Exploring a Collaborative and Dialogue-based Reflective approach in an e-learning environment via the Community of Inquiry (CoI) Framework

Shubashini SUPPIAH (ssuppiah@yahoo.com)
Universiti Malaysia Sabah, Kota Kinabalu, Malaysia
LEE Kean Wah (KeanWah.Lee@nottingham.edu.my)
University of Nottingham Malaysia, Malaysia
Denis Andrew LAJIUM (denisadl@ums.edu.my)
Universiti Malaysia Sabah, Kota Kinabalu, Malaysia
Suyansah SWANTO (suyansah@ums.edu.my)
Universiti Malaysia Sabah, Kota Kinabalu, Malaysia

Abstract

Reflective practice has long been the foundation of quality teacher education programmes. Nonetheless common practices of written reflection in teacher education programmes are typically individualistic in nature and carried out in isolation. To prepare teachers for today's dynamic and shifting educational environment, the present study utilized the community of inquiry framework (CoI) conceptualized in exploring the affordances of an online collaborative and dialogue-based reflective practice approach between three teacher-educator mentors and sixteen pre-service ESL teachers during a twelve-week teaching practice phase in an institute of teacher education (ITE) in Malaysia. Two objectives framed this study: (1) to investigate the nature of the reflections posted online and the comments and replies exchanged through the "cognitive and social presences" and (2) to explore the roles and contributions of the teacher-educators as the "knowledgeable other" to the online discussions by applying the concept of the 'teaching' presence as outlined in the CoI framework. Findings gathered from the online reflections and the threaded discussions revealed that while most of the data were in accordance to the key indicators of the CoI, there were also shortcomings in terms of encouraging and enhancing student-teachers practices in a more critical manner. For critical reflection to take place, it is imperative to establish 'trust' amongst the community of inquiry so that genuine and constructive comments can take place.

Keywords: Community of Inquiry (CoI) framework, Online Collaborative Approach, Reflective Practice, Pre-Service Teachers, Teacher-Educator Mentors.

Introduction

The emergence and affordances of technology has now made it possible for the facilitation of an important component in teacher education known as reflective practice. The advent of the Web 2.0 in the landscape of education or in this context the field of teacher education has provided a platform in which professional development activities can now be meaningfully supported. Opportunities to connect and share with other teachers are now made possible with online learning that harnesses the affordances of Web 2.0 tools (Hamid, Waycott, Kurnia & Chang, 2015).

Learning to reflect on practice is a vital aspect of becoming a teacher. While teacher education programs worldwide have embraced the notion of emphasizing reflective practice both in theory and in practice nevertheless there is, as Kitchen and Petrarca (2016) pointed out

"an awareness of the practical challenges of delivering quality programs that simultaneously address theory, practice and reflection" (p. 140). Despite its ambiguous concept as highlighted by many researchers as well as its role and purpose in teacher education, reflection still arguably remains a fundamental component in teachers' professional development (Darling-Hammond, 2006; Hayden, Moore-Russo, & Marino, 2013; Korthagen, Lougran & Russell, 2006; Loughran, 1999; Mauri, Clará,Colomina & Onrubia, 2017; Schön, 1983; Zeichner, 1987).

In the Malaysian context, Foong, Md Noor & Nolan (2018) posit that a teacher's actions, knowledge and learning will need to be "re-constructed to remain relevant" (p. 2), more so in the case of student- teachers who will face challenges as they are expected to "perform practices drawn from different theoretical perspectives and theories of learning and teaching" (p. 2). Furthermore, the nature of deep and critical reflection which requires examining and scrutinizing one's own personal beliefs, values and philosophical stance towards teaching and learning may be an overwhelming process for the novice student-teacher to undertake without adequate support (Etscheidt, Curran & Sawyer, 2012; Finlay,2008; Korthagen, Loughran & Russell, 2006). In light of this, a more social approach to reflective practice has recently been viewed as the solution in supporting and facilitating the way student-teachers' reflect. This social notion of reflective practice underpins the understanding that through open and shared reflection, learners will be able to bring new perspectives to the experience (Mauri, Clará, Colomina & Onrubia, 2017).

Although the rise of technology has provided many opportunities for collaboration and shared learning to take place, institutes of teacher education (ITE) in Malaysia still subscribe to the solitary, individualistic and product-oriented approach of reflective practice (Suppiah & Lee, 2016). Individual approaches to reflective practice delimits potentials for knowledge construction which is especially important in reflective practice as novice-teachers try to make sense of both the theoretical and practical aspects of teaching. Drawing insights from earlier studies by Mann & Walsh (2013) and Suppiah & Lee (2016) on reflective practice during teaching practicum, which highlighted the shortcomings of reflective practice done individually and in isolation, the present study adopted a collaborative and dialogue-based approach to reflective practice. EDMODO was chosen as the social platform for the student-teachers to share their reflections with the hope of enacting a community of reflective practitioners. The following research questions framed the main line of inquiry for this study :

    i)   What are the nature of the online reflection posts in terms of the cognitive presence and its reflection orientation?

    ii)   What are the nature of the online interactions (comments and responses) in terms of the social presence?

    iii)   What are the roles and contributions of the teacher-educators in terms of the teaching presence?

The first research question sought to examine the extent in which the participants in the online learning community were able to construct meaning through sustained communication.The cognitive dimension of Garrison, Anderson and Archer's Community of Inquiry(CoI) framework (2000) and Nelson and Saddler's (2013) reflection orientation framework were used to unpack the nature of the online reflective posts. The second research question was aimed at examining the nature of the online interactions which are the online comments and responses exchanged between the student-teachers and their peers. To do that, the social presence aspect in the CoI framework was employed as the analytical lens to scrutinize the nature of the interactions gathered over the three month duration. Finally, in order to explore the degree of the teacher-educator mentors' (TEM) influence in terms of their roles

and contributions to enhance the criticality of the reflections, Garrison's et al., (2000) teaching presence component was employed to analyse the discourse actions of the teacher-educators.

Literature Review

The concept of reflective practice as a valuable instrument in teacher development has entrenched itself firmly in the past decade and possibly in many more to come. Dewey (1933, 1938), one of the earliest proponents of reflective practice, defined reflection as an active, persistent and careful consideration of a subject. His views on reflection has since been expanded on by many advocates of reflective practice, one in particular, Schön (1983,1987) who clarified that reflection is the vehicle in which an individual makes sense of a situation by means of interpreting and understanding it. In the process of interpreting and understanding the situation however, other scholars have added that it must be done in a more systematic and academic manner, one which considers the situation that is reflected upon by linking it to a theoretical body of knowledge (Davis, 2006; Korthagen, 2010).

Despite its firm entrenchment as a major component in the field of teacher education, reflective practice is not without criticisms. In fact, many researchers have claimed that the establishment of reflective practice in teacher education has created more inconsistencies, tensions and predicaments. Arguments based on the ambiguity of its concept (Akbari, 2007; Jay & Johnson, 2002), the dominance of written forms of reflective practice (Boud, 2013; Mann & Walsh, 2013) and the solitary nature in which it is practiced in (Akbari, 2007; Moore & Ash, 2002) are some of the concerns highlighted in view of the theoretical and practical approaches of reflective practice in teacher education.

In light of the mounting criticisms against reflective practice, researchers have now begun to explore other more purposeful and meaningful approaches to engage their student-teachers in reflective practice. One such approach is the utilization of online constructs as a way to facilitate reflection through collaboration, interaction and dialogue. The concept of collaborative reflection is slowly gaining momentum in pre-service teacher education as a means of addressing concerns of the inexperienced pre-service teachers when it comes to doing reflections as well as moving reflective practice from one that is solitary in nature to a more communal based approach. The rapid development of social media services has now provided affordances for a collaborative culture in teacher education fields to flourish. Both personal as well as the professional growth of teachers can now be supported on online communities built through platforms like TWITTER, EDMODO, SCHOOLOGY and even FACEBOOK.

The interactive features of these social media platforms provide the ideal social connectivity for knowledge building and sharing (Chandra & Lloyd, 2008). In her study of using TWITTER for collaborative reflection, Wright (2010), concluded that the student-teachers were able to post more focused reflection. Similarly, Mills and Chandra (2010), who investigated the use of EDMODO for reflective microblogging discovered the emergence of a community of support between their study participants as they read each other's reflection posts, which is otherwise not possible when reflection is done in solitude. In the Malaysian context, several studies that have attempted to utilize social media platforms to engage their learners in reflective practice cited positive outcomes. Rashid (2017), who investigated the use of FACEBOOK in supporting dialogic reflection for professional development concluded that the social media platform showed promise in that the teachers were able reflect on the experiences that acted as triggers on the timelines.

Although as a popular alternative to the more solitary and individualistic nature of reflective practice commonly adopted in teacher education programs, collaborative reflection is nevertheless not without its criticisms. An area of concern that lies within the practice of

collaborative reflection are the role of peers and the teacher-educators. It has been pointed out in several studies that peer to peer reflective collaboration will not be able to elevate student-teachers' reflective thinking to a higher or more critical level. Yoon and Kim (2010), discovered that most of their student- teachers' collaborative reflection efforts were focused on the sharing of teaching dilemmas. This concern was also echoed in Krutka's (2014) study of a collaborative online reflective practice approach in which they concluded that the reflection posts of their student -teachers did not move "beyond mere description of what was happening in their field experience" (p. 91). These studies have solidified the argument brought forward by Hibbard (2010) who claimed that despite the administration of focused reflection tasks, student-teachers displayed tendencies towards "courtesy discourse rather than a critically reflective response to ideas" (p. 10). While the role of peers in a collaborative online setting may not extend from a more social standpoint, the role of the knowledgeable other in reference to the teacher-educators can support critical levels of reflective thinking with pre-service teachers through open dialogue and discussions on practice (Collin & Karsenti, 2011; Ohlsson, 2013; Rantatalo & Karp, 2016). Teaching presence, a key element in Swan's (2008) proposal towards effective online discussion outlines the need for a greater role for teacher-educator interaction in online discussion spaces to support meaningful learning and reflection. Moreover, teacher-educators who are practitioners and academicians will be able to support and assist their student-teachers in linking the theoretical aspect to the practical component (Allen & Wright, 2014; Stenberg, Rajala & Hilppo, 2016).

In examining the outcomes of the collaborative reflective practice approach, which were the online reflective posts, Nelson and Saddler's (2013) framework was adopted to provide the theoretical lens in examining the reflection orientations. In their framework, they identify five orientations of reflections drawn from the seminal work of scholars of reflective practice (Valli, 1997; Schon, 1987; Van Manen, 1977) that interprets the conceptualization of the reflective thinking process. The five orientations are:

- Technical reflection (the efficiency and precision of a teacher's own performance in an established method or teaching strategy)
- Reflection-in and on-action (Schon's 1983,1987's reflection type)
- Deliberative reflection (multiple perspectives and sources considered in decision making)
- Personalistic reflection (personal and professional development as a teacher)
- Critical reflections (moral and ethical considerations)

(Nelson and Saddler, 2013 p. 48)

The Community of Inquiry (CoI) Framework

A core component that must be present in any online based learning environment is the ability to create and generate high cognitive level of inquiry for knowledge construction. The Community of Inquiry Model (CoI) by Garrison, Anderson and Archer (2000) is one such model that incorporates three interdependent presences in an online learning context which are the cognitive presence, the social presence and the teaching presence to support knowledge construction in an online learning environment. The cognitive presence in the CoI model explores the extent to which the participants in an online learning community are able to construct meaning through sustained communication. Social presence on the other hand, considers the participants' social and emotional connectedness with the online community to build trust and commitment . Garrison et. al., (2000) delineate the aspect of teaching presence as the "binding element" (p. 96) in the foundation of a critical community of inquiry. The

amalgamation of the three presences is crucial in the development and sustainment of an online community of learning.

The CoI model has been used in different contexts using various approaches and study purposes. Some studies have adopted all three presences (Garrison, Cleveland-Innes & Fung, 2010; Shea 2006), while others have focused one examining one or two presences (Evans, Ward & Reed, 2017; Morueta, López, Gómez & Harris, 2016). The interdependent presences in the CoI model which focuses on knowledge building through meaningful reflective inquiry (Garrison, Anderson & Archer, 2000), provided a suitable framework for the present study which seeks to explore an online based reflective practice approach with a group of student-teachers and their teacher- educator mentors. Collaborative knowledge construction in this context refers to the growth and development of the pre-service teachers' understanding of both theory and practice of teaching when they share and discuss their reflections on an online platform. The CoI framework offers the lens to understand this growth through the three presences.

In order to understand the nature of the online reflection posts and the reflective thinking of the student -teachers and the nature of the online interactions and the extent it facilitated the reflective thinking process of the student-teachers, the cognitive and social presences were duly considered in this study. The role of the knowledgeable other which were the teacher-educators' role and contributions in the study was explored through the lens of the teaching presence. Figure 1 provides a schematic representation of the CoI framework.
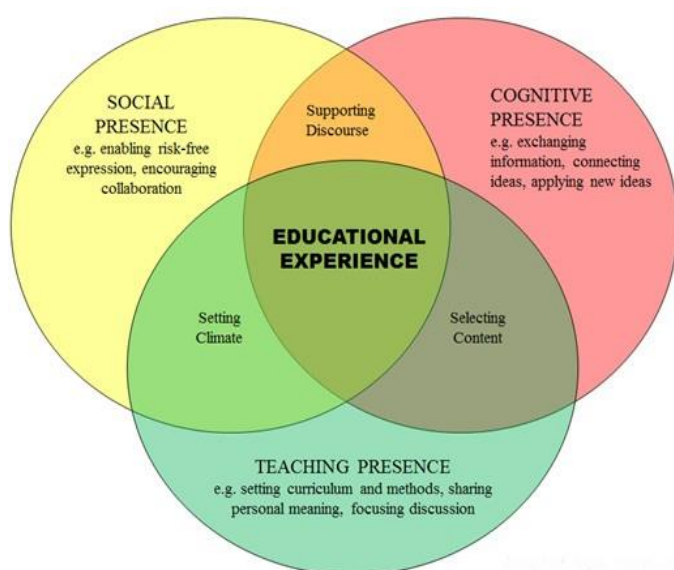

Figure 1. *The Community of Inquiry Framework*

Deng and Yuen's Blogging Framework

A framework in examining the educational affordances of blogging was established by Deng and Yuen in 2011. This framework highlights the affordances of blogging with pre-service teacher to facilitate both the cognitive and social/psychological dimension to support the process of reflective practice (Garza & Smith, 2015). Through an empirical study, an initial working framework that highlighted four areas within two distinctive dimensions that blogs can potentially support reflection was created. They are the individual dimension that supports self-expression and self-reflection and the community dimension that supported social interaction and reflective dialogue (Deng & Yuen, 2011).

Within their framework Deng and Yuen (2011) claim that reflective learning process can be activated through : (i) capturing, externalizing and inspecting feelings and thoughts (ii) experiences and thoughts written and stored in a public or semi-public space will be able to trigger reflection on the part of others and amplify the practice of reflection within a community and (iii) reflective dialogue between the readers and writers could take place when "readers post critical and constructive feedback online" (p. 450). This framework (Figure 2) has since been used in studies (Deng & Yuen, 2011; Garza & Smith, 2015) examining the affordances of blogs in fostering reflective practice among pre-service teachers. In this study, Deng & Yuen's (2011) affordances of 'blogging' is reflected in the reflective posts and interactions amongst the student-teachers when they engaged in reflective dialogue on the EDMODO platform (semi-public space).
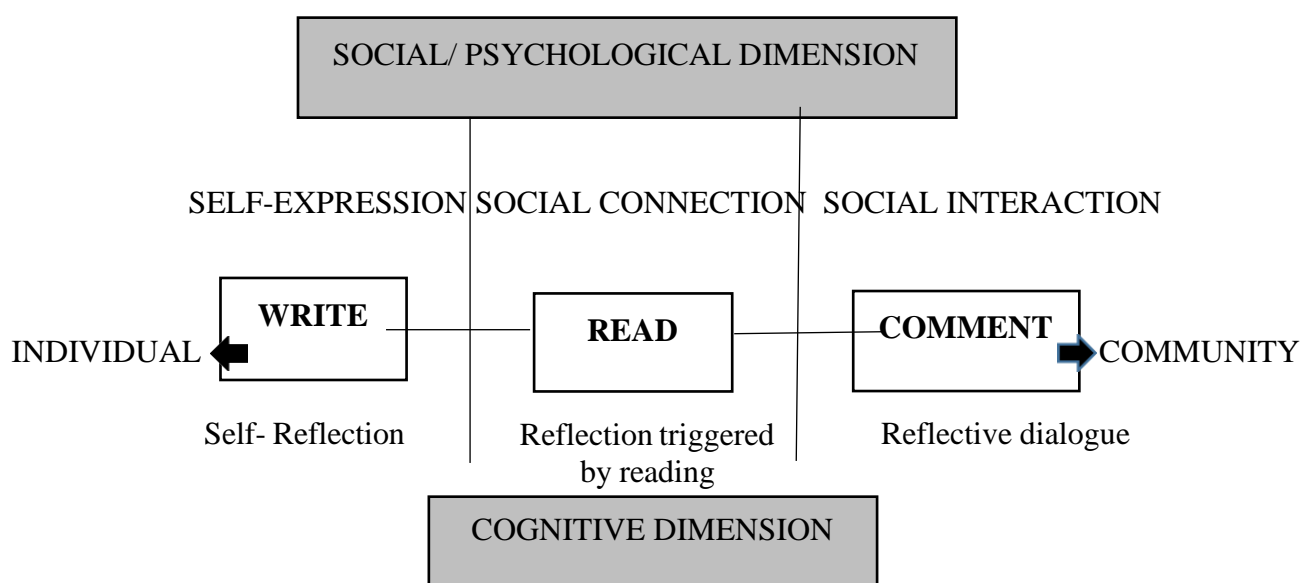

Figure 2. *Deng and Yuen 2011 framework for online blogging*

To frame the present study, both the aforementioned frameworks are amalgamated, to serve as the conceptual framework of this study (see Figure 3).
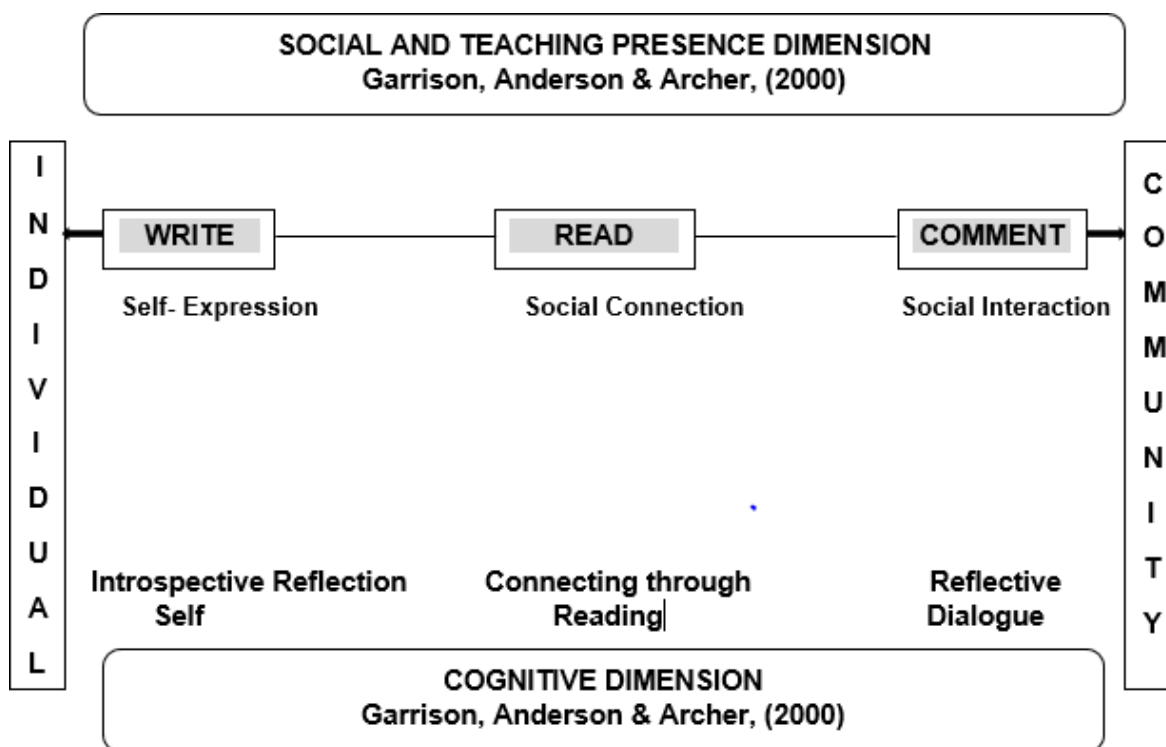
Figure 3. *The conceptual framework of the study*

Methodology

The following sections discuss the participants and the context of the study, the online medium that was used in the study and an explanation on the data collection and analysis methods.

Participants and Context

In 2007, teacher training colleges in Malaysia reached a milestone when they were upgraded to institutes of teacher education and were authorised to award teaching degrees. A teacher candidate who has successfully completed the four-year degree programme will be conferred the bachelor of teaching degree for primary education. The B.Ed TESL (Teaching English as a Second Language) programme is one of the pioneer programmes offered in institutes of teacher education in Malaysia. Pre-service teachers under this programme would be required to complete the four-year degree requirements which includes three phases of teaching practice and an internship programme. Reflective practice forms a pertinent segment in the professional practice component in which the pre-service teachers are required to demonstrate reflective thinking and reflective writing through the use of teaching practice reflective journals.

The participants of this exploratory case study consisted of fourteen (n=14) student-teachers and three (n=3) teacher-educators. The student-teachers were on their three-month teaching practice phase at the time of the study. The teacher-educators were the supervisors of the student-teachers. The study took place in an institute of teacher education in Sabah, Malaysia. The participants were selected based on purposive sampling as the objective of the study was to explore an alternative approach to reflective practice which is otherwise commonly practiced by the student-teachers writing their reflections individually in teaching journals during the teaching practicum.

The EDMODO online platform

The online learning platform that was used for the collaborative and dialogue-based reflective practice approach was EDMODO. This learning management system (LMS) which was designed in 2008 by Borg and O'Hara for teachers and their learners to connect and collaborate was chosen because it was suitable as it allows teachers to create and manage their groups in a safe and secure environment (Anbe, 2013; Jarc, 2010; Mokhtar & Dzakiria, 2015; Sasidharan, 2018).

The student-teachers and their teacher-educators were briefed on the use of EDMODO prior to the study and in the course of the three-month study, this platform was used to post reflections and carry out discussions.The student-teachers were asked to select two to three of the reflections posted online by their peers weekly and to read and provide comments/responses based on them. The teacher-educator mentors were requested to read and comment on the online reflection posts weekly throughout the study.There were no interventions from the researchers throughout the study. They only took on the role of observers to gather and analyse the online data.

Data Collection and Analysis Procedures

The three main data instruments used to gather data in the course of the study were the online reflection posts, the online interaction posts and semi-structured interviews with the student-teachers and the teacher-educators. It is necessary to point out that no interaction took place. The "online interaction posts " were in the form of online comments and responses by the student-teachers on their peers' postings and the online feedback from the teacher-educators. Descriptive statistics by means of frequency of discourse actions/indicators were undertaken to exemplify the processes in terms of the actions the student-teachers and the teacher-educators were engaged in with relation to the three presences of the Community of Inquiry Framework. Certain refinements were made to Garrison, Anderson and Archer's (2000) coding classification (see Table 1 below) to delineate the nature of the reflection posts and the online interaction posts. Face-to-face semi- structured interviews which were carried out at the end of the three-month study allowed the researchers to probe deeper into understanding the nature of the reflections and interactions that occurred online from the perspective of the participants. The questions were more open-ended in nature, such as "what were your opinion of the comments posted by your peers/teacher-educator?" "can you comment on the nature of those responses"? The interviews were audio recorded and transcribed verbatim.

Table 1.
Coding classification of Garrison et. al., (2000) framework

Dimensions	Categories	Indicators
Cognitive Presence	• *Triggering Event* • *Exploration* • *Integration* • *Resolution*	• *Sense of puzzlement* • *Information exchange* • *Connecting ideas* • *Apply new ideas*
Social Presence	• *Emotional Expression* • *Open Communication* • *Group Cohesion*	• *Emotions* • *Risk free expression* • *Encouraging collaboration*

Teaching Presence	• *Instructional Management* • *Building Understanding* • *Direct Instruction*	• *Defining and initiating discussion topics* • *Sharing personal meaning* • *Focusing discussion*

The analysis of the online reflection posts involved a hybrid of inductive and deductive methods of analysis. The student-teachers' reflection posts were initially inductively analyzed using the content analysis method in which the use of codes, categories and themes were drawn up. The thematic units were then categorised under the four categories in the cognitive presence dimension in the Community of Inquiry Framework (CoI) which are triggering event, exploration, integration and resolution. The nature of the online reflections were also classified in accordance to the reflective thinking framework by Nelson and Saddler (2013) to determine the reflective orientation of the student-teachers during the three month online collaborative reflective practice experience.

The analysis of the online comments and responses by the student-teachers on their peers' postings and the online contributions feedback of the teacher-educators were coded and categorised under the key indicators of the social and teaching presences of the Community of Inquiry (CoI) Framework respectively using the content analysis approach. The semi-structured interviews that were carried out with the student-teachers and the teacher-educators after the three month study were analysed using thematic coding that was used to further supplement the findings of the study. Triangulation of data was achieved by comparing the three sources of evidences as well as analysing the data through an analytic framework involving theories of reflective thinking and the community of inquiry framework.

Results

In the course of the three month study, a total of two hundred and thirty four (n=234) online reflection entries were retrieved from the online site. The online comments and responses contributed by the student-teachers totaled to one hundred and three (n=103) while the feedback from the teacher-educators totaled to one hundred and thirty (n=130) postings online. Table 2 summarizes the total online entries captured.

Table 2.
The Online Data

Participants	Data Type	Total Entries
Student-Teachers (STs)	Online reflection entries	234
Student- Teachers (STs)	Online comments and responses posts	103
Teacher-Educator Mentors(TEM)	Online feedback posts	130

Research Question One

Research question one explored the nature of the online reflection posts in terms of the cognitive presence and reflective orientation. The indicators outlined under cognitive presence in Garrison, Anderson and Archer's Community of Inquiry (CoI) framework was used as a

basis to understand the extent to which the student-teachers were able to reflect more critically in an online platform through collaboration and discourse. Table 3 below summarizes the findings obtained for cognitive presence.

Table 3.
Cognitive Presence and Reflective Orientation

Dimensions	Categories	Reflective Post Indicators	Reflective Orientation	Total Number of Posts & Frequency (%)
Cognitive Presence	Triggering Event	*Sense of puzzlement-Narration of the teaching event*	Descriptive/ Technical	234/100%
	Exploration	*Information Exchange-Analysis of the teaching event*	Reflection on/for teaching	234/100%
	Integration	*Connecting Ideas-Linking other perspectives to the reflection posts*	Deliberative	17/7.3%
	Resolution	*New ideas/development-Personal growth as a language teacher*	Personalistic	13/5.5%

In the category of triggering event, which Garrison et. al., (2000), describe as "a state of dissonance or feeling of unease resulting from the experience" (p. 98), the nature of the online reflection posts that was most frequent with all two hundred and thirty four (n=234) or 100% was mostly based on the "narration of the teaching event". The reflection posts were focused on providing a description of the teaching event, techniques, strategies and teaching resources that aided the teaching process and descriptions on classroom management. The notion of building a context for the reflection process seemed to prevail in all the online reflection posts throughout the course of the study. It was also interesting to note that the student-teacher's online reflections conformed to this particular structure of providing a narrative of their teaching experience although some did later demonstrate a more critical stance in the way their reflected. The narrative portrayal of the teaching and learning event in which the teaching process was illustrated fall under the category of the technical reflection orientation. Technically oriented reflections which are retrospective in nature are mostly focused on the "development of teaching techniques" (Nelson & Saddler, 2013, p. 47) as the example below would demonstrate:

> *"In this lesson, I taught on how to transfer information from the passage provided and fill in the blanks to complete an email. **During set induction, I requested them to give me a few examples of the ways to deliver messages in olden times**. Then, I introduced them a new technique of delivering messages, which was email. **During presentation stage, I introduced the format of an email to my pupils**. In order to check on their understanding, I asked them to arrange the layout of an email in groups. **During practice stage, I distributed enlarged worksheet for them.** In this session they were*

needed to transfer information from the passage." *(Reflection 2/ Week 1/ PST GA6)*

The chronological description of the teaching and learning process which highlighted the technical aspects such as teaching resources and classroom management strategies demonstrated no development as the student-teachers' continued to post their reflections online. A case in point can be seen in the example of an online reflection posted by a student-teacher in week seven of the teaching practice. The reflection post by PST GA4, depicted a narrative of a lesson on reading which highlighted the stages of the teaching process and the teaching resources that were utilized:

> *"**In set induction stage**, I pasted a picture of Cik Siti Wan Kembang. I thought it helped pupils to be able to imagine the ancient time of queen. Pupils were excited when I raised some question about the picture. I was able to get feedback from the pupils. I felt happy. **During presentation, I used an enlarged passage to teach pupils about reading. I also explained some difficult vocabularies** by using picture and simpler words to give my pupils more understanding. **My pupils were able to read with correct pronunciation and they enjoyed the process of reading. After that in practice stage, I was able to see they were able to cooperate with their group members to complete a bubble map.** Pupils were able to transfer the information from the passage to form a bubble map. I felt that my presentation went very well thus pupils were able to understand and find information out of it. **In production stage, I prepared two sets of worksheet for the pupils which are remedial and enrichment worksheets**."* *(Reflection 5/Week7/PST GA4).*

The narratives of the teaching and learning event that were found to be a prominent element in all the reflection posts were largely focused on the technical aspects of teaching such as the teaching process, classroom management strategies and teaching activities and resources used. The purpose of the narration was to provide a scenario of the teaching context and it remained a permanent component in the online reflections throughout the three month study duration. In the findings of the interviews that were carried out after the three month online experience, the student-teachers found the narratives to be particularly useful in that, they were able to get ideas on how to plan their lessons based on their peers' narratives as exemplifed in the interview extracts below:

> *"...**Because when I reflect I will think of a better way to improve my teaching** and **when I read my peers' reflections also I can get some new ideas** that I never thought of..."*
>
> *(INT 1/PST CB3)*

> *"..For me after reading their reflections **I can get some ideas on how they conduct the class I can use that ways too maybe I can try out in my classroom** also and then **it helps me improve my teaching practices**..."* *(INT 4/PST CA4)*

In the exploration stage in the CoI framework, in which the authors define as "making sense of the situation or problem" (p. 98), the nature of the reflection posts that were most frequently posted was that of an "analysis of the teaching event" and "future course of action". All two hundred and thirty four (n=234) reflection entries illustrated elements of this nature in which engagement with reflection was in accordance to Schön's (1983) notion of *reflection-on-action* and *reflection-for-action* as the data indicated the student -teachers wrote their

reflection posts after teaching to reflect on their teaching and learning as a past experience and future actions to address the concerns and issues raised. A common pattern of highlighting the concept of *reflection-on-action* and *reflection-for-action* was by providing an analysis of the weaknesses found in the particular teaching episode followed by a description of the future actions to overcome the weaknesses in the teaching event. This outline is exemplified in one of the online reflections posted by a student-teacher who reflected on his teaching process by highlighting the weaknesses he discovered in the course of the lesson which included the students' lack of proficiency in the target language that hindered them from responding to the teacher's questions:

> *"On the other hands, I had spotted a number of weaknesses throughout today's lesson. First and foremost, most of the pupils were quite weak in understanding English Language. I noticed that most of them were quite slow in responding to my questions..."*
>
> *(Reflection 4/Week 1/PST GB1)*

In his *reflection-for action* he declared ways in which he would address this concern in the future which included speaking slowly, articulating clearly and using simpler vocabulary and body gestures to enable his students to understand him:

> *"Therefore, I think that I should speak very slowly and articulate the word clearly in the future. Also, I should try to use simpler vocabularies and more body gestures to convey my instructions, and hopefully they will get it then..."*
>
> *(Reflection 4/Week 1/PST GB1)*

The student-teachers made sense of the problem which in this case refers to the teaching event retrospectively by identifying the limitations and then taking an introspective approach in attempting to address the shortcomings of the teaching episode. The nature of the online reflections adhered to this particular structure in the duration of the three month study. A plausible cause for this approach was discovered in the interviews when the student-teachers were asked what they understood by the term reflection. The general consensus was that reflections includes examining own practices to identify problems and overcoming these problems as the extracts from the interviews would confirm:

> *How do you understand reflections and reflective practice? What are your perceptions of reflection?*
>
> *"..Looking back... looking back at the process and and what we should do that we didn't do and what should be improved..."*
>
> *(INT1/PST 6)*
>
> *"I think reflection is like when you are teaching and then you found that there is a problem that you need to overcome..."*
>
> *(INT3/ PST 2)*

The integration and resolution category in the CoI framework is associated with the participants in an online learning environment attempting to integrate knowledge and information to the issues raised and demonstrating evidence of application. The nature of the online reflection posts that demonstrated evidence of integration and resolution in the CoI framework were the least with only seventeen (n=17) or 7.3% that displayed evidence of

"linking other perspectives to the reflection" and thirteen posts (n=13) or 5.5% with evidence of "personal growth as a language teacher" respectively. Nelson and Saddler's (2013) reflection orientation framework defines deliberative reflection as when one "considers multiple perspectives and sources of knowledge in their decision-making" (p. 48). They go on further to add that while the sources may be "externally authorized, decisions are based on internal considerations and focused on student-meaning making" (p. 48). The online reflection posts demonstrated some evidence of adding knowledge to their reflective thinking by way of linking the reflections to certain learning theories as depicted by a student- teacher in one of her reflection posts:

> *"...The last activity that I did with my pupils is the Learning Style Inventory test. I distributed a piece of questionnaire on the Learning Style Inventory to every pupils. I asked my pupils to read through it and asked if they understand it. They could not understand and therefore, I explained it one by one to my pupils.* **In explaining this, I used GTM in translating some of the difficult items and also TPR to show my pupils action when the words are too hard to be explained in words. I used both of these methods to help my pupils answer the Learning Style Inventory test...**"
>
> *(Reflection 1/Week 8/PST GC3)*

The extent to which the online reflections demonstrated evidence of personal growth as a language teacher in this study only totaled to thirteen (n=13) or 5.5% of the overall posts. Personalistic reflection in accordance to Nelson, et al., (2013) is defined as a movement towards a more critical stance of reflective thinking which is focused on the teachers' own personal development within the professional context. An example of this progression from a more technical description of the reflection post to one that considers the personal and professional issues related to teaching can be seen in the example of a reflection post by a student teacher in the last two weeks of the teaching practicum:

> *... "From the incidents, I realised that I was not firm to them. I would easily give up when I felt tired of scolding them. I also realised that I tried to control my temper until some pupils did not know why I was angry. I feel that sometimes I should show my anger so that pupils know that they have done wrong. Besides, I must also let the pupils know why I am angry with them. I must be very consistent and persistent when I rectified pupils' misbehaviours as well. I have to be more professional in dealing with my students and I am learning this every day..."*
>
> *(Reflection 18/Week 10/ PST GB3)*

Based on cognitive presence, all 234 or 100% of the online reflections remained at the first two phases which is the triggering and exploration phases with only a total of 12% (30/234 posts) moving on to the integration and resolution phases.

Research Question Two

The second research question investigated the nature of the online interactions in the form of online comments and responses by the student-teachers on their peers' postings in line with the social presence component in the Community of Inquiry (CoI) framework. The three main categories of social presence outlined in Garrison et. al.,'s (2000) Community of Inquiry Framework are emotional expressions, open communication and group cohesion. A total of eleven (n=11) reflective discourse indicators were present in the three month online study of a

collaborative and dialogue based reflective practice approach between the student-teachers and their peers, as shown in Table 4 below:

Table 4.
Social Presence

Dimensions	Categories	Discourse Indicators	Total Number of Posts & Frequency (%)
Social Presence	Emotional expressions	***Emotions***	
		Use of greetings/salutations/emoticons to express feelings	7/ 6.3%
		Empathizing, expressions of care/concern with others by sharing similar predicaments	17/ 16.5%
	Open Communication	***Risk free expression***	
		Asking questions/Clarifying questions posed	6/ 5.4%
		Acknowledging /Encouraging/Praising Efforts	12/ 10.8%
		Providing Suggestions to aid problem solving	17/ 15.3%
		Providing other sources of references to aid problem solving	2/ 1.8%
		Acknowledging Suggestions	22/ 18.8%
		Agreeing with others' view/suggestions	9/ 8.1%
		Building on issues by providing own experience/reflection	8/ 7.2%
	Group Cohesion	***Encouraging collaboration***	
		Continuing thread of discussion	8/ 7.2%
		Evidence of meaning construction	3/ 2.7%

In the category of emotional expressions, the most frequent reflective discourse action that emerged was *"empathizing and demonstrating expressions of care and concern with others by sharing similar predicaments"* with a total occurrence of seventeen (n=17) or 16.5% in the threaded discussions.

"Yes, I also face the same problems with you as my pupils also speak in a soft voice. It is hard to boost their confidence to speak in English because they are not familiar with this language. They feel shy or they are scared of making mistakes…"

(Threaded Discussion No 3)

"Hi T. I also faced the same problem with you. Most of my pupils were being too shy to speak in English…."

(Threaded Discussion No 6)

In the category of open communication which is described as mutual awareness and recognition of each other's contributions in an online learning community in the CoI framework, the three most frequent reflective discourse action were *"encouraging, acknowledging and praising efforts"* with a total of twelve (n=12) or 10.8% occurrences, followed by *"providing problems to aid problem solving"* with seventeen (n=17) or 15.3% number of occurences evident in the discussion threads and the most frequently used discourse indicator that was evident in the open communication category was *"acknowledging suggestions offered by peers"* with a total occurrence of twenty two (n=22) or 18.8% in the online threaded discussions:

> *"I like your presentation stage where you demonstrated the use of computer in real situation. It must bevery fun and interesting! Would like to try that too if I have the opportunity to teach this topic in the future…"*
> *(Threaded Discussion No7)*

> *"Maybe you can assign pupils to become the leader based on their performance in class because not all of them is capable and have the initiative to lead the group..."*
> *(Threaded Discussion No 4)*

> *"Oh, that's good idea…"* or *"Thanks for the feedback guys."*
> *(Threaded Discussion No 8)*

In the interview data, when asked if the comments from their peers were useful in helping them to think more critically about their practice, the student-teachers' responded that the comments were more supportive and encouraging in nature and provided immediate solutions to their teaching dilemmas as the interview extracts shown:

> ***What do you think of your peers' online reflection feedback in terms of the comments and replies posted?***

> *"I feel I get support from my friends, emotionally I will feel they are supporting me…"*
> *(INT1/PST3)*

> *"The comments give me solutions to solve the problems I faced…."*
> *(INT3/PST2)*

Group cohesion in the third category of social presence is illustrated by activities that "build and sustain a group commitment" (Garrison, et. al., 2000, p. 101). In the present study, the frequency of discourse indicators in this category were the least with only eight (n=8) or 7.2% of the comments and responses in the discussion threads that went beyond a two way communication and only three (n=3) or 2.7% of discourse that demonstrated some evidence of meaning construction.

In examining the nature of the online interaction posts that occurred between the students-teachers within the social presence dimension it can be summed up that the online interactions were focused more on interactions that build personal and emotional connectedness and interactions that offer technical based pedagogical solutions and support.

Research Question Three

The third research question in the present study examined the roles and contributions of the teacher-educators in accordance to the teaching presence dimension in the CoI framework. The teaching presence domain in the CoI framework supports the cognitive and the social dimensions by way of facilitating discourse, providing direct instructions and managing instructional design and organization towards meaningful and purposeful educational outcomes (Garrison, et. al., 2000). In the present study, the most frequent teacher- educator discourse indicators in the category of facilitating discourse was *"encouraging and acknowledging student-teachers' online reflection contributions"* with a frequency of thirty eight (n=38) or 29% in the threaded discussions. The second most frequent discourse indicator contributed by the teacher- educators was *"presenting alternative ideas/teaching strategies or approaches to issues raised"* with a total of twenty eight (n=28) or 21.5% evidence found in the interaction threads. The two least number of discourse indicators by the teacher-educators in this category was *"instructions on using the medium effectively"* with only two (n=2) or 1.6% occurrences and *"building on student-teachers' contribution"* which only totaled to four (n=4) or 3%. There were also no evidence of any posts that *"seeks to reach a consensus"* in the online discussion posts in the course of the study. Table 5 below summarizes the findings obtained.

Table 5.
Teaching Presence

Dimensions	Categories	Indicators	Total Number of Posts & Frequency (%)
Teaching Presence	Instructional Management	***Defining and initiating discussion topics***	2/ 1.6%
		Instructions on using medium	
	Building Understanding	***Sharing personal meaning***	38/ 29%
		Encouraging, acknowledging or reinforcing students contribution	
		Prompting discussions	7/ 5.3%
		Seeking to reach consensus	-
		Building on students contribution	4/ 3%
		Questioning/Clarifying issues	17/ 13.1%
	Direct Instruction	***Focusing Discussion***	28/ 21.5%
		Presenting alternative ideas/teaching strategies/approaches to issues raised	
		Inject knowledge from own personal reflections/experiences	15/ 11.5%
		Inject knowledge from diverse sources	6/ 4.6%
		Providing specific instructions to aid issues or concerns raised.	13/ 10%

The three most frequent and common discourse indicators in the category of direct instruction in the teaching presence domain were *"presenting alternative ideas/teaching*

strategies/approaches to the issues raised" in the online reflection posts with twenty eight (n=28) or 21.5% occurrences. This was then followed by fifteen (n=15) or 11.5% discourse occurrences that exemplified the teacher educators attempting to *"inject knowledge from personal reflection/experience"* and a newly emerged discourse action that was frequent in the discussion thread which was *"providing specific instructions to aid issues or concerns raised"* with a total of thirteen (n=13) or 10%:

> *"I can see that you have prepared your lesson quite well based on the four learning theories. Well done!"* (**encouraging and acknowledging student-teachers' online reflections**)

> *"However, do bear in mind that a well-planned lesson is one where you take into consideration all the principles of lesson planning. Only then can you minimise weaknesses…"* (**injecting knowledge from personal reflection/experience**)

> *All you need to do now is to explore more innovative ideas to make your activities more effective and interesting. Also consider improving your class control technique rather than relying on your loud voice all the time"* (**presenting alternative ideas/teaching strategies/approaches to issues raised**)

> *"I really like all your ideas. You are very good in class control though there's still room for improvement. You are very creative and innovative too. Even though you did teach grammar in context but it should be more to students' centered. I noticed one of your students was using the wrong marker pen to write on the mini whiteboard. Please take note to avoid this to happen again in the future. My suggestion for you is better write your instruction when your plan your lesson so that you will remember what to say during your teaching and learning. Using demonstration would be the best choice of strategies which is clearer for weak learners. Also, try to avoid spoon feeding as the requirement of 21st century learners is more to high order thinking (HOTS) and based on constructivism theory"* (**providing specific instructions to aid issues or concerns raised in the reflection posts**)

When the teacher- educators were interviewed about the reflection facilitation process online, they were of the opinion that it was important to provide positive comments online and they felt they could be more open about their comments when they see the student-teachers privately as illustrations of the extracted interview scripts would show:

> *"Generally, they were able to receive it because most of the time I gave positive feedback and they were very receptive towards the comments..."*
>
> *(INT1 /TE1)*

> *"I didn't really know whether I should respond like in a formal way or informal but I tried to make it informal. At times I do feel like, some of them were offended, some were very defensive. I try to give more positive comments... but I know that when we see each other my comments, it would be more compared to the online comments, I don't know, again it comes to my belief and preference I think, because I really need them to know exactly what I mean so I need them to look into my eyes and listen to me and now you respond to me..."*
>
> *(INT2 /TE2)*

In terms of the third category in this domain which relates to the overall management of the online educational experience, the only discourse indicator that was used by teacher-educators was in *"providing reminders to the student-teachers' to post their online reflections"* with a total of two (n=2) or 1.6% which occurred mostly at the beginning of the study.

The analysis of the online comments and responses by the teacher-educators as the more knowledgeable other (MKO) in the online learning environment to engender the practice of reflections pointed to the teacher-educators taking on a more directive and prescriptive approach in facilitating the online reflection process as the data indicated. In probing deeper during the interviews, issues in regards to personal beliefs and preferences came to light.

Discussion

This study was established to examine and to understand the process of an online community-based reflective practice of a group of Malaysian pre-service teachers undergoing their teaching practicum and their teacher-educator mentors. The results section above highlighted the findings thus far on (1) the nature of the online reflection posts, (2) nature of the online interactions (comments and responses) and (3) the role and contributions of the teacher-educators viewed from the analytical lens of Garrison et. al.,'s (2000) CoI framework, on the cognitive, social and teaching presences respectively and Nelson and Saddler's (2013) framework on reflective thinking orientation. In what follows, further explication of the findings are discussed in terms of the affordances and challenges in using the frameworks for inquiry, in the order of the research questions presented.

The Nature of the Online Reflection Posts

As the findings from the data indicated, a majority of the online reflection posts remained at a descriptive and technical level in the course of the three month study with only a small majority attaining a more critical stance in their reflective thinking. The engagement in collaboration and dialogue in an online platform seemed to do little in changing the way the student- teachers' viewed reflection. The posts were mostly focused on highlighting the teaching events and the technical aspects of the classroom in the form of narrative accounts which concurred with studies that evidenced student- teachers' pre occupation with classroom aspects during the teaching practicum (McGarr & McCormack, 2014). While there were evidence of reflection, they were mostly on *reflection on/for action*. The nature of the reflections were more introspective and retrospective in which a problem or concern in the teaching classroom is raised and contemplated ,followed by an individual and personal interpretation of the strengths, weaknesses and future course of action. Although there were some reflection entries that displayed higher levels of thinking such as considering the theoretical underpinnings of the issues raised in the reflections and the demonstration of personal development and growth within a professional context, nevertheless these entries were few and mostly under-developed. The student-teachers' conception of reflection as it was uncovered in the interview sessions mirrored their understanding of what reflection is. This understanding prevailed throughout the study with very little evidence of the posts moving deeper into what Garrison et. al., (2000) defines as critical inquiry into practice in the cognitive dimension of the CoI framework. A probable cause points towards a pre-conceived notion of reflection during teaching practicum which was not addressed in the interactions. As studies would indicate, these pre-conceived beliefs would need to be confronted for critical inquiry to take place (Kuswandono, 2014). While the online platform provided the student-teachers' a space for interaction with both their peers and teacher-educators mentors, the cognitive facet in the CoI framework which

emphasizes on knowledge building and meaning making in the learning community was not really evident in this study.

The Nature of the Online Interaction Posts

The nature of the online interaction posts which examined the comments and responses exchanged between the student- teachers with their peers were mostly that of an emotional and social nature. The student-teachers who were on their teaching practicum placements felt that the online platform allowed them a space to share their predicaments and to offer comments that were supportive and encouraging to each other as the findings would indicate. Another interaction indicator that was prevalent in the online comments and responses were the suggestions and solutions provided by the student-teachers to each other as a form of support and solidarity. The support came in the form of providing alternative teaching approaches, teaching resources, managing the classroom and the students, all which are important to the student-teachers as they were on their teaching practice phase. The findings does corroborate with studies in regards to pre-service teacher reflection and peer support in that, the need for immediate solutions to problems of practice encountered during the teaching practice are of the highest priority for pre-service teachers. (Akbari, 2007; Mann & Walsh, 2013; Standal, Moen & Moe, 2014). Jones and Ryan (2013), in their study on pre-service teachers' online discussion forums in facilitating reflections reported that their participants also displayed tendencies to share "experiences relevant to the individual's specific practice-based situations" (p. 143). Chamoso and Cáceres (2009) opines that while it is important that student-teachers begin their reflections by describing their teaching events during field experiences , it is insufficient to rely on familiar understanding alone to explore new and challenging insights.

The Roles And Contributions of the Teacher-Educator Mentors

Transformational and critical change in the reflective thinking process can take place with the presence of the knowledgeable other in the learning community. Teaching presence, as outlined in Garrison et. al., (2000) CoI model, emphasizes the importance of the role of the teacher within an online learning context. In the present study, the role and contributions of the teacher-educators were more of that of an instructive and prescriptive nature in which the teacher-educators were more inclined to post comments that directed the student-teachers to avoid carrying out certain approaches/strategies, or to provide them with alternative ways to address the teaching issues rather than facilitating the student-teachers to develop a more critical inquiry into their practice. This observation was also highlighted in Foong et al.,'s (2018) study as they discovered that a more collaborative facilitation style can result in student-teachers being able to reflect deeply while a more instructive facilitation approach may lead to the student-teachers displaying reflections that are more descriptive in nature. The importance of maintaining positive and encouraging comments online was disclosed by the teacher-educator mentors during the interview which could point towards the lack in depth displayed in the reflections online. Critical inquiry can only be fostered through dialogues that are more constructive and challenging as opposed to one that merely affirms, supports or encourages as demonstrated in the teacher-educators' online exchanges with their student-teachers in this study. As pointed out by Kuswandono (2014), the term 'harmony' would demand further clarification especially in Asian contexts, " as not just a phrase to cultivate simple peacefulness and conformity but to also understand that different opinions and critical comments are equally valuable to develop the true meaning of harmony" (p. 712). In the study, the personal preferences of the teacher-educators in conducting themselves on an online platform that was

meant to support and facilitate reflective practice has to be re-oriented in future studies. Student-teachers, in particular, need to be re-acquainted with the concept of critical inquiry and critical dialogues, particularly in the way collaborative reflections are carried out online.

Conclusion

This study is aimed at raising concerns that may be of relevance to other research contexts, particularly in the field of facilitating collaborative online reflective practices involving student- teachers and their teacher-educator mentors. Thus, on that basis, this study has to a large extent confirmed the findings of studies by Mauri et. al., (2017), Harford and MacRuairc (2008), Gelfuso and Dennis, (2014) and Jones and Ryan (2013, that teacher-educators and student-teachers are mere participants in an online learning environment for the process of collaboration in reflective practice, and that the ability for student-teachers to reflect more critically will not occur automatically. Insofar as collaborative reflection that was reviewed and analyzed, they appear to have allowed the student-teachers to learn from one another in areas concerning their practice. However, in terms of encouraging and enhancing student-teachers' reflective practices in a more critical manner, this initiative was less successful. Similarly, the teacher-educator mentors' online contributions were also limited to comments and responses that were more directive and prescriptive in nature. It appears that the teacher-educator mentors were apprehensive about what and how to post comments online. The notion of collaborative reflection in an online platform implies the need for its participants to establish 'trust' in terms of providing genuine and constructive comments that can help the student-teachers' in particular to develop their critical inquiry. Building this trust however would require conscious efforts on the part of the teacher- educators themselves to model the values inherent in critical reflection (Kuswandano, 2014). The complexity in fostering reflective practice whether online or otherwise is still a fundamental concern as the findings of this study would indicate. While the platform has been used to successfully build positive relationships between its participants, facilitating critical reflection communally in online spaces would require a more systematic and structured approach. A systematic approach of this nature has been outlined by Mauri et al., (2017), in which they propose four directions in fostering collaborative reflective practices which include (i) an approach to reflection that avoids "solving" or "assessing", (ii) a safe and secure environment to present, discuss elaborate and improve views about teaching scenarios (iii) openness and trust aimed at progression and improvement of practice and (iv) reflective practices that are academically founded. Future studies, it appears, will need to incorporate Mauri et al's (2017) suggestion in fostering collaborative reflective practice.

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