Chapter 26 The Impact of Reflective Inquiry on Professional Development of Student Teachers

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Abstract Adequate guidance, constructive feedback and professional support during teaching practice can significantly change a mediocre student teacher to one who teaches more outstandingly. This study investigates the nature of supervisor support during reflective inquiry sessions, and how the support contributes to student teachers' professional growth as teachers-to-be. In-depth interviews with five student teachers provided data for the study. The findings revealed that the focus of reflections in the discussions between the student teachers and their supervisors revolved around the direction and implementation of the lesson; professional qualities; expressions of personal feelings, opinions and concerns; achievability of the pre-determined learning outcomes, student teachers' manifested behaviors; and other professional supports. Reflecting on the research participants' levels of reflectivity, 45 % interview entries were coded at level one -Technical Rationality (TR), 50 % at level two - Practical Action (PA), and 5 % at level three - Critical Reflection (CR). The findings also showed that the development of student teachers' selfefficacy beliefs in teaching was due to three contributing factors: the employment of reflective techniques by the supervisors, the value of accepting the strengths and weaknesses in teaching experienced by the trainees, and the applications of the outcomes gained during the reflective inquiry sessions on the upcoming lessons. These findings imply that supervisors must take reflective inquiry conferences more

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seriously and recognize that productive sessions with their trainees are critical in developing future teachers with sound pedagogical know-how.

Keywords Reflective inquiry sessions • Focus of reflections • Levels of reflectivity • Professional development • Self-efficacy beliefs

26.1 Introduction

Universities and teacher training institutes in Malaysia are working hard towards the production of competent, proficient and enlightened teachers (Heng and Khim 2004). In addition to the emphasis on the mastery of content knowledge as well as considerable exposure to theoretical and practical aspects of pedagogy, progressive personal development of students towards becoming trained teachers is also centralized on the use of reflection during practicum. Reflection during teacher training process is commonly implemented via a number of mechanisms, namely mentor observation, supervisor observation, journal writing, portfolio keeping, self-evaluation and reflective inquiry.

A review of literature shows that most studies related to professional development of student teachers focused on in-depth explorations on reflective practice using journal writing and portfolio keeping. Very few studies were interested to investigate more on the application of reflective inquiry. Rubina (2004) contended that reflective inquiry can boost student teachers' moral to teach better and to open up their mind to be consistently conscious of "any issues related to their classroom behaviour" (p. 19). Anglea (2009) corroborated that reflective inquiry provides student teachers a sense of awareness about the different dimensions of teaching and learning.

Heng and Khim (2004) revealed the expected outcomes of supervision process for student teachers. They argued that a number of past literatures have documented the success of the supervision process to promote student teacher learning yet in most cases there are "indications (that) supervisors may not fully understand their roles and responsibilities within reflective contexts" (Heng and Khim 2004, p. 32). This sad state of affair is in tandem with the findings of earlier studies conducted by Borko and Mayfield (1995) as well as that by O'Donoghue and Brooker (1996), which highlighted the limited roles of supervisors resulting in trainee teachers' failure and lack of awareness of responsibilities in classroom. In addition, Boud and Walker's (1998) study on the use of reflective practicum towards the professional development of student teachers discovered that supervisors' lack of insights regarding the true meaning of reflective practice resulted in poor outcomes of the reflective practicum session.

Hence, it could be assumed that if the reflective inquiry sessions were to be conducted in an effective manner by the supervisors, the outcomes of reflective enquiry are twofold: realizing student teachers' supposed roles in a classroom and creating

positive reinforcement towards student teacher learning about teaching philosophy and practice. Nevertheless, past literatures and the researchers' own experiences regarding the downsides of reflective inquiry practice on student teachers had exhibited gaps that the researchers wished to investigate further and thus bring them to light. As such, the purpose of this research was to investigate the nature of supervisor support during reflective inquiry sessions, and how the support has contributed to student teachers' professional growth as teachers-to-be.

26.1.1 Objectives of Study

The aim of the study was to unfold the experience of student teachers when they underwent the supervision process during practicum. The specific objectives of the study are as follows:

- 1. to investigate the focus of reflections in the discussions held between student teachers and their respective supervisors;
- 2. to examine the extent to which the student teachers have managed to reflect in the reflective inquiry session conducted in terms of reflection level;
- to investigate to what extent the reflective inquiry session has contributed to the student teachers' self-efficacy beliefs in terms of realizing their teaching strengths and weaknesses.

26.2 Review of Related Literature

26.2.1 Levels of Reflectivity

Van Manen (1977) proposed three levels of reflectivity in realizing educational actions and thus applying needed strategies to reach the expected outcomes. The ability to demonstrate the depth of reflectivity as prescribed can contribute to new paradigm of how educators perceive teaching and learning with a particular group of students and enhance their teaching repertoire. The three levels of reflectivity proposed by Van Manen are technical rationality (TR), practical action (PA) and critical reflection (CR). In order for these stages of reflectivity to be functional, he stipulated that the stages should occur in order whereby one could not be considered achieving the CR level until they have experienced the previous levels of reflectivity, PA and TR accordingly.

According to Van Manen (1977), technical rationality (TR) deals with issues concerning technical application of educational knowledge and basic curriculum principles such as the effectiveness of teacher's instruction and the relevancy of the syllabus to students' proficiency level. Once a teacher achieves TR level of reflectivity, he will move to the next level of reflectivity which is practical action (PA). Practical

action (PA), on the other hand, deals with the re-examination of practice that has been executed. A reflective practitioner who is at this stage of reflection is reasoning out the teaching approaches made and assessing their educational consequences specifically on the students' learning. The manifestation of reflection at this level can be achieved via a thorough analysis on how the goals are met. Measuring learning outcomes via students' responses and tasks assigned is a classic example on how PA level of reflectivity can be realized in classroom setting.

In spite of the depth of coverage that the aforementioned levels of reflectivity could offer, Van Manen (1977) claimed that a higher level of reflectivity is needed to understand the worth of such experiences and their beneficial impacts on educational curriculum. Here comes critical action (CR) into action. At this third and final level, teachers are reflecting on the worthiness of the knowledge to the students in terms of their ability to apply the previously learnt knowledge into the real contexts outside the classroom womb.

26.2.2 Focus of Reflection

Moon (2008) regarded facilitators as a part of learning environment of student teachers. Facilitators are naturally expected to understand how reflection works and how the outcomes of the process will affect the qualities of learning. She also emphasized that facilitators should be aware of the importance of reflection as a platform to enhance learning. As a matter of fact, she elaborated further the underlying purpose of reflection which is to make student teachers aware of how they can utilize the reflective techniques experienced during the reflective process to "upgrade their previous less organized but valid levels of knowledge and understanding" (p. 167).

In the hope of optimizing the effectiveness of reflective session, several insights on reflection were put forward by influential scholars as basis for facilitators to conduct an effective reflective session. Gibbs (as cited in Moon 2008, p. 167) constructed a set of guidelines for supervisors on proper ways of having conversation during reflective session:

- (i) A stage of description
 - Describing events
 - Looking for details
 - · Comparing the experience with other experiences
- (ii) A stage of entailing judgment
 - Discussing the quality of experiences in terms of strengths and weaknesses or the best and worst parts of teaching
 - Questioning the relevancy of particular actions
- (iii) A stage of analysis
 - Deeper questioning of what happened and making sense of it

- · Reasoning out why such behaviors manifested
- Frequent use of Why-questions

Source: Gibbs (as cited in Moon 2008, p. 167)

26.2.3 Self-Efficacy: The Ignition of Realizing What You Can Do

The fundamental of self-efficacy theory as defined by Bandura (1997) is "people's beliefs in their capabilities to produce desired effects of their own actions" (p. 7). People have the flexibility to decide which set of behaviors to be manifested in the face of challenges yet to what extent the perseverance attitude has been directed to the chosen set of behaviors will determine one's self-efficacy level. Dweck (2000) highlighted five effects of self-efficacy beliefs which he claimedhad influenced the subjects of his study in terms of their professionally guided and self-guided behavioral change strategies, physical health as well as psychological adjustment and problems.

In recent decades, a number of seminal papers and subsequent ground-breaking studies on the effects of self-efficacy beliefs towards one's professional development across all disciplines were written and published. The original terms for self-efficacy beliefs before it was commercialized by Albert Bandura in 1997 were "volition" and "will". Early works related to this kind of perceived competence were from John Locke and William James (Skinner 1995). This has attracted interests from people in academia as theories of motivation (White 1959), achievement motivation (McClelland et al. 1953), social learning (Rotter 1966) and the famous psychological well-being theory (Skinner 1995) have begun establishing themselves in the literature world (Maddux 2009).

Nevertheless, in spite of the emerging theories appearing in the recent studies, the theory of perceived competence in the form of self-efficacy introduced by Bandura (1997) remains appealing to many academicians due to its comprehensiveness. Bandura (1997) claimed that self-efficacy is the beliefs of what we can do under specific constraints and circumstances (as cited in Maddux 2009, p. 4). Self-efficacy notion gives emphasis on one's ability to coordinate and execute his or his skills in an organized way in the efforts to resolve pre-determined goals.

26.2.4 Reflective Inquiry Session for Professional Development

Winter (as cited in Moon 2008) viewed professional development as interrelated with the development of one's self-awareness. Eraut (1994), while in agreement with Winter's stand, was however more concerned with "the application of the

awareness for personal improvement" (p. 91). Eraut (1994) elaborated further that the ability to know how and when to use specific knowledge and skills, as well as the ability to find alternatives as a result of our limitation are also part of self-knowledge. Meanwhile, self-management refers to the process of using self-knowledge to carry out our expected roles as professionals and this process, in turn, results in the growth of our personal behaviour (Eraut 1994).

There is a connection between self-inquiry and critical thinking to assist teachers in making the best resolution for the best interest of their students (Farrel 2003). He argued that, the decision-making process experienced by teachers via the combination of both in reflection are more guided and directive rather than just from their mere intuitions.

Rubina (2004) had her own view on the roles of reflection towards the professional growth of student teachers. The view was developed based on her research entitled *Using the Reflective Approach in a Teaching Practicum* whereby she gathered the opinions of student teachers and lecturers of her faculty about the effects of reflective approach towards self-development. In the study, Rubina highlighted the effects of reflective sessions conducted by respective lecturers on the student teachers. The research participants, ESL student teachers, felt that reflection had provided them a sense of awareness about the different dimensions of teaching and learning. The session had boosted their moral to teach better and had opened up their minds to always become aware of "any issues related to their classroom behaviour" (Rubina 2004, p. 12). Other than that, the participants also stated that the sessions had made them aware of certain undesirable classroom behaviours that had been manifested as a result of their inadequate knowledge on how to apply second language theories into practice. Hence, such awareness has made them more selective in choosing appropriate teaching materials and approaches.

To conclude, student teachers who consistently engage themselves in reflective practice will experience changes in attitudes and awareness. Such changes enable them to have deeper understanding on the nature of their students' learning, sharpen their decision-making skills, enhance the effectiveness of their teaching, nurture their self-efficacy beliefs to realize their strengths and weaknesses in teaching and eventually boost their confidence in teaching. All these will certainly contribute professionally to their growth as teachers.

26.3 Methodology

The study employed a qualitative design using interview as the primary means of data collection. Ten semi-structured questions were posed to "elicit descriptions of experience, behaviors, or activities" related to the reflective inquiry processes that the student teachers have gone through during their teaching practice and to "enquire the respondents' goals, beliefs, attitudes and values" (Fraenkel and Wallen 2006, p. 37). Methodological triangulation in the form of lesson feedback observation forms was used to substantiate the data gained from the primary research instrument.

Five out of a total of 25 Teaching English as Second Language (TESL) undergraduate student teachers from a teacher education institute were purposively chosen as research participants. Selection of participants was carried out based on the criteria that they went through their teaching practice stint in schools, engaged in reflective inquiry process with their respective supervisors, possessed rich information regarding the subject matter being studied and lastly were accessible in terms of their readiness to open up during the data collection process.

26.4 Results

This section reports the findings obtained from the one-off interview sessions with five research participants and twenty lesson observation feedback forms written by their respective supervisors in response to the lessons carried out prior to the reflective inquiry sessions. All in all, the raw data were scrutinized and arranged accordingly into their respective recurring themes and sub-themes in such a way to draw answer for each research question of the study.

26.4.1 Focus of Reflections in the Reflective Inquiry Sessions

After synthesizing and integrating the verbatim transcriptions of the interview sessions with researchers' memos and coding notes on the interview transcriptions via constant comparison method, six emerging foci of reflections were discovered recurring in the three out of five interview transcriptions. These six foci of reflections are divided into two dimensions: technical and cognitive. Technical dimension revolves around the process and procedure while cognitive dimension deals with mental processing activities over a particular action, event or behaviour. Tables 26.1 and 26.2 provide brief descriptions on the utilization of the six foci of reflections that were used as a basis of discussion during the reflective inquiry sessions prior to and after the lesson observations:

26.4.2 Reflection Levels Experienced by the Student Teachers

In order to investigate reflection levels experienced by the research participants, responses from each interview question being posed during the interview sessions were closely scrutinized and systematically coded. Any event, experience and insight pertaining to the contents they had discussed with their supervisors during the reflective inquiry sessions that matched the criteria prescribed in Table 26.3 were coded as L1, L2 and L3 to respectively refer to the following levels of reflectivity:

Table 26.1 The description of the three recurring foci of reflections in reflective inquiry session based on technical dimension

	Focus of reflections (Main	
No.	theme)	Sub-focus (Sub-theme)
Techr	nical dimension	
1.	Expressing personal feelings, opinions and concerns	Independent reflection first before discussing selected issues related to the lesson
2.	Brainstorming and exchanging information on the behaviors	Clarification on the student teachers' strengths and weaknesses
3.	Providing professional supports via constructive comments	Making sense of all the comments and suggestions given
		Setting up expectation for the upcoming lessons via suggestive comments
		Give the student teacher ample freedom to make decisions and choose what is best for their students provided that the comments have been reasoned out their relevancy

Table 26.2 The description of the three recurring foci of reflections in reflective inquiry session based on cognitive dimension

No.	Focus of reflections (Main theme)	Sub-focus (Sub-theme)	
	Cognitive dimension		
1.	The focus and purpose of the lesson	Lesson planning	
		Arrangement of the activities	
		Amendment of the lesson	
		Learning goals/learning outcomes/behavioural objectives	
2.	Lesson implementation	Pace of the instruction	
		Delivery of the lesson	
		Classroom management	
		Learners' engagement with the activities	
		Achievement of the learning outcomes	
		Linking up teaching and learning theories and	
		approaches with the present practice	
		Dealing with misbehaved students	
		Selection of teaching contents	
		Suggestions of future activities	
3.	Professional qualities as a teacher	Teacher persona	
		Voice quality	
		Rapport with learners	
		Consideration on learners' present needs and interests	
		Values	

Level	Description	Criteria	
L1	Technical rationality (TR)	Student teacher is concerned with technical application of knowledge and basic curriculum principles	
L2	Practical action (PA)	Student becomes more concerned with clarifying assumptions while addressing educational consequences	
L3	Critical reflection (CR)	Student teacher is concerned with worth of knowledge without a personal bias	

Table 26.3 Three levels of reflectivity by Van Manen (1977)

Table 26.4 Frequency distribution of the research participants' levels of reflectivity during the reflective inquiry sessions

	Frequency of coded entries according to Van Manen's levels of reflectivity (1977)			
Subject (Pseudonym)	Technical rationality (Level 1)	Practical action (Level 2)	Critical reflection (Level 3)	Total frequency (for each subject)
Hazril	8	13	1	23 (28 %)
Sufian	8	4	1	13 (16 %)
Mary	7	12	1	19 (23 %)
Kamal	6	3	0	9 (11 %)
Jane	8	9	1	18 (22 %)
Total frequency (for each level)	37 (45 %)	41 (50 %)	4 (5 %)	82

The analyzed data for each interview session was totaled up and the frequency for each level was calculated. Table 26.4 illustrates the frequency distribution of the levels of reflectivity experienced by the research participants during the pre and post observation reflective inquiry sessions:

With reference to the above table, 45 % of the interview entries were coded at level one which is Technical Rationality (TR) while 50 % of the coded interview entries were recorded at level two of reflectivity, Practical Action (PA). Only 4 interview entries which covered 5 % out of the total entries indicated reflection at level three, Critical Reflection (CR).

26.4.3 Contribution of Reflective Inquiry Session Towards the Development of Student Teachers' Self-Efficacy

In investigating the outcome of the reflective inquiry session with regards to its contribution to the student teachers' self-efficacy beliefs, cardinal aspects that are involved in the operationalization of self-efficacy beliefs as proposed by Barone et al. (1997) are used as basis to elaborate the motives behind the emerging themes. Three accounts related to supervision process during the reflective inquiry session

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Focus of reflections (Cognitive dimension)	Reflective techniques
Expressing personal feelings, opinions and concerns	Independent reflection first before discussing selected issues related to the lesson
Brainstorming and exchanging information on the behaviors manifested by the student teacher and his/her students throughout the teaching and learning process	Clarification on the student teachers' strengths and weaknesses
Providing professional supports via constructive comments	Making sense of all the comments and suggestions given
	Setting up expectation for the upcoming lessons via suggestive comments
	Give the student teacher ample freedom to make decisions and choose what is best for their students provided that the comments have been reasoned out their relevancy

Table 26.5 The cognitive domains of reflection's foci and their respective reflective techniques

that had contributed to the growth of self-efficacy beliefs among the research participants were discovered.

The employment of reflective techniques by supervisors during reflective inquiry sessions has enabled the research participants to believe that they are independently able to reflect and have the "capabilities to organize and execute courses of action" appropriate to their students' proficiency levels, interests and needs (Dellinger 2001, p. 29). The foci of reflections related to cognitive dimension highlighted in Table 26.5 were the translations of the utilization of reflective techniques employed by the subjects' supervisors in facilitating reflective practice during pre and post observation reflective inquiry sessions. The techniques below had helped the supervisors concerned to gear the student teachers towards the improvements of specific domains in teaching and learning:

Next, the development of self-efficacy beliefs among the student teachers was manifested via the value of acceptance pertaining to their strengths and weaknesses in teaching. The student teachers were required by their supervisors to express their insights regarding lesson planning or lesson implementation during the reflective inquiry sessions. It was the first step towards materialization of acceptance value among the student teachers before their weaknesses and strengths were highlighted and brought into discussion.

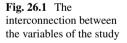
The last account that contributed to the subjects' self-efficacy beliefs is the interrelation between insights gained during reflective inquiry sessions and their applications in the upcoming lessons. The series of constructive argument, regarding the outcomes of reflective session alone that that had contributed to the growth of the subjects' self-efficacy beliefs were rather inconclusive if the outcomes were not processed by experience. As time went by, the research participants were continuously involved with the re-construction of previous knowledge. They renewed their past knowledge as they interacted with their students; facing attitudinal problems and teaching complexities. Surprisingly, they discovered that those glitches were very similar to the issues that had been discussed in previous reflective sessions.

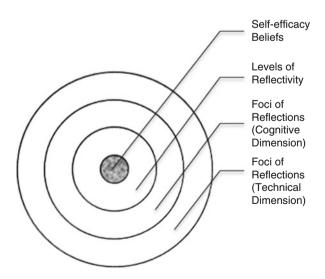
This was evident when both Hazril and Jane stated that their supervisor, Ms. Lucy, always reflected on the link between lessons and discussed possible activities for the upcoming lesson. Ms. Lucy indirectly established certain criteria that her supervisees needed to fulfil on the upcoming lesson. She wished to see some changes in terms of teaching behaviours and instructional delivery in relation to the comments issued previously.

26.5 Implications

Based on the findings of the study, it can be construed that the foci of reflections posed by the supervisors, levels of reflectivity of the research participants in response to matters be discussed in the reflective inquiry sessions and the development of the student teachers' self-efficacy beliefs were all closely intertwined to each other during the reflective inquiry process. Figure 26.1 below gives a pictorial presentation on the interconnection between the variables of the study: the influence of the identified foci of reflections under technical dimension geared the supervisors to indulge the research participants with reflective cognitive processing activities and subsequently those reflective thinking processes were directed to achieve certain depths of reflectivity which contributed to the development of the research participants' self-efficacy beliefs:

In other words, the ultimate aim (in the case of the bull's eye of the diagram) of professional development of student teachers is to have sound self-efficacy beliefs. This could only be achieved if student teachers receive considerable exposure on the foci of reflections which fall under the technical and cognitive dimensions. Such exposure gears them to reflect their past behaviours and teaching activities in structured manner and attain certain levels of reflectivity as outlined by Van Manen





(1977). The accumulation of reflective experiences via these reflective thinking activities energizes the student teachers to nurture their self-efficacy beliefs in realizing their strengths and weaknesses in teaching. At this stage, the student teachers attain self-actualized state in which they believe in their abilities to give their students anything less than their best for the upcoming lessons.

Due to the significant influence that reflective inquiry session has in developing student teachers' professionalism, some drastic measures need to be implemented in order to revitalize the 'expected' roles of supervisors and student teachers and thus enhance the quality of student teacher learning. The suggestions are:

1. Supervisors

- must realize that they are responsible for carrying out the reflective sessions
 as best as possible so that student teachers can reap up the beneficial effects
 of the sessions,
- put forth all the foci of reflections, as outlined in this study, for discussion with their supervisors during the reflective sessions,
- should know that positive outcomes of the sessions can only be gained when student teachers are able to reap up the essence of learning and this can only be done when the student teachers are exposed to as many classroom issues as possible while engaging in reflective thinking activities,
- ought to create positive reflective inquiry sessions that encourage the value of openness from student teachers,
- outline the learning goals of reflective inquiry sessions in supportive manner so that positive outlooks of the sessions are created and,
- should make student teachers aware of how they could actually capitalize the foci of reflections they have experienced for individual reflections.

2. Student teachers

- should nurture self-efficacy beliefs during teaching practice so as to foster positive outlook towards the ups and downs in teaching and,
- need to realize that success does not come overnight as opposed to the essence of reflection.

26.6 Conclusion

This study has underlined the importance of reflective inquiry sessions towards the professional development of student teachers. While the depth of reflectivity during the sessions has always been pivotal in determining the quality of reflection, myriad foci of reflections remained prerequisite to enable certain depth of reflectivity be achieved. All in all, these two variables were directed to allow the student teachers develop a sense of self-efficacy beliefs, which include the ability to coordinate and execute skills and plans in an organized manner to achieve the desired goals. Ideally, it would be best if follow-up studies on the same research participants be carried out

once they have become full-fledged teachers to find out the extent to which they have been able to capitalize reflective inquiry outcomes gained during pre-service training into real-life teaching experiences. It would be interesting to see how these teachers strategize their reflective skills in dealing with all complexities in ESL instruction of our technologically savvy generation Z nowadays.

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