make sense of the events and experiences encountered. The journal enables student teachers to keep a reflective account of their own experiences and observations, to examine and understand them better, and to make informed decisions about dealing with them. Thus reflective writing can help student teachers become reflective, critical and constructive learners.

How to keep a journal?

According to the Learning Advisors of the University of South Australia (2005), journal writing is influenced by whether the writer is being descriptive, analytical or critical. In the case of student teachers' reflective journals all of the three approaches may be used. The descriptive element details the experiences encountered. The analytical and critical elements focus on the thoughts about the experiences. Deeper levels of thinking are encouraged whereby experiences are analysed and any shifts in view of intentions are recorded. However, student teachers may encounter difficulties in keeping good reflective journals. Therefore, the fourth question that guided this study was: What are the factors that influence the reflective journal entries?

How does journal promote reflective learning?

According to Bell and Gillett (1996), journal writing facilitates the development of critical thinking and is an important tool for professional development. Therefore, the critical and analytical elements of the journal promote reflective learning by enabling us to critically and analytically examine our experiences and observations in a more meaningful way. In the case of the student teachers, the reflective journals will help them to learn on the job as well as becoming informed decision makers of their professional practice.

Methodology

The study design engages case study and the action research approaches (Burns, 1998) because it deals with addressing a practical issue, which is part of the practicum program for the Diploma in Teaching Primary pre-service program at Madang Teachers College. The design enabled the researcher to gather data that related to identifying:
- types of experiences student teachers reflect on
- dimensions of reflection in the student teachers reflective journal
- patterns in the student teachers reflective journal
- factors that influence the reflective journal process.

Instruments for data collection

The journals and questionnaires were used as instruments to collect data in this study. The journal was a participant-journal technique (Lankshear & Knobel, 2004) whereby contextual written reflections of student teachers that related to

their experiences during teaching practice were collected. The questionnaire was open-ended and served as a follow up for the journals. It provided data relating to the factors that influence reflection and perceptions about the teaching practice reflective journals.

Procedure for data collection

Ten final year student teachers enrolled in the Diploma in Teaching Primary pre-service program at Madang Teachers College were asked to sign an agreement form to participate in the study. They were asked to submit their journals at the end of the six week teaching practice period for analysis and to respond to a follow up questionnaire. The purpose of the study was explained to the participants during the preparation week for the teaching practice. Upon returning from teaching practice they were given the opportunity to complete the questionnaire. All ten students submitted their journals and the questionnaire. As the 2005 teaching practice was conducted in the rural areas of Madang Province the reflective journal entries were based on rural teaching experiences.

Participants

Five of the participants were males and five were females. They were randomly selected from students posted to three different primary schools in the Bogia, Sumkar and Transgogol inspectorates of the Madang Province. They were randomly selected from the posting lists for the three schools. Provincial origins of participants and any other variables were not considered as they were irrelevant to the focus and purpose of the study. Letter coding was used to protect the privacy and identity of the student teachers throughout the study.

Procedure for data analysis

Grounded theory (Lacey & Luff, 2001) was used to analyse the data. The qualitative content categories analysis (Lankshear & Knobel, 2004) and the journal critical analysis (Pickford, 2005) methods of data analysis were simultaneously used to analyse and interpret the data. These methods of data analysis allowed the researcher to organise the data into categories and constantly compare them.

Findings, analysis and discussion

Types of experiences student teachers reflect on

Kerka (1996) identified the types of journals as *journal or literature log, learning journal, reflective journal and electronic journal* (pp.1-2). The teaching practice journal was a reflective journal where student teachers reflected on a range of experiences which are categorized into *pedagogical* and *non-pedagogical* experiences. The non-pedagogical experiences are outside-of-classroom experiences and are further categorized into *events* and *issues.*

For the classroom pedagogical experiences data showed that student teachers reflected on *teacher aspects* and *children aspects*. The teacher aspects included the application of teaching methods and skills. For example:

> *My last assessment: Oh! this was the worst lesson I've ever taught. I prepared a lesson on percentages. I tried my very best to teach or explain to the students but it didn't work out as I'd planned...* (Student B)

> *On Wednesday the 17th of August I taught a lesson on making/weaving a rice basket and the strategy that I used was demonstration and peer teaching. I demonstrated to the whole class and then got students who know to peer teach in small groups...* (Student J)

The children aspect included learning needs and behaviour of students. For example:

> *I saw that each child had different needs. I categorized them under two groups, one as being the fast learners and another being the slow learners. I saw that the slow learners were the more needy ones... Therefore, I should not look at children's incapability but take everyone as capable and eager learners...* (Student E)

> *… I was very angry and sent my students out of the classroom when they haven't answered my questions ... Just after I have clearly explained and asked some questions for them to answer none of them made an attempt. I lost my temper and sent the students outside …* (Student G)

Reflections on events related to school organised activities. For example:

> *Last Saturday, we the teachers (both trainees + field teachers), some school children, and parents took a walk from Sek to Malolo. It was the school walkaton because the school received funds from the sponsors…* (Student A)

Reflections on issues related to student teachers affairs and curriculum. For example:

> *…there was a BOG* [Board of Governors] *meeting held and there was an agenda about trainees. After their meeting … a meeting was called for all trainees by a member of the BOG and stressed two points: i) a female trainee having relationship with a local boy, ii) of a rapist around the school area and warned us to watch our movements…Security was provided for K240.00. Payment will be done by the trainees but our supervisor strongly disagreed on the decision because he was not being told…* (Student C)

> *… I sat with one of the senior teachers in his office and talked about programming. I told him, 'you need to make a unit of work for all the subjects that you are taking'… He asked me, what is a unit of work?*

> *When I was still explaining, he jumped in and said, 'It's a waste of time and a lot of work, we can use our termly programs to teach.' I got so pissed off that I left the room and went out…* (Student D)

Despite the difficulties faced by student teachers in choosing what to write about and reflect on (Kerka, 1996) they have reflected on a range of experiences which they feel are significant to their professional practice. This revealed that their reflections are not restricted to pedagogical practices but covered a range of areas that concerned them as trainee teachers. This should help them to make appropriate and sound decisions about their personal, pedagogical, societal and ethical contexts associated with classrooms and/or schools and their multiple roles as teachers (Hans, 1995; Black, 2001) in a diverse and complex society like PNG.

Dimensions of reflection

As data were analysed it revealed that the student teachers' reflections were grounded into the four dimensions of reflection: *technical reflection, reflection-in-action, reflection-on-action* and *reflection-for-action* discussed by Hutton and Smith (1995), Farrell (1998) and Milrood (n.d.). However, three main categories of reflection emerged and they were *descriptive writing, descriptive reflection* and *critical reflection*. These categories fit in with the types of reflective writing discussed by Hutton and Smith (1995). The categories differed in the way they were written but had indications for intentions/actions.

Descriptive writing focuses on description of events that occurred in reported form and there is little attempt for critical analysis. The following journal entries illustrate this category.

> *A Maths test was conducted and it's out of 20 marks. The test was…on area and circumference. During the lesson most students were able to answer the questions very well ... During marking I have learnt that most students were not able to calculate the area and circumference. They got them wrong.. In future I would: Produce lots of handouts for homework and I will organize remedial lessons on subjects they don't understand much.* (Student F)

> *I collected some mathematics exercise books to mark. I was surprised to find out that some students cannot say their multiplication tables. There is a very low effort on multiplication tables. I see that students don't spend time with multiplication tables. Some even cannot confidently finish table 6 or even 3. Students are not drilling their times tables. I'd drill them to make up for these weaknesses. For example, I'll ask students to drill their tables every morning.'* (Student I)

Descriptive reflection describes the event with some attempt to provide justifications but in a descriptive way. The following journal entries illustrate this category.

…There was a BOG meeting held and there was an agenda about trainees. After their meeting … a meeting was called for all trainees by a member of the BOG and stressed two points: i) a female trainee having relationship with a local boy, ii) of a rapist around the school area and warned us to watch our movements…. Security was provided for K240.00. Payment will be done by the trainees but our supervisor strongly disagreed on the decision because he was not being told. I learned that in such a meeting we must have the person who is in charge of the group to be present before any discussion concerning the group… The supervisor was not happy, the teachers were not aware of what was going on. It was between us (trainees), the HM and just one of the BOG members which was wrong… My future intention …to report to the admin about how much the group (trainees) are going to pay… tell the admin (MTC) to meet half payment of the security because the school requested for boys due to such problems but the college failed…The BOG of the school to meet the other half payment because we are providing service to the school...' (Student C)

… I was very angry and sent my students out of the classroom when they haven't answered my questions being asked … Just after I have clearly explained and asked some questions for them to answer none of them made an attempt. I lost my temper and sent the students outside. This was my first experience of sending students out of the classroom which I felt guilty. But on the other side I have tried my best to help the students ... in future I will try not to send students out but … if the same thing happens again … I am going to send students home to get their parents to see me. (Student G)

Critical reflection describes the events as well as includes the analytical and critical commentaries and intentions for action. The following journal entry illustrates this category.

… I taught a lesson on making/weaving a rice basket and the strategy that I used was demonstration and peer teaching. I demonstrated to the whole class and then got students who know to peer teach in small groups. This strategy on demonstration and peer teaching was very effective. I found out that students feel more free learning from their peers than from the teachers in practical lessons … When I do my actual teaching next year and the years to come I will definitely promote this strategy. This means in any demonstration lesson, especially with hands on materials students who catch things fast should be used to peer teach their friends. (Student J)

According to Hutton and Smith (1995) reflective thinking is a special form of thought in relation to solving issues and problems. The student teachers' journals are records of their thoughts about teaching and learning moments, events and issues encountered during teaching practice. The descriptive, analytical and critical elements form the basis of their reflections. However, the findings showed that there is often lack of analytical and critical elements in

the journals. So one could, at face value, argue that the journals do not promote deeper thinking and learning (Bourner, 2003; Henderson, et al., 2004, Learning Advisors of the University of South Australia, 2005).

On the other hand, despite, the descriptive nature of the student teachers' journal entries the '*action*' element of their reflection showed that they were engaged in technical reflection, reflection-in-action, reflection-on-action or reflection-for-action (Farrell, 1998; Hutton & Smith, 1995; Millrood, n.d.). This alludes to the original ideas of reflection where Dewey (1933) and Schon (1983, 1987) viewed reflection to be thinking and chaining ideas to solving problems.

The lack of preparation and exposure to the reflective journal process prior to teaching practice also had an impact on the descriptive nature of the student teachers' journals. The descriptive nature of the journals is a sign that student teachers need more guidance to develop analytical and critical skills.

Patterns of reflection

The openness of the journal allowed student teachers to reflect on a range of experiences. Three main patterns were observed in the reflections and they are related to the *experiences reflected on* and the *structure of the written entries*.

Firstly, the reflections were noticeably related to the types of experiences encountered by student teachers. They tend to reflect on classroom teaching and learning moments, events and issues encountered outside of the classroom. The journal entries quoted illustrated this pattern.

Secondly, the findings also revealed that student teachers reflected more on problem-related issues. All except student teacher J's journal entries illustrated this category. These showed that the '*problem-action*' element was the focus of the reflections.

Thirdly, the structure of the written entries appeared in the following patterns. First the experience was described, followed by what the student teacher learned from the experience, and then his or her intentions/actions for the future. For example:

> *… I taught a lesson on making/weaving a rice basket and the strategy that I used was demonstration and peer teaching. I demonstrated to the whole class and then got students who know to peer teach in small groups. This strategy on demonstration and peer teaching was very effective. I found out that students feel more free learning from their peers than from the teachers in practical lessons … When I do my actual teaching next year and the years to come I will definitely promote this strategy. This means in any demonstration lesson, especially with hands on materials students who catch things fast should be used to peer teach their friends.* (Student J)

The first pattern compliments the findings that student teachers reflect on a range of experiences that relate to the classroom and/or school contexts. The second pattern confirms the view of reflection held by Dewey (1933), Scholn (1983, 1987), Bell and Gillett (1996), Farrell (1998) and Hutton and Smith (1995) that reflection is *problem based* and is followed by *action(s)*. The overall structure was directly influenced by the college journal format which related to firstly, describing the moments, events or issues, secondly, by discussing the key thing learned, and lastly, by identifying actions.

Enabling and inhibiting factors to reflection

Journal keeping is a form of learning and entails reflection. The Learning Advisors of the University of South Australia (2005) noted that journal writing includes descriptive, analytical and critical elements. Ramasamy (2002) further observed that engaging in reflection requires dialogue. The teaching practice journals provide the avenue for the student teachers to engage in dialogue whereby they reflect on their experiences. However, there were factors that influenced the process and they are categorised into *enabling* and *inhibiting* factors (see Table 2). The numbers in brackets show numbers of respondents with similar responses.)

Table 2: Enabling and inhibiting factors to reflection

Enabling factors	Inhibiting factors
The guiding questions that were provided (4)	*The amount of space provided for writing (9)*
My supervising lecturer (3)	*We were not taught how to keep a reflective journal at college (8)*
My experience from last year (2)	*I sort of answered questions then really expressing my feeling (1)*
My class teacher (2)	
The events or episodes (If they did not happen I would not reflect) (1)	
My peer (1)	
The things I learned from it (strengths and weaknesses) (1)	
The learning of new ideas (1)	
It enabled me to share my views and thoughts about issues (1)	

The openness of the journal approach and the current format provided by the college influenced the student teachers' journal writing process. Despite the lack of exposure to the reflective journal process, student teachers were engaged in reflective thinking. The results showed that they:
- indirectly learned how to keep reflective journals
- were able to build on previous experiences which involved reflective learning
- were motivated by the opportunity to capture their thoughts about their experiences.

Perceptions about reflective journals

What student teachers feel and think about reflective journal entries plays an important role in determining the dimensions and extent of reflection. Therefore, it is important to also note their perceptions about keeping reflective journals (see Table 3). The numbers in brackets show number of respondents with similar responses.

Table 3: Commentaries on perceptions about keeping reflective journals

Provide enough space (5)
Waste of time (5)
Provide more guiding questions (3)
Change from weekly to daily so that we can keep an account of significant experiences (2)
Some students do not enter their reflections immediately, they leave it until the last minute (2)
There should be a maximum of three weekly journals and not four (1)
Information becomes public and open to unnecessary comments (1)
It only lasts for expressing a moment in time which may not be experienced again (1)
Some fake experiences (1)
Some information is not original; they copy from other students in the previous years (1)

There were mixed reactions by the student teachers about reflective journal keeping. However, it is important to note the *positives* and the *discrepancies* in the journal keeping process. The results showed that they have the desire to discuss and share their thoughts about their experiences. On the other hand, they may perceive journal keeping to be a waste of time which may have led to the discrepancies. Privacy was also a concern, as findings revealed that student teachers may not want other people to intrude into their thoughts.

Conclusion

The purpose of the study was to investigate the dimensions of reflection by student teachers on their teaching practice experiences and associated factors that influenced the reflective process. Through analysis of their reflective journal entries and responses to a questionnaire, it was possible to identify types of experiences, dimensions of reflection, patterns in their reflections and possible facilitating and inhibiting influences. The study has provided important findings on the teaching practice reflective journal process. The context of the study was crucial because it had some influence on the findings of the study.

The outcomes of the study revealed that student teachers reflected on a range of experiences that related to classroom teaching and learning moments, issues and events. They have used the reflective journal as a window to foreseeing the realities and dilemmas they would deal with in their teaching profession.

Despite the general lack of analytical and critical elements of their reflection student teachers were able to engage in either, technical reflection, reflection-in-action, reflection-on-action and reflection-for-action (Hutton & Smith 1995, Farrell, 1998 and Millrood, nd), in which they were able to discuss their thoughts about the problems and issues encountered and how they would deal with them.

One significant thing about the student teachers' reflection was '*problem based*'. They discussed practical problems and thoughts about how they would deal with them in the future. This revealed that '*problems*' were the core element of the journal writing process and reflections revolved around them. It is also important to note that the current format for journal writing has had a major influence in the way student teachers reflected. Despite the lack of preparation and/or exposure to the reflective journal process student teachers were able to engage in reflective thinking. Positive influences included supervising lecturers, co-operating teachers, peers, and student teachers previous experiences and personal motivation.

Student teachers have appreciated the value of the teaching practice reflective journals. However, the weakeness in the reflective journal process and the privacy issue needs to be addressed to improve and strengthen the reflective process and instil confidence amongst the student teachers.

Recommendations

Based on the findings the following recommendations are made:
- That the Practicum Committee formulates and proposes a policy for student teachers to be educated prior to teaching practice on the knowledge and skills required for keeping a reflective journal
- That lecturers in the Professional Studies Strand develop Reflective Journal student and lecturer materials that include readings, examples and activities and build upon the findings of this research study
- That lecturers in the Professional Studies Strand facilitate a professional development program for staff who will be supervising teaching practice to raise awareness of effective mentoring of students' compilation of reflective journal entries
- That the findings of this research study be shared to contribute to the field of knowledge about types of experiences, dimensions, patterns and influences on reflective journal writing in a Papua New Guinea teacher-education context
- That further research on reflective journals as a learning tool for student teachers be conducted in future to build up data in this under-investigated field in Papua New Guinea.

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