



**Exploring the use of online reflective journals as
a way of enhancing reflection whilst learning in the field:
the experience of teachers in Saudi Arabia**

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Thesis submitted for the degree of Doctor of Philosophy in Education

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July 2020

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Signed: Shatha Almalki

Date: 18 April 2020

Abstract

Globally, reflective thinking is considered a vital aspect of ongoing learning and professional development in the teaching profession. While engaging with reflection particularly for trainee teachers who do not have relevant experience can be challenging, this could be significantly more challenging within an education system that lacks support for the development of metacognitive skills. The utilization of technology-focused reflective tools has been shown in literature to enhance trainee teachers' reflective capacities. Thus, adopting technology could facilitate and motivate pre-service teachers to engage with reflection in challenging contexts. This study explores such a context and aims to understand Saudi pre-service teachers' experiences and their supervisors' perspectives when the former engages with reflection via the use of technology as a means to foster reflection to help the pre-service teachers develop professionally and personally during their school placement journey. Due to the complexity of the teaching and uncommon use of the reflection concept within the Saudi context, a combination of action research framework design and narrative analysis was adopted in this research of twelve elementary pre-service teachers and three supervisors at the IAU in eastern Saudi Arabia to understand their experience through their stories. Furthermore, the technology adopted in the reflective journals used novel forms of graphic representation to aid understanding and development of complex reflective concepts and their stages within the group of trainee teachers.

The findings indicate that there were some impediments that had arisen during this study related to reflective thinking skills such as difficulty in identifying and assessing certain issues at the beginning of the study and difficulties in speculating the future action as well as some writing challenges noticed among some participants. Moreover, this research found that some contextual factors contributed to hinder participants from reflecting at a deeper level in some of their journals. Individual differences appear among the participants in which their ability to reflect was dependent on their willingness and their initial attitudes articulated by the Deweyan theory. Nonetheless, the majority of Saudi pre-service teachers in this study were able to shift their paradigm to openly express their thoughts and acknowledge their weaknesses as well as to adopt a more active role and actively take responsibility for their learning and teaching. Furthermore, the narrative interviews revealed a developing sense of moral and ethical consideration among participants as a result of engaging with reflection. The study provides evidence that when fostering reflective thinking in a supportive environment, a positive attitude and a sense of pride were apparent among trainee teachers by the end of the research.

The combination of technology and the reflection process was found to motivate the participants to engage in reflection. This research found some consistencies between main objectives that motivated bloggers in general to engage with blogging and some of the initial orientations expressed by the participants in the present study, including airing their voice to influence and benefit others and seeking some support and feedback from the audience. Visualising and modelling the reflection concepts by using infographics and exemplars as online scaffolding tools embedded in the main blog helped the participants to understand the meaning of reflection and how to start reflecting on their practice, especially at the beginning of the study. Continuous online feedback from professionals was also found to be crucial to fostering reflection within many of the pre-service teachers when writing their reflective journals. This research has implications for developing teachers' training programs in countries worldwide.

Dedication

*To my parents who set me on the road to learning
To my husband who is always there when I need him
And to my three lovely children (Joud, Juri and Abdulelah)
with my love*

Acknowledgements

First and foremost, thanks to God for enlightening my thoughts and for giving me the strength to complete this thesis.

I also thank my mother, Mustorh, who has always believed in me and raised me to believe that anything can be accomplished with self-determination and, of course, God's will. My deepest gratitude also goes to my father, Mohammed, who encouraged me and my siblings from a very early age to seek knowledge and to fulfil our potential. Thank you, my parents, for your prayers, encouragement and support.

I am also extremely grateful to my husband, Yasser Almalki, who stood by me during this long and challenging journey, who continued to believe in me and reminded me that all this work would soon be accomplished and would soon simply be a part of our memories. Thank you for your patience, company and support. I also thank my lovely children, Joud, Juri and Abdulelah, for their passion and love, and for their understanding when I was busy and absent from their lives for long periods of time. I would like also to thank my siblings, Nada, Haifa, Meshary and Alhanof, for their emotional support and encouragement.

My close friends, Nora Almalki and Dr Hana Alrsheed, also deserve my gratitude for their support and encouragement throughout my doctoral journey, which meant a great deal to me. I must also extend my gratitude to Dr Amani Alghamdi for her support and for her help with providing relevant information for this research. My appreciation also goes to all the participants (pre-service teachers, supervisors, schoolteachers) who agreed to take part in this study. It did not go unnoticed that it took up a great deal of their time, and their engagement with this research is thus greatly appreciated.

I would also like to express my deepest and sincerest gratitude to my wonderful supervisor, Prof. Caroline Walker-Gealves, for her guidance, encouragement, friendship and support. I cannot possibly thank her enough for the remarkable and unforgettable time I experienced during my four-year doctorate under her invaluable supervision.

Meanwhile, I must not forget all my friends in the UK, including Fatima, Afnan, Ahlam, Sultana and Wedian, as well as the entire research community, the doctors who enlightened my thoughts at both the annual PGR poster presentation event at the ECLS of Newcastle University and the Advance HE Teaching and Learning Conference at Northumbria University. My sincerest thanks go to you all.

Finally, I must thank my country, Saudi Arabia, and my university for giving me this chance to learn from such an incredible experience, one that I believe had a significant impact on my thoughts and orientation as a researcher.

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List of Abbreviations

RJs: Reflective journals

IAU: Imam Abdulrahman bin Faisal University

RoR: Reflecting on the reflection

KSA: Kingdom of Saudi Arabia

MOHE: Ministry of Higher Education system

MOE: Ministry of Education

NCL: Newcastle University

P: *Reporting*

S: *Responding*

L: *Relating*

O: *Reasoning*

C: *Reconstructing*

E-reflection Journals: Electronic reflective journals

RT: Reflective Thinking.

RD: Researcher's diary

Chapter1: Introduction

1.1 Background to the study

Teachers are at the heart of any educational improvement. Indeed it has been demonstrated that when pupils benefit from any educational policy change, it is associated with the role and practices of teachers (Hopkins and Stern, 1996). OECD educational experts have reported that “expert, motivated, flexible teaching staff are the most vital component of high quality provision” (OECD, 1990, p. 33). This is because teachers have a critical influence on students, with Stronge (2018, p. 3) stating that:

Teachers have a powerful, long-lasting influence on their students, they directly affect how students learn, what they learn, how much they learn, and the ways in which they interact with one another and the world around them.

However, teaching is complex, unpredictable and changeable in its nature (Schulz, 2005; Finlay, 2008) and teachers need to be adaptable, to play new roles (Jarvis, 2002) and to keep reflecting upon their existing skills (Korthagen, 2001; Hagevik, Aydeniz and Rowell, 2012; Rodgers and Laboskey, 2016) and acquiring new ones in order to teach effectively (Devlin and Samarawickrema, 2010).

Effective teachers, according to Mortimore et al. (1988), provide their students with challenging and diverse activities, they bring high levels of interaction among the students, are able to involve their pupils in tasks and assume responsibility for their work and provide a positive atmosphere in the class. However, as Beattie (1995, p. 53) notes:

The process of becoming and being a teacher is increasingly being acknowledged as a multi-faceted endeavour which involves the person intellectually, socially, morally, emotionally, and aesthetically.

In fact being an effective teacher means more than acquiring certain skills and strategies; “[effective teaching] is a deliberate philosophical and ethical code of conduct” (Larrivee, 2000, p. 249). Similarly, Harris (1998, p. 179) emphasises that “effective teaching is linked to reflection, enquiry and continuous professional development and growth”. The purpose of reflection, according to Dewey (cited in Rodgers and LaBoskey, 2016) is to understand one’s

experiences, lead to an individual's growth, and in turn a democratic society's overall growth as well.

Many studies have highlighted that reflection is considered a crucial aspect of teacher thinking and is a fundamental goal and essential aspect of any teacher education programme (Zeichner and Liston, 1987; Korkko, Kyro-Ammala and Turunen, 2016; Rodgers and Laboskey, 2016). Ghaye (2011) and Korkko, Kyro-Ammala and Turunen (2016) have noted that when trainee teachers engage in reflection, it helps them to develop their practice-related theories used in the classroom. This helps them to engage in learning how to teach instead of waiting passively to be told what to do as a teacher (Freese, 1999). Reflection means taking responsibility for one's professional development and growth (Zeichner and Liston, 1996). Given the positive role of reflection, facilitating it is a vital aspect of teacher education, especially for trainee teachers who come to the classroom with limited epistemological views and usually seek to find the right solution for their issues without experience of the importance of reflective thinking (Yost, Sentner and Forlenza-Bailey, 2000).

However, the relevant literature also reports that reflection not easy (Dewey, 1933; Francis, 1995; Rogers, 2001). Moreover, engaging with reflection may not always be seen as a pleasant experience for trainee teachers, especially for those concerned about their grades. Reflection may thus conflict with the nature of assessment (Roberts, 1998), and it is therefore the tutor's role to provide and maintain a secure atmosphere by giving the trainee teachers enough time and support, especially in the early stages of a programme (Francis, 1995; Hobbs, 2007; Husu, Toom, and Patrikainen, 2008).

Providing trainee teachers with a combination of support to meet their unique individual needs is crucial (Yost, Sentner and Forlenza-Bailey, 2000). This might include, for example, adopting writing journals as an approach to facilitate reflection, an approach adopted by many scholars (e.g. Bain et al., 1999; Lee, 2007; Loughran, 1996; Tan, 2013). However, adopting written journals alone without providing trainee teachers with the means of reflecting on the writing process results in a more superficial, descriptive level of reflection (Rogers, 2001; Hourani, 2013).

Since the development of information and communications technology (ICT), teachers' supervisors have been given an enormous number of technological tools that can be used to

support pre-service teachers' development, both philosophically and practically (Makinster et al., 2006; Brooke, 2014; Hou, 2015; Weber et al., 2018).

Technology can offer teachers a new avenue to promote their learning because it can provide them with a chance to take part in communication channels that are independent of time and place (Borko, Whitcomb and Liston, 2009; Thomas, 2009; Rienties, Brouwer and Lygo-Baker, 2013) and can also offer them a chance to share teaching resources (Borko, Whitcomb and Liston, 2009). Thus, through the use of technology, pre-service teachers may deepen their reflection, which would further support them during their field experience (Lai and Calandra, 2010; Kori et al., 2014).

The literature demonstrates that the use of online predefined guidance or prompt questions to provide the participants with a structure for their reflection seems to help them to develop their self-reflection (Lai and Calandra, 2010; Kori et al., 2014). Furthermore, receiving online feedback from experts was found to be crucial to fostering the participants' reflective thinking when using technology as a means of reflection (Hramiak, Boulton and Irwin, 2009; Deng and Yuen, 2011; Boulton and Hramiak, 2012; Kori et al., 2014).

The use of technology is important when considering that the current generation is very accustomed to the use of technology and that they consider it a way of life (Murati and Ceka, 2017). For example, Yang (2009) stated that two-thirds of the participants in his study reported a positive attitude towards their experience when using technology as a means of reflection. Participants in Yang's study actively engaged in an online discussion about teaching theories and their implications via the use of blogs. Daniil (2013) also found that using "Videopapers", particularly the link between text and videos, helped two groups of student teachers to explore and analyse their teaching practice on a deeper level. Moreover, a study conducted by Deng and Yuen (2011) implemented a certain framework that involved individuals and social diminutions, and found that the use of individuals' blogs promoted participants' reflective thinking, while the collective blog was mostly used to gain social support. They also found that reflection was triggered when reading each other's blogs. Hramiak, Boulton and Irwin (2009, p. 259) found blogs useful as a tool to record the participants' reflective thinking and for their professional development as teachers. In fact, the participants were classified into two types – reluctant bloggers and frequent bloggers – the first wrote on a descriptive level and the latter were able to develop their reflection and write at a critical level of reflection (Hramiak, Boulton and Irwin, 2009; Boulton and Hramiak, 2012).

The aim of this research is to explore Saudi pre-service teachers' experiences when engaging with writing their online reflective journals (RJs) as a method of learning and to explore whether the use of such an approach could prompt their reflective thinking. A further aim is to explore their supervisors' perspective on the use of electronic RJs by Saudi pre-service teachers as a method of professional and personal development.

1.2 Significance of the study

Field experience is considered, from a trainee teachers perspective, an important part of teacher education programme (Al-barakat and Al-hassan, 2012). It should provide pre-service teachers with a chance to put their knowledge and theory into practice in a real classroom environment and enables them to generate new knowledge based on their theoretical knowledge and experience (Korthagen, 2001; Shoffner, 2008; Korkko, Kyro-Ammala and Turunen, 2016).

It also literally allows them to 'practice' the knowledge and skills that they have learned to practice being a teacher, so that they develop authentically. In order to maximise the potential of field experience, student teachers should play an active role in their learning by reflecting deeply on their practice, if they seek to acquire the "practical wisdom" of their practicum, rather than being limited to mastering the technical aspects of their teaching experience (Cochran-Smith and Lytle, 1999; Korthagen, 2001). By doing so, pre-service teachers are more likely to be capable of analysing, evaluating, and improving on their teaching practice independently in the future and being able to adapt to changes in the external environment, which are frequent in teaching in all cultures and countries.

However, in the Saudi context, the supervision model in teacher preparation programmes remains traditional and it does not encourage student teachers to think or reflect on their practice (Kabli, 1999; Al-Zarah, 2008; Al-jadidi, 2012). Al-jadidi (2012) found that student teachers tend to avoid questioning existing theories, knowledge or other people's experiences, and as a result they tend to adopt generalisations regarding children's development and learning. Indeed, it is found that there is a gap between students' theoretical courses and practice in the field experience, which is why pre-service students find it challenging to implement their theoretical knowledge in the actual classroom (Al-Zarah, 2008; Alsharif and Atweh, 2010; Hamdan, 2015). Thereby there have been many calls for the authorities concerning the urgent need to improve teacher training (Kabli, 1999; Al-Zarah, 2008; Al-jadidi, 2012; Hamdan, 2015).

Meanwhile, recently there have been many changes in the Saudi context with Saudi Vision 2030 – the Ministry of Education (MOE) has announced a call for new teacher education programmes, to be planned and implemented with the aim of providing better quality programmes (*Improving teacher preparation programs*, 2019). Thus, this study is important as it provides the Ministry of Education with an insight into the importance of engaging student teachers with reflection, to help them play an active role in their learning. This is valuable as it has been found that the majority of pre-service teachers find it challenging to make appropriate decisions regarding problematic situations (White, 2000; Yost, Sentner and Forlenza-Bailey, 2000). Therefore, encouraging and helping them to reflect on the complexity of the actual classroom would help them to move beyond their narrow views so as to think critically and identify the rationale for alternative solutions to address their teaching practice issues (Yost, Sentner and Forlenza-Bailey, 2000).

While a large number of studies have been conducted in developed countries such as in the USA, Australia and the UK, as they started to implement reflection in teaching two decades ago (Bain et al., 1999; Cochran-Smith and Lytle, 1999; Freese, 1999; Hamlin, 2004; Meierdirk, 2016), reflective thinking seems to be an uncommon approach in some developing countries. In fact, the literature contains very few studies on reflection in the Arab countries.

For example, one study which did take place – in Yemen and Saudi Arabia (Al-Ahdal and Al-Awaid, 2014) – was conducted in the United Arab Emirates (Hourani, 2013). A small number of studies have been conducted in the Saudi context, such as that by Alrumaih (2016), who conducted her study within pre-service teachers (without the use of technology). The other studies have focused on investigating teacher reflection (e.g. Almazrawi, 2014; Shukri and Studies, 2014; Sibahi, 2016). But Sibahi's (2016) study could not represent the reality of whether Saudi participants engaged with reflection because all the participants were non-Saudis (the majority were from the USA) and working as English teachers. Almazrawi (2014), on the other hand, found evidence that Saudi teachers lack engagement with reflection. Indeed, the results of Almazrawi's (2014) study encouraged me to conduct this study to attempt to improve the current education system by introducing reflective thinking within teacher education programmes in Saudi Arabia.

Indeed, from my previous experience of working as a teacher for two years in private and public high schools, I noticed that the main focus of teacher training workshops in the Saudi context is on improving technical aspects of teaching. Consequently, teachers lose the opportunity to

grow professionally when ignoring the importance of training teachers in how to reflect, how to think critically on their practice in order to improve it, and how to develop high ability in decision-making to address their teaching issues effectively.

With regard to pre-service teachers, it has also been found that within the complexity of field experience, trainee teachers tend to cope to varying degrees with the difficulties and complexities of decision-making (Orr, 2012). They are usually able to cope with regular work and simple modifications and responses to a variety of classroom circumstances. In such cases, however, pre-service teachers miss the essence of teaching practice, which is being analytical and reflective (Jones, Jenkin and Lord, 2006, in Hourani, 2013). This is why the traditional practicum has been criticised due to the passive role of student teachers (Zeichner, 1990), who often have to wait for simple feedback from their supervisors without being encouraged to think critically about their practice. Thus, it is the supervisor's responsibility to inspire pre-service teachers with the appropriate professional experience to enable them to reflect on their practice critically, given that the "teachers of the future must have the intellectual, moral, and critical thinking ability to meet the challenges of 21st-century schools" (Yost, Sentner and Forlenza-Bailey, 2000, p. 39).

It has been suggested by some researchers in the Saudi context that in order to help pre-service teachers build their knowledge in practice, there is a need to establish a partnership between universities and schools (Kabli, 1999; Al-Zarah, 2008). This practical solution has been implemented in the UK and a number of other countries, in which the universities and schools work together with the aim of increasing the quality of teacher training programmes (Al-Zarah, 2008). However, such a suggestion cannot be implemented easily in Saudi Arabia because official policies would need to be changed and budgets redistributed, which is at present an unrealistic solution.

The other suggestion is to provide pre-service teachers with a chance to learn before being placed in a real school by implementing micro-teaching (Al-Zarah, 2008), which would help them to practice teaching in a safe environment to help them put their theoretical knowledge into practice. Furthermore, such an approach would be valuable because students would be able to observe each other's practice and they would be able to give and receive feedback (Mergler and Tangen, 2010). However, this solution would be implemented in an artificial environment, which would not provide trainee students with the real experience of the complexity of teaching in an actual classroom (Spelman and John-Brooks, 1972). Furthermore, implementing this

solution with only a small number of pupils to make it similar to reality is currently impossible because it is expensive and requires policy change, which is also an unrealistic solution at present.

In this study, it is argued that in order to prepare pre-service teachers to become accomplished teachers, they have to be encouraged to play an active role in their learning by reflecting on their practice at a deeper level (Cochran-Smith and Lytle, 1999; Korthagen, 2001). This would promote their understanding of their profession (Korkko and Outi Kyro-Ammala, 2016) and help them to build their ability to make wise decisions. Thus “*teacher educators need to prepare teachers not as followers, drawn along, but as leaders, as professionals who are thoughtful, reflective, inquiring, self-directed, and active participants in goal setting and decision making*” (Schulz, 2005, p. 149).

The aim of this study is to explore Saudi school pre-service teachers’ experience when using technology – namely electronic blogs – to promote the reflection process, to help them to understand their work as teachers and to interact with other teachers.

1.3 The nature of this thesis

This study explores Saudi pre-service teachers’ experiences and their supervisors’ perspectives when using technology to foster the reflection process. Twelve elementary pre-service teachers and their supervisors at the IAU, in the Eastern Province of Saudi Arabia, were selected using convenience sampling.

This research is original, as to my knowledge it is the first study on reflective practice with technology in the Saudi context. Furthermore, the design of the blog is novel in relation to the adoption of theory–practice links alongside the main blogging area for participants. The main blog presents some instructions and guidelines (including the use of videos) on how to reflect critically, and it also contains several links on teaching theories. The main blog has 12 embedded personal blogs for pre-service teachers to reflect regularly on their practice. This design should help pre-service teachers to read and to interact with each other and with their supervisors, as well as to gain some tips on how to reflect at a complex level.

The current study has three purposes:

1. To explore Saudi pre-service teachers' experiences when engaging with reflective thinking frameworks;
2. To explore whether electronic reflective journals can promote reflective practice among Saudi pre-service teachers;
3. To explore supervisors' perspectives on the use of electronic reflective journals by Saudi pre-service teachers as a method of professional and personal learning.

This study explores five research questions:

1. To what extent do Saudi pre-service teachers reflect on their practice in this context?
2. What are Saudi pre-service teachers' attitudes and orientations towards using reflective journals as a method of learning?
3. What do Saudi pre-service teachers see as impedimentary and disincentive factors which limit the use of electronic reflective journals as a method of learning within their field experience?
4. What do Saudi pre-service teachers believe to be the affordances and facilitatory factors for using electronic reflective journals as a method of learning within their field experience?
5. What are educational supervisors' perspectives on the use of electronic reflective journals as a method of learning?

Figure 1.1 is a visual representation of how the research questions addressed the three main research purposes. Figure 1.2 is a visual representation which presents the entire study in terms of showing the relationship between the research purposes, the research questions, the data sources and the conceptual content.

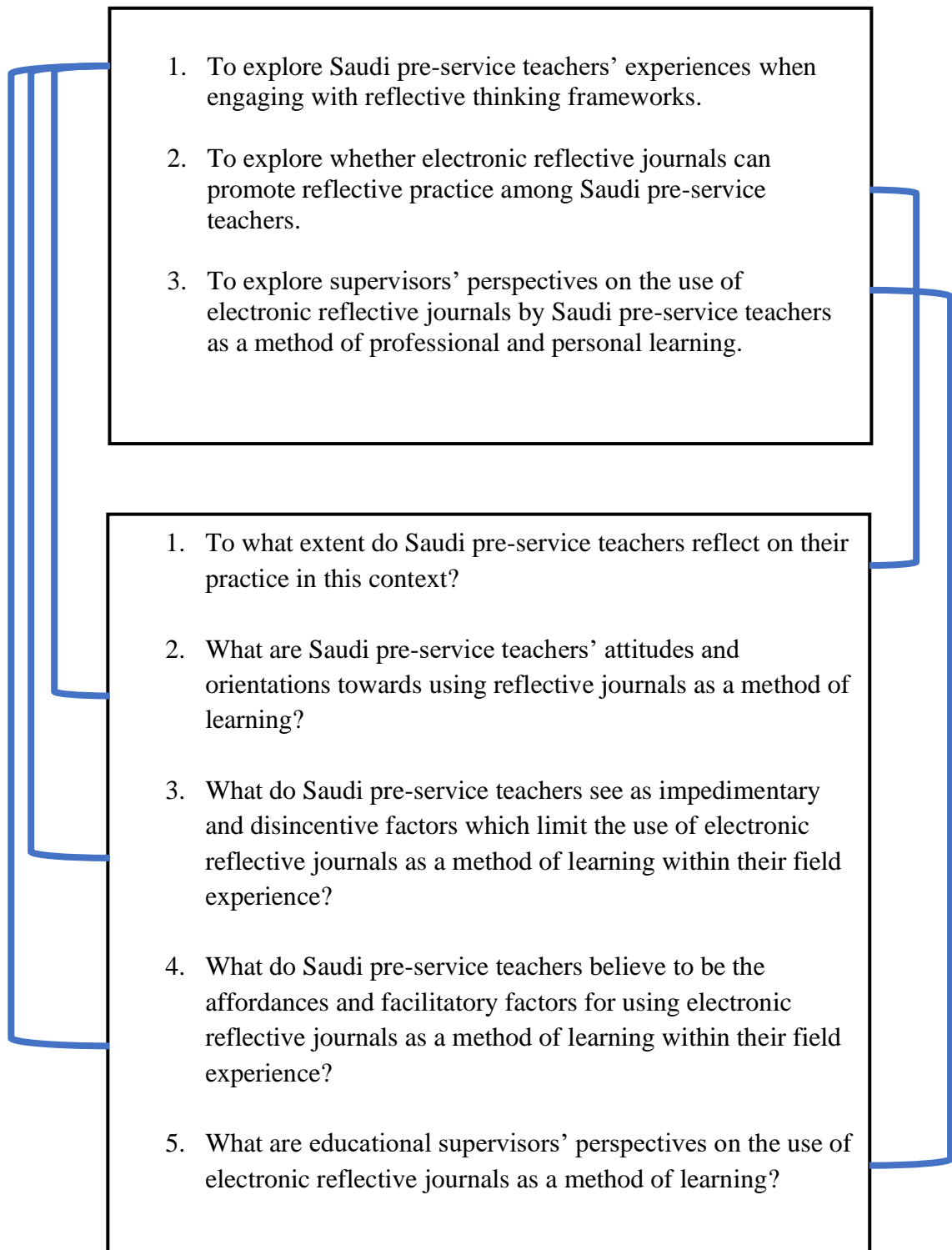


Figure1.1: Representation of how the research questions address the three main research purposes

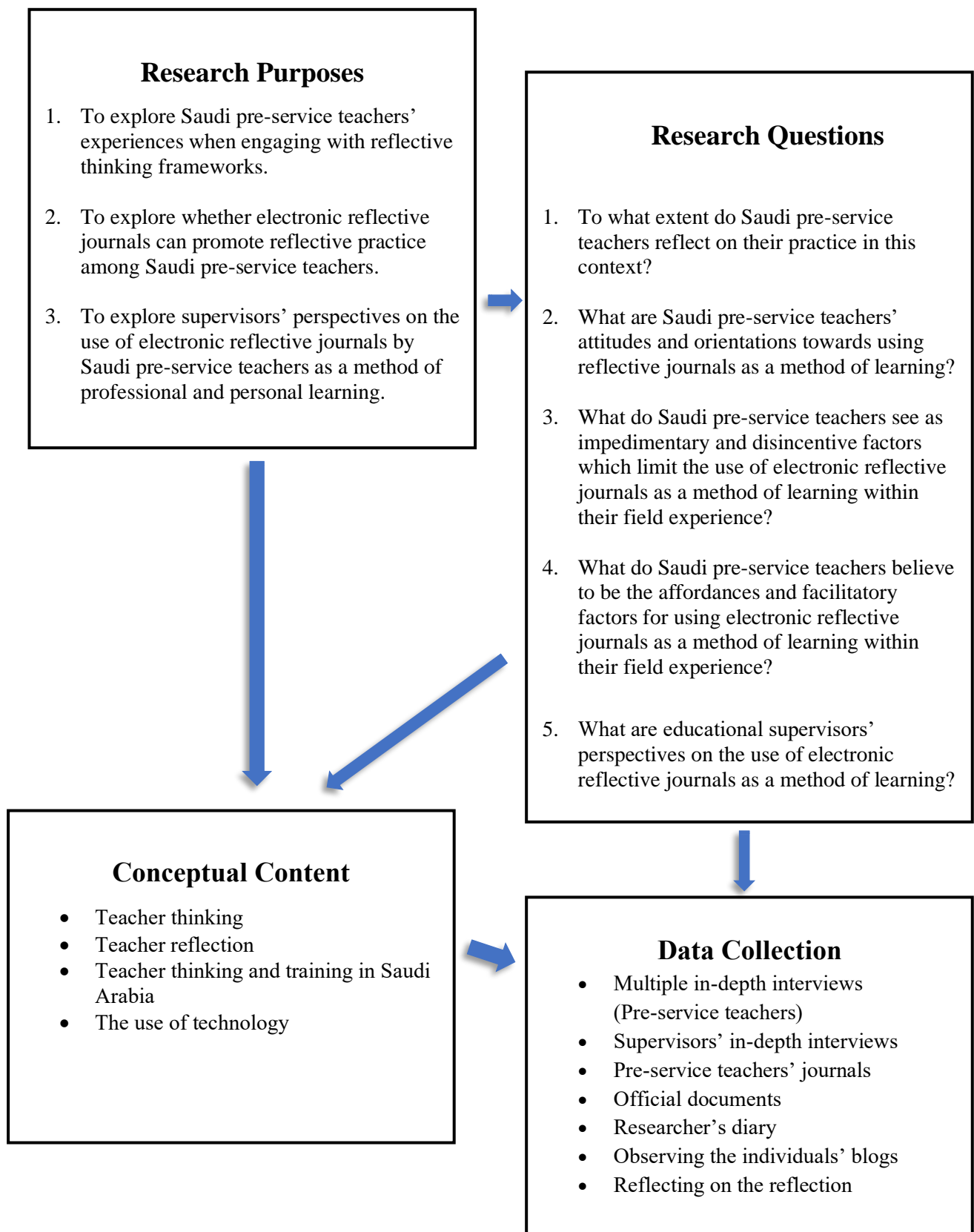


Figure1. 2: Visual representation of the entire study

1.4 Defining the terms used in this thesis

Saudi pre-service teachers/trainee teachers/student teachers: Students in their last semester of the fourth academic year who are going to graduate as teachers with a bachelor's degree from the college of education after passing the teaching placement requirement. All the participants in this study are in the field of the junior primary classes teacher programme. The three terms are used interchangeably and have exactly the same meaning.

Supervisors/educators/tutor/lecturers: In this study, these terms refer to the academic members who are qualified and authorised to supervise pre-service teachers in their practicum. Their role is to encourage participants to develop their teaching skills, provide the trainee teachers with expectations and instructions as well as determine pre-service teachers' grades, and in this research, they also have the role of providing pre-service teachers with online feedback regarding their reflections.

Practicum/fieldwork experience: The course (in the last semester of their study) in which the participants are placed in groups in different schools to engage with practical knowledge and practice teaching in schools.

School teacher/class teachers: In this study, there are three types of "school teacher": first, those who provide participants with online feedback (see Table 3.4); second, any teachers in the participants' school placements, as trainee teachers sometimes interact with them to discuss their issues; and finally, the teachers in the school that are expected to monitor and help pre-service teachers during their school placement (although in practice the majority of them are unsupportive in playing their role).

1.5 Organisation of the thesis

This thesis is composed of six chapters. Chapter One presents the background to the research as well as an overview of the purposes of the study, the research questions and the significance of the study. Chapter Two provides a literature review on the following concepts: reflective thinking, reflection and professional development, pre-service teachers and reflective thinking, discussing some issues regarding reflection in teacher education, facilitating reflective thinking, the impact of technology on teachers' learning and finally the use of technology to influence reflection in teacher learning. Chapter Three presents the theoretical framework and the methodological approach, the research design in practice, the data analysis procedures and the ethical considerations. Chapter Four presents an analysis of the research findings. Chapter Five

comprises a discussion of the emergent themes from the data analysis and a practical framework that represents the Saudi pre-service teachers' experiences during the journey of engaging with reflective thinking. The final chapter contains the conclusions and discusses the implications of the research as well as offering suggestions for further research work in the relevant field.

Chapter2: Literature Review

This chapter provides a literature review of the concept of reflection and discusses in particular Dewey's theory of reflection and the adopted reflection models in this study. It is also highlighted why reflection is important within teaching practice, teachers' professional development and teachers' education. It raises some crucial issues that should be considered when trainee teachers engage with reflection. Facilitating reflective thinking is also discussed in this chapter. Finally, this chapter reviews the literature related to the use of technology to promote teachers' learning in general, then it discusses, more specifically, the use of technology to prompt reflective thinking.

2.1 Why is reflection important in teaching practice?

Teaching is complex, unpredictable, context specific and messy in its nature (Korthagen, 2001; Schulz, 2005; Finlay, 2008; Hagevik, Aydeniz and Rowell, 2012; Rodgers and Laboskey, 2016). Dealing with the uncertainty of professional practice involves continuous decision-making, thus teaching is a highly intellectual process (Schulz, 2005). Rodgers and Laboskey (2016, p. 71) stated, in this regard, that reflection "is the only way in which we can deal with the complex, unique, and on-going dilemmas that constitute our work [of teaching]". Reflection, according to Zeichner and Liston (1996, p. 4), can be seen as "a reaction against the view of teachers as technicians who have narrowly construed the nature of the problems confronting them and merely carry out what others [...] want them to do".

Engaging with reflection helps us to understand the link between what we are currently doing and how we can improve our professional practice, in which new insights and understandings will be developed as a result of engaging with reflection (Ghaye, 2011). As teaching is an ongoing learning process, teachers have to continue learning and reflecting to develop their insight and perceptual knowledge in order to develop professionally. In fact, Dewey emphasises that one cannot grow without engaging with reflecting on their experience (Dewey in Rodgers and Laboskey, 2016), thereby, reflection according to Calderhead and Gates (1993, p. 1) is "a crucial element in the professional growth of teachers".

Thus, fostering critical reflection for teachers is vital from the beginning of their teaching journey (Korthagen, 2001), as reflection seems to be essential in preparing pre-service teachers for their future careers (Zeichner and Liston, 1987). This is true if the goal of the field experience is to develop students into good teachers, rather than treating them as collectors of

conceptual knowledge. Hatton and Smith (1995, p. 46) articulated that “teaching is a moral business concerned with means and ends”. Thus engaging with reflection is more important nowadays to meet the challenges associated with the current milieu as the “teachers of the future must have the intellectual, moral, and critical thinking abilities to meet the challenges of 21st-century schools” (Yost, Sentner, and Forlenza-Bailey, 2000, p. 39).

In fact, reflection helps to fill the gap between theory and practice of trainee teachers’ knowledge as both theory and practice are essential in teaching practice, in that they complement each other. In this regard, Korthagen (2001) classifies knowledge into two types: “episteme” and “phronesis”. The former can be characterised as objective and abstract; it is considered as a part of theory. It is believed that this kind of knowledge is fixed, has a true objective, cannot be affected by emotion, and that one can apply this kind of knowledge in many situations. The second type of knowledge, “phronesis”, is not theoretical and is unfixed, and is related mainly to specific and concrete details of cases. In this type of knowledge, there are no specific rules to solve problems because of the complexity of teaching and learning. This type of knowledge needs more than theories, articles, and books; it needs “concrete situations to be perceived, experience to be had, persons to be met, plans to be exerted and their consequences to be reflected on” (Korthagen, 2001, p. 29).

According to Korthagen (2001), filling the gap between theory and practice from the “episteme” perspective is important, and can be done by conducting discussions and arguments between teacher educators and pre-service teachers. However, the “phronesis” perspective is more important when preparing student teachers for their future career. The role of student teachers’ educators in terms of “phronesis” is not to establish general rules to solve problems; their role is instead to encourage students to reflect systemically on their practice to help them explore situations and refine their perception to obtain practical wisdom in which the student will be able to make their tacit knowledge explicit (Korthagen, 2001). As within the complexity of professional experience placements, there is a large amount of embedded knowledge that needs to be recognised and learned (Korthagen, 2001).

When trainee teachers learn how to engage with reflective inquiry and learn the embedded reflection skills, they would in return teach their students such types of intellectual thinking via inquiries in which meaningful learning occurs (Rodgers and Laboskey, 2016). In fact, reflection should not be limited to being adopted as a means of learning within students but rather it should be the orientation of all society members, to be considered during their interactions so as to

avoid the bias resulting from spontaneous judgements (Kahneman, 2011; Nisbett and Ross, 1980; Tversky and Kahneman, 1974, in Rodgers and LaBoskey, 2016). The next section will discuss the meaning of reflection and clarify and emphasise the meaning that has been adopted in this study.

2.2 What is the meaning of reflection?

When examining the literature, one notices the various meanings and definitions offered for the concept “reflection” (Bain, Ballantyne, et al., 2002; Freese, 1999). In this regard, Hatton and Smith (1995, p. 33) reported that reflection is “ill-defined” and has been “used rather loosely to embrace a wide range of concepts and strategies”. These definitions will vary, depending on the framework of the researcher (Bain, Ballantyne, et al., 2002; Moon, 2004). The lack of definition for reflection makes achieving it difficult (Rodgers, 2002). Moon (2004) stated that the common use of the concept of reflection implicates “a form of mental processing with a purpose and/or an anticipated outcome that is applied to relatively complicated or unstructured ideas for which there is not an obvious solution” (p. 4).

Moon emphasises that reflection by itself has one meaning, while the difference in meanings concerns the way that these meanings are guided or applied (Moon, 2004). Despite having many conceptual meanings of reflection, there is an agreement on the importance of being involved in careful and active examination of one’s thoughts to develop professionally (Freese, 1999). Ghaye (2011) stated that an individual can gain new understandings and insights when engaging with reflection, which will, in turn, help to improve their action. This implies that there is a clear link between reflection and practice. Figure 2.1 illustrates the relationship between reflection and practice.

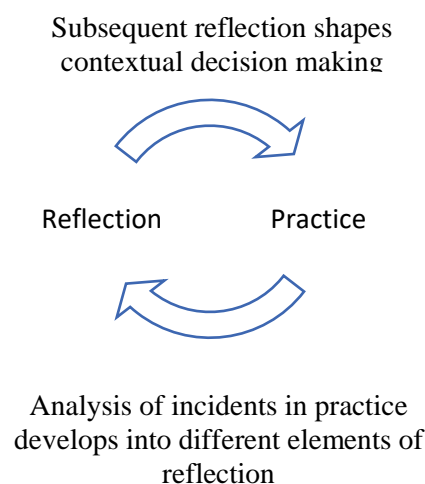


Figure 2.1: The link between reflection and practice (Ghaye, 2011, p. 1)

In fact, some researchers argue that in order to be clear about the meaning of reflection, there is a need to distinguish between the nature of the *reflection process* and the *reflection content* or purpose (La Boskey, 1994 and Valli, 1993 in Bain, Ballantyne, et al., 2002).

With regard to the **reflection content**, Bain mentions that there is a debate as to whether the aim of reflective practice should be mainly on moral and ethical issues and thus should be on the third level of Van Manen's categories of reflection, which is considered a critical level of reflection, or the focus should be on the current contextual issues and the orientation adopted by LaBoskey (1994). Here, Bain, Ballantyne, et al. (2002) adopted the second orientation by encouraging practitioners to focus on their current incidents and over time this would lead to consideration of the ethical and moral issues of education.

Some scholars go further to explain dimensions of reflection. Finlay (2008), in this regard, stated that there are three dimensions of reflection which are: reflection, critical reflection and reflexivity. The first stage of reflection is reached when the trainee teacher reflects and evaluates their own lesson. The second dimension is reflective practice in which trainee teachers consider the impact of the social field by considering the role of both the powers and the surrounding social field to understand their situation. In the third dimension, reflexivity occurs when trainee teachers reflect on their identity and how they reconstruct within their changed environment (Meierdirk, 2016b, 2016a).

With regards to **the process or the type of reflection**, reflective thinking according to Dewey addresses practical problems, allowing for perplexity and doubt before reaching the solution (Hatton and Smith, 1995; Zeichner and Liston, 1996) and then he suggested a sequence of cognitive steps to address the incidents faced (See Section 2.3 for more details about Dewey's theory). In fact, Dewey identifies the differences between action that is spontaneous, which is obtained from authority or tradition, and action based on reflection (Bain, Ballantyne, et al., 2002; Hatton and Smith, 1995). His definition of reflective thinking represented this meaning when he articulated that "reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it leads" (Dewey, 1933, p. 6).

For Schön (1983, 1987), "reflection involves some form of experimentation, in which practitioners constantly interpret situations by means of problem-setting and problem-solving,

[it is] a process [that] can lead to a reframing of the situation” (cited in Korthagen and Wubbels, 1995, p. 52). In fact, Schon emphasises the importance of the time and context in which reflection occurs (Freese, 1999).

According to Schon (1983), there are two main forms of reflection:

- “Reflection-in-action” concerns thinking and dealing with on-the-spot professional issues that occur in the midst of the action;
- “Reflection-on-action” involves recalling teaching events after the class, and giving reasons about why they occurred.

(cited in Bain, Ballantyne, et al., 2002; Moon, 2013)

The concept “reflection-in-action” is contentious, given that the ability of professionals to change their direction or “think on their feet” in certain situations or circumstances seems to occur naturally with teachers in their classrooms, and this suggests that one can think about their practice and take action while they are teaching (Schon, 1983; Bain, Ballantyne, et al., 2002). The second concept, “reflection-on-action”, is similar to Dewey’s description of the process of reflection. However, Schon associated “reflection-on-action” with the process of design (analysing the problem), redesign (reframing the problem), and taking action as a possible solution to the problem (Bain, Ballantyne, et al., 2002). Schon has been criticised for focusing on individual practice in the classroom without giving enough consideration to the social conditions that affect their practice (Zeichner and Liston, 1996).

Ghaye (2011) added and described two concepts related to reflection: “reflection-for-action” and “reflection-with-action”. The former concerns the ability to set up a plan to improve or change a situation or action, while the latter entails conscious action when doing something by acting alone or collaboratively with a group to develop one’s understandings or skills. Figure 2.2 explains the type of reflection based on the relevant literature (Schon, 1983; Ghaye, 2011).

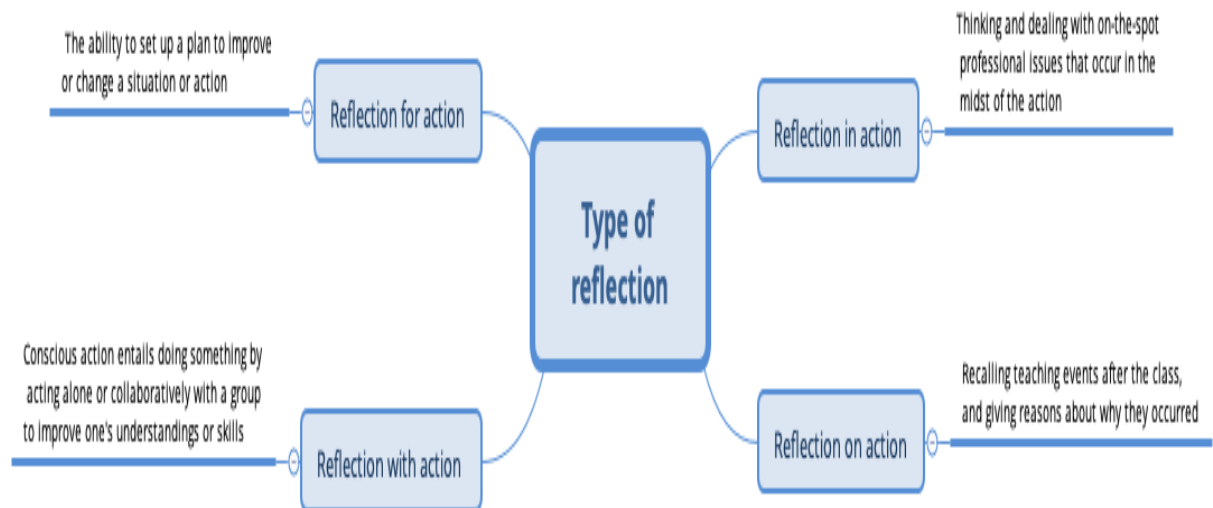


Figure 2.2: Types of reflection

Meanwhile, taking responsibility for one's actions is considered a significant part of reflection. Ross stated in Korthagen and Wubbels (1995, p. 52) that "reflection is a way of thinking about educational matters [that] involves the ability to make rational choices and assume responsibility for those choices". Further, Zeichner and Liston (1996) emphasise that taking responsibility for teachers' own professional development is a significant part of being a reflective teacher.

In this study, I focused on reflection-on-action rather than reflection-in-action, in which such reflection occurs after teaching and not within teaching. I have chosen this kind of reflection because it is more appropriate for pre-service teachers in the context of my study. This is because the literature shows that reflecting at a complex level can be challenging for pre-service teachers, as they do not have the sufficient teaching experience yet to be able to think intellectually about their practice (Gelfuso and Dennis, 2014; Hatton and Smith, 1995). Thus in order to help them to reflect on a deeper level, trainee teachers need more time, opportunity and support during their journey to reflect on their practice (Bain, Ballantyne, et al., 2002; Bain et al., 1999; Callens and Elen, 2011; Hamlin, 2004; Kaasila and Lauriala, 2012; Orland-Barak and Yinon, 2007; Tan, 2013).

Enhancing pre-service teachers' reflection-in-action is usually viewed as a social practice approach in which teacher educators and trainee teachers engage in modelling and reflecting explicitly about their teaching (Freese, 1999). This means that adopting reflection-in-action in

this study would involve monitoring and being with them during their school placements and engaging with them in informal conversations after the lessons in order to let them analyse their own teaching and explore their reflection in the context of the actual teaching practice. This solution seems inappropriate at the IAU, however, since the supervisors cannot attend all pre-service teaching classes as they have their own teaching responsibilities and they usually supervise many other students during the semester.

Therefore, adopting reflection-on-action is more suitable for this study as reflection-on-action can be fostered through the use of technology and “e-reflective journals”, which means that pre-service teachers can be helped to write reflectively, which would help them to develop their reflective writing ability (Bain, Ballantyne, et al., 2002). This study adopted reflection on-with-for practice as journal blogs were employed as a means to provide pre-service teachers with continual feedback from their supervisors, teachers and their peers to help them understand the complexity of teaching and to develop their reflective ability during their field experience to be able to plan their future action and learning.

2.3 Dewey’s theory of reflection

In this research I used Dewey’s theory of reflection as a part of the research theoretical framework (see Figure 3.2), therefore I am now going to explain it in more detail. Dewey is considered as a key author who has influenced the way in which the term “reflection” is viewed. In his book *How We Think*, according to Rodgers (2002), Dewey stated that there are various types of thoughts such as imagination, belief, and consciousness, but he focused more on reflection. Reflection according to Dewey involves “turning a subject over in the mind and giving it serious and conductive consideration”, thereby enabling us “to act in deliberate and intentional fashion” (Dewey, 1933, in Freese, 1999, p. 869).

Rodgers (2002) outlined four criteria that characterise Dewey’s concept of reflection (2002, p. 845):

1. Reflection is a meaning-making process that moves a learner from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas. It is the thread that makes continuity of learning possible, and ensures the progress of the individual and, ultimately, society. It is a means to essentially moral ends;
2. Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry;

3. Reflection needs to happen in community, in interaction with others;
4. Reflection requires attitudes that value the personal and intellectual growth of oneself and of others.

According to Dewey, learning is based mainly on experience. However, not all experiences are fruitful, some of them are mis-educative experiences, particularly when they lead to routine action when one acts without awareness about their action which may affect others. In contrast, an educative experience leads to intelligent action (Rodgers, 2002). Thus, John Dewey distinguished between two types of actions: the routine action and action based on reflection. He argued that one should question the existing definition of reality in schools or the “collective codes” which are based on impulse, tradition and authority that are taken for granted to inform school teachers’ practice (Zeichner and Liston, 1996). However, this does not mean that teachers should reflect on all aspects of their daily teaching practice all the time, but rather, Dewey argues that one should find “a balance between reflection and routine, between thought and action” (Zeichner and Liston, 1996, p. 12). In this regard, Gelfuso and Dennis (2014) highlighted the importance of considering “analysis” and “synthesis” in Dewey’s theory when they stated that analysis refers to the importance of considering particular aspects of one’s experience, while synthesis is about considering the context of the chosen issue.

The purpose of reflection in Dewey’s theory is to understand one’s experience which leads to one’s growth and to a democratic society growth as well (Rodgers and LaBoskey, 2016).

Dewey proposed that reflection involves several phases which are the following: “(1) ‘perplexity, confusion and doubt’ due to the nature of the situation in which one finds oneself; (2) ‘conjectural anticipation and tentative interpretation’ of given elements or meanings of the situation and their possible consequences; (3) ‘examination, inspection, exploration, analysis of all attainable considerations’; which may define and clarify a problem with which one is confronted; (4) ‘elaboration of the tentative hypothesis suggestions’; and (5) deciding on ‘a plan of action’ or ‘doing something’ about a desired result” (Dewey, 1973, pp. 494–506, in Ghaye, 2011, p. 27).

Dewey considers judgement to be a crucial part of reflection, and he explained the meaning of judgement when he stated the following: “To be a good judge is to have a sense of the relative indicative or signifying values of the various features of the perplexing situation; to know what to let go as of no account; what to eliminate as irrelevant; what to retain as conducive to outcome; what to emphasise as a clue to the difficulty” (Dewey, 1933, p. 123).

Gelfuso and Dennis emphasise, after revising Dewey's literature (1933, 1938, 1986), that reflection should be supported within teacher education, to create the "warranted assertability", which refers to a smooth transition to help trainee teachers to move from the analysing stage to the synthesising stage of thinking (Gelfuso and Dennis, 2014; Gelfuso, 2016).

Reflection, in fact, is about making meaning of experience. In this regard, Rodgers (2002, p. 848) stated the following:

The function of reflection is to make meaning: to formulate the "relationships and continuities" among the elements of experience, between that experience and other experience, between that experience and the knowledge that one carries, and between that knowledge and the knowledge produced by thinkers other than oneself.

Thus to make meaning of experience in Bain's model, one has to utilise the reasoning component in which a thoughtful consideration and explanation emerge regarding the factors that could explain the incidents and the inter-relationship between these factors to reach the reconstructing component of reflection when one develops their understanding to reconstruct their future action or reform their professional understanding (Bain, Ballantyne, et al., 2002).

Meanwhile, although Dewey's theory of reflection is based mainly on cognitive processes, he believes that there are some essential attitudes such as open-mindedness, whole-heartedness and responsibility which enable one to engage with the reflection process (Bain, Ballantyne, et al., 2002). Refining these attitudes is vital within teachers' education programme (Loughran, 1996, p. 5). See Table 2.1 for more details about the meaning of each attitude based on Dewey (1933, cited in Rodgers, 2002).

Personal attitude	The meaning of each attitude
Whole-Heartedness	It is about holding enthusiasm for one's subject matter, which includes the content, the learners' learning and the teacher's teaching that affects pupils' learning. Without the enthusiasm one has no energy to engage with reflection about their practice.
Directness	Observing oneself without being anxious about others' judgements and to be free from preoccupation by engaging with "self-absorption" with "forgetting oneself" to reach a "self-awareness" regarding one's practice.
Open-Mindedness	Being open to other ways of understanding and being able to acknowledge one's own limitations. This does not mean accepting all ideas without critique, as Dewey emphasises the importance of acting "hospitably" to the new way of understanding and being "playful" by releasing the mind to play around and over the new ideas and not clinging strongly to our own ideas.
Responsibility	This helps us to link the whole-heartedness, directness and open-mindedness to reality and should lead to action. It is also about admitting that meaning-making is related to our view of the world and that we might need to change that view and our participation in the world.
Readiness	All the above four attitudes are constituents of readiness which is needed to engage with reflection.

Table 2.1: Reflection as a set of attitudes (Dewey, 1933 cited in Rodgers, 2002)

I adopted Dewey's theory because I am interested in influencing trainee teachers' "reflection on action" rather than being "reflective in action", in which reflection occurs "off-line", before and after the teaching experience (Bain, Ballantyne, et al., 2002). Writing their reflection involved also "reflection-for-action" as it involved planning for the future action, furthermore the "reflection with others" takes place in this study as reflection at a deep level needs to occur within the community when one interacts with others (Dewey in Rodgers, 2002). I asked trainee teachers to write online journals based on Bain's model of reflection which is based on a cognitive process of thinking, similar to Dewey but in a more fixable and nonlinear sequence (Bain, Ballantyne, et al., 2002).

The process of reflection begins when one experiences some difficulty or issue that cannot be resolved immediately; this kind of reflection needs one to step back to think and analyse their experience and take more time to analyse and hypothesise the reasons for the incidents (Zeichner and Liston, 1996). When a trainee teacher has a feeling of uncertainty, reflection starts by reporting, suggesting the immediate reasons by giving tentative interpretation, then they have to think deeply to relate and link the issue to the relevant literature or one's personal knowledge. They need to hypothesise and expect the action result, then examine, analyse and highlight in detail the reasons underlining the incidents and the interrelationships between other alternative reasons to explain and solve the incidents, then finally reconstruct the meaning to implement the "intelligent action" (Bain, Ballantyne, et al., 2002; Dewey, 1933; Rodgers, 2002; Rodgers and LaBoskey, 2016).

2.4 Reflection and professional development

Dewey emphasises that learning from experience by reflecting leads to one's growth (Rodgers and Laboskey, 2016). In fact, reflective thinking is considered a vital approach to deal with the complexity involved in teaching and other caring professions (Rodgers and Laboskey, 2016). It can help teachers come to a novel understanding of their own practice, when exploring and reflecting on knowledge embedded in practice (Bound, Keogh, and Walker, 2013; Cochran-Smith and Lytle, 1999; Ghaye, 2011). This takes place in ongoing actions in which individuals learn, with the support of experts, how to choose between various strategies, make wise decisions, and think intellectually when reasoning, in order to improve their teaching (Cochran-Smith and Lytle, 1999).

It is essential to note that reflection is not a goal in and of itself; rather, it is a way in which teachers can learn from their practice. Rodgers (2002, p. 863) stated that:

Reflection is not an end in itself but a tool or vehicle used in transformation of raw experience into meaning-filled theory that is grounded in experience, informed by existing theory, and serves the larger purpose of the moral growth of individual and society.

The significant difference between the reflective practitioner teachers and technical teachers when facing any teaching incidents is that the latter is limited to their fixed assumptions without questioning them; these teachers usually tend to blame students rather than taking the responsibility in their role as teacher. On the other hand, the reflective practitioners tend to

consider the relevant context, they question their assumptions, values and the goals that are embedded in their chosen solutions (Zeichner and Liston, 1996).

Teachers should be able to consider their situation from multiple perspectives, to think about the rationale of their implied solutions, to widen their horizons by considering the moral, political and social context of their incidents, all of which would not only contribute to making a cognitive change on a personal level but it ultimately would help to make available change in their schools (Yost, Sentner and Forlenza-Bailey, 2000). Thus, reflection is seen as a process that helps to fill the gap between theory and practice (Korthagen, 2001). This is because it helps teachers over time to make explicit their tacit knowledge embedded in real experience (Korthagen, 2001).

Zulfikar and Mujiburrahman (2018) stated that most in-service teachers who adopted RJs as a means of reflection helped them to engage with reflection and to increase their teaching awareness and thereby their teaching performance. Reflection also enables trainee teachers to obtain a new understanding and insight from current practice in order to improve it (Ghaye, 2011). However, Suzuki (2013) found that engaging with reflection was more effective for novice teachers than experienced teachers. This is because novice teachers tend to engage with reflection to sharpen and develop their professional identity and professional knowledge at the beginning of their teaching journey while expert teachers reflect within their “comfortable zone” (Suzuki, 2013).

2.5 Pre-service teachers and reflective practice

Some studies, such as Hatton and Smith (1995), claim that adopting reflection within pre-service teachers’ field experience could be challenging, because they believe that one can engage critically with their practice when they have enough experience; this is why pre-service teachers benefit far less from such an approach as they do not have sufficient practical knowledge. On the other hand, a number of other studies have found that pre-service teachers can learn how to reflect deeply during their practicum (Bain, Ballantyne, et al., 2002; Bain et al., 1999; Callens and Elen, 2011; Freese, 1999; Hamlin, 2004; Kaasila and Lauriala, 2012).

In fact, Freese (1999) found that when trainee teachers engage with reflection by using the framework of Loughran (1995), this provided them with multiple opportunities to learn how to teach. This included self-evaluation, discussion with experts instead of passively waiting for advice on what and how to teach. This means that engaging with reflection seems to help trainee

teachers to shift their thinking paradigm to positively engage with their learning.

Many scholars believe that “reflective thinking is essential to identifying, analysing, and solving the complex problems that characterize classroom teaching” (Spalding and Wilson, 2002, p. 1394). In fact, Loughran (1996) articulated that the valuable aspect of engaging with reflection within teaching and learning is that it encourages individuals to consider their issues and problems from a different perspective.

Nelson, Miller and Yun (2016) emphasise the importance of providing pre-service teachers with a chance to reflect, before they are placed in an actual classroom. This could be achieved by stimulating reflection through the use of some embedded stimuli such as virtual conferences with teachers. The educators also have to challenge the trainee by providing them with some new concepts such as “holistic assessment strategies”. The authors believe that even though this is potentially challenging, it can help them to self-identify teaching challenges and respond to them on their own before they start working in an actual classroom.

In this context, Loughran (2008, p. 168) stated:

Students of teaching need to see, feel, and experience teaching as problematic in order to better traverse the very difficulties, dilemmas, problems, issues, and concerns with which they are confronted in learning about teaching. If their teacher educators do not teach in ways that make this content available to them, it seems unavoidable that a “best” or “correct” way of teaching will stand out as a major subtext on teacher education practices.

Therefore, reflection is considered to be a significant element of pre-service professional development (Zeichner and Liston, 1987) because learning how to teach is a complex process (Calderhead, 1987). Reflective practice helps pre-service teachers link between what they do and how they can develop their practice (Ghaye, 2011). In fact, it was also found by Cohen-Sayag and Fischl (2012) that there is a positive association between pre-service teachers’ level of reflection and their teaching practice improvement. Particularly in that student teachers who reflect deeply achieve higher grades in their field experience.

Engaging with writing RJs gives the trainee teacher a chance to reconsider their experience to evaluate their learning. Lee (2007), in this regard, implemented a study to influence reflective thinking via the use of two types of journals, "dialogue journals" and "response journals". Participants in the first group have to write a weekly journal (dialogue journal), send it to their

supervisor and they receive detailed feedback on their journals, by answering their questions, commenting on the silent aspect of their writing and providing them with further insight into the raised issues. While the second group who have to write responsive journals have to submit their journals less frequently, five times during the whole year, and they receive general and less detailed comments than the dialogue journal group. The study found that both types of journals provide students with opportunities to develop their reflective thinking, and participants from the two groups found engaging with this experience to be beneficial. Students found that writing these journals gave them a chance to apply their experience, value and beliefs with the aim of evaluating their learning, which helped them to reflect on their practice.

Reflection helps to promote trainee teachers' understanding and perspectives about their profession, as Korkko and Outi Kyro-Ammala (2016) found when trainee teachers engaged in writing RJs in their portfolio and through the individual and social reflection, with the continuous feedback and support from different sources. All of which helped the trainee teachers to enhance their self-knowledge as teachers and contributed to developing their practical theories. Thus they believe that supporting trainee teachers' reflective thinking can help them to develop professionally (Korkko and Outi Kyro-Ammala, 2016). Tan (2013) also found that when trainee teachers were given a chance to write their individual journals and engage with social reflection in groups it would help *"to sharpen and target their observations to build local funds of knowledge bases, e.g. on the students, the school, the community, and at the same time to critically reflect on their own beliefs and practices, which in turn helped inform them of their own pedagogic choices and practices in the classroom"* (p. 814).

Learning to teach, according to Dewey and Schon (in Cochran-Smith and Lytle, 1999), should be achieved through engaging with systematic reflection with the continued supervision of the teacher educator to facilitate the process of reflection. In fact, this is supported by Cochran-Smith and Lytle (2001, in Lee, 2007) when they stated that the trainee teachers programme shifted its focus from being based on the transmission approach to a constructivist approach in which the role of trainee teachers has dramatically changed to consider and focus on what they really know instead of what they do, in which they consider their previous knowledge, beliefs and personal experience while they are learning.

Being a reflective practitioner means taking responsibility for one's own professional development (Zeichner and Liston, 1996). Here, Arthur, Davison and Lewis (2005) stated the following: *"Reflective practice is a process that enables a student teacher to develop class-*

room practice in the short term, and also begins the development of habitual reflection that subsequently enables the teacher to continue to improve practice throughout his or her career” (p. 123).

In the next section, I will explain the issues that should be considered regarding reflection in teacher education.

2.6 Issues regarding reflection in teacher education

When one wants to foster reflection within trainee teachers, there are some crucial issues that should be considered which are the following:

Understanding the nature of reflection within teacher education

Expecting apposite attitudes from the beginning of the trainee teachers' experience seems unrealistic (Francis, 1995). This is because trainee teachers often come with a limited epistemological view and often seek to find the right answer for their incidents which does not represent reflective practitioners (Yost, Sentner and Forlenza-Bailey, 2000). Therefore, teacher educators should anticipate their resistance to engage with reflection (Calderhead, 1987) and provide them with time and support to create what Francis (1995, p. 240) named “establishing a commitment to journal writing”, which he explained when he stated the following: *“Provision of contact time, ‘captive audience’ writing and routine collection and reaction to journal entries within a warm, supportive environment can facilitate commitment”* (1995, p. 240). Francis adopted many approaches and activities to enhance individuals' reflective thinking, including, for example, engaging with critical friends to discuss their issues and the use of “Metaphors” to provide individuals with insights into some ideas that are not explicit and hard to be considered through the use of direct questions. Francis believes that the attitude and skills of reflective writing within teacher education should be supported. He found that the adoption of the sequences of activities, the proposed structure task, and the free writing approach seems to have a positive impact on the individuals' reflective thinking.

Moreover, it is also crucial to consider the conflict between the nature of assessment and reflection. This is because the assessment nature demands accomplishing some external requirements and it involves disguising one's weaknesses. However, none of these aspects contribute to the process and the nature of reflection which concerns one's need for development and change (Roberts, 1998).

Hobbs also argues that reflective practice “*should never be assessed in its early stages [in fact] Individuals should be given opportunity to gain confidence and awareness in a non-threatening atmosphere*” (Hobbs, 2007, p. 415). This, according to Hobbs (2007), could increase discontent and negativity among them as well as raise amoral issues of faking reflection in terms of anticipating what the tutor wanted and writing to him. Thus, Hobbs argued that reflective practice should be first introduced patiently and slowly within teacher education, thereby, time and support should be provided for them to gain confidence and awareness in a friendly atmosphere (Hobbs, 2007; Husu, Toom, and Patrikainen, 2008).

The use of technology to motivate reflection

Using technology could motivate trainee teachers when reflecting on their practice. This is because the current generation consider technology as a way of life (Murati and Ceka, 2017). Thus, when planning to encourage reflective writing as an approach of influencing reflective thinking, as in this study, implementing that on paper sounds unpractical among the current generation. The use of technology could lead to a more pleasant experience among participants (Hramiak, Boulton and Irwin, 2009; Yang, 2009; Boulton and Hramiak, 2012; Kori et al., 2014).

In this regard, Yang (2009, p. 17) conducted a study to enhance reflective thinking and community of practice among trainee teachers through the use of blogs and found that “nearly two thirds of the 43 student teachers expressed very positive attitudes toward the use of blogs as a platform to reflect their learning and teaching”. About half of them articulated that it was more comfortable for them to challenge each other by commenting on each other’s blogs rather than engaging with face-to-face discussions (Yang, 2009).

Another study implemented by Hramiak, Boulton and Irwin (2009) to investigate the attitude and perceptions of the use of blogs to support trainee teacher reflective thinking found a positive attitude among participants regarding the usefulness of blogging which helps them while thinking about their practice. This could be explained due to the ample opportunities provided to the participants to develop their reflective writing when receiving their educator’s online feedback. In fact, the nature of blogging, in general, could also attract trainee teachers to use blogs as a means of reflection. In this regard, Nardi, Schiano and Gumbrecht (2004) found several objectives or aims that motivated individuals to blog. For example, expressing their opinions to influence others, seeking some feedback or audience opinions, expressing their feelings via posting their blogs. In fact, Nardi, Schiano and Gumbrecht also found that the

presense of others affected the blogger's thinking while writing their blogs.

A review paper by Kori et al. (2014) stated that the use of technology to enhance reflection in terms of providing individuals with predefined guidance of reflection and/or providing them with human interaction via the technology could have a positive impact on individuals' reflection. The use of predefined guides and prompts gives the structure of individual reflection. It deepens their thinking and improves self-reflection while interaction with others via technology develops their critical thinking and facilitates their learning by considering multiple perspectives.

The importance of considering individual differences

The other issue that should be considered while planning to influence trainee teachers' reflective thinking is the importance of considering individual differences and the teachers' willingness to reflect on their practice. LaBoskey (1993) stated that students enter teacher education with different initial reflective orientations. Meanwhile, Bain et al. (1999) insisted that while improvement over time can be achieved, an 'initial reflective ability and willingness to devote effort to the task are the best predictors of final performance' (p.70). This was distinguished by Dewey earlier when he stated the set of initial attitudes that allow one to engage with reflection, which are whole-heartedness, directness, open-mindedness, responsibility and readiness (see Table 2.1 for more details about reflection as a set of attitudes).

Vermunt and Oosterheert (2001), in this regard, found five orientations emerged among trainee teachers when they learned how to teach, which are: "an open meaning orientation, a closed meaning orientation, an open reproduction orientation, a closed reproduction orientation, and a survival orientation" (p. 133). The trainee teachers who think at a survival level tend to depend on external and ready solutions, they usually view their issues as external problems specifically as a problem of students rather than taking the responsibility for their teaching. The open meaning orientation teachers, on the other hand, are highly self-regulated in their learning, they define their problems as issues of understanding or performance, they have the ability to invest all resources to understand their incidents and their main concern is about improving their teaching effectiveness to promote their students' learning. Roberts (2009, p. 633) reviewed the relevant literature with the aim of proposing a reflection model, and he found as a result of his study that there are three suggested factors that are more likely to influence the achieved level of reflection within the students, which are "their individual propensity and willingness to reflect" and "the focus of reflection that students perceive they need to adopt, and the structure

and support students are provided with to help them reflect”. He articulated that learners will bring to the learning environment some of their attitudes, values and their ability to learn, all of which would affect their ability to reflect on their experience.

The other studies which particularly use blogs as a means of reflection (Hramiak, Boulton and Irwin, 2009; Boulton and Hramiak, 2012) found that there are two types of participants which are: the reluctant bloggers who usually write at a descriptive level and could not improve their reflection level of writing and the second type is the frequent bloggers who often were able to write at a critical level. One possible question can be raised here, whether it is possible to improve individuals’ reflective thinking when they have different attributes and various skills (Roberts, 2009; Yost, Sentner and Forlenza-Bailey, 2000). In this regard, Yost, Sentner and Forlenza-Bailey (2000, p. 45) believe that “most, if not all, preservice teachers can be brought to reach increasingly higher levels of thinking by being challenged with opportunities for learning and practicing this skill”. The next section will explain how one can facilitate reflective thinking among trainee teachers.

2.7 How to facilitate reflection?

The relevant literature reported that reflective thinking is difficult and challenging by itself (Francis, 1995; Rogers, 2001), because it requires, according to Dewey, the engagement of cognitive processes of thinking (Rodgers and Laboskey, 2016). Indeed, understanding the meaning cannot be achieved theoretically as it involves thinking, feeling and interacting with one’s experience (Fitzsimons, 2015). Facilitating reflection is crucial when asking trainee teachers to reflect on their practice. Yost, Sentner and Forlenza-Bailey (2000) believe that *“without a substantial knowledge base and mentoring by teacher educators to move novice teachers’ thinking beyond a descriptive level, higher levels of reflection will be difficult to achieve for many novice teachers”* (p. 47).

Clarifying the meaning of reflection by reaching an agreement on the meaning of this concept and how to reflect is found to be vital, otherwise trainee teachers will remain writing at a descriptive level of reflection (Divitini, Haugaløkken and Morken, 2005; Granberg, 2010). Thus, teacher educators should provide trainee teachers with “a firm knowledge base” in which opportunities would be given to them to construct their personal knowledge, learning theories and discuss issues relating to many aspects such as diversity and economics that affect schools, all of which could support trainee teachers to engage with a high level of reflection (Yost, Sentner and Forlenza-Bailey, 2000, p. 47).

In fact, engaging with reading from professional literature could help to widen the trainee teachers' horizon to critically engage with other assumptions that could help to understand the current incidents. In this regard, Rodgers (2002, p. 854) argues that "bringing in other resources, both people and books, is paramount to deepening and broadening the scope of one's understanding". In another study, when asking pre-service teachers about the most useful sources for their reflection, more than half of the participants articulated that reading from professional knowledge was a useful approach that helped them while reflecting on their practice" (Smith and Lev-Ari, 2005).

Writing a reflective journal, on the other hand, has been used as a method to facilitate student teachers' reflection (Bain et al., 1999; Lee, 2007; Loughran, 1996; Tan, 2013). In this regard, Casanave (2013) believes journal writing can be considered to be reflective when it "engages the writer's feelings, emotions, interests, or curiosities; (2) connects writer with something (e.g., with another aspect of the self, with another idea, with another person, with experiences and subject matter); and (3) helps the writer develop the awareness needed to understand the self, an experience, an idea, or an event in expanded ways" (Casanave, 2013, p. 8).

However, many studies have demonstrated that the use of unaided journals can lead to a limitation of engaging more in descriptive reflection, whereby pre-service teachers describe teaching events or incidents, rather than analysing them critically or thinking about forward action to address them effectively (Rogers, 2001; Hourani, 2013). Thus, fostering the process of reflection when asking pre-service teachers to reflect on their practice is essential to help them reflect at complex levels.

Studies have shown that providing pre-service teachers with guiding questions or frameworks for their journal writing can enhance students' reflective thinking (Bain, Ballantyne, et al., 2002; Hamlin, 2004; Korkko and Outi Kyro-Ammala, 2016). Hamlin (2004) stated that structured writing which is based on certain frameworks to analyse critical incidents can help pre-service teachers to reach a high level of reflective practice; students in this study were able to reflect critically on the social and political effects of some aspects of educational practice.

A review paper conducted by Kori et al. (2014) "identified 21 articles that used predefined guidance and deemed them beneficial for supporting reflection" (p. 50). They emphasise that the use of technical tools alone could not be sufficient to promote reflection, thereby, one should

adopt the technical tools with the use of predefined guidance and/or online human interactions. The use of guidelines could be seen as probing questions to promote reflection such as asking the following questions (Ghaye, 2011, p. 2):

1. What am I doing? (Awareness)
2. How successful am I? (Appreciation)
3. What is a better way to do this? (Design)
4. Is this what I should be doing? (Judgement)

Meanwhile, Korkko and Outi Kyro-Ammala (2016) encouraged trainee teachers to engage with reflective writing via the use of portfolios and they found that “*different assignments during practicum sessions and guiding questions for portfolio writing enhanced the students’ reflection and helped them broaden their perspectives and understanding*” (p. 205).

In fact, Callens and Elen (2011) found that pre-service teachers achieved deeper reflection when reflecting using a linear approach (a guided journal based on the ALACT model), in comparison with pre-service teachers who reflected using a nonlinear approach (storytelling or narrative form). Indeed, a further analysis revealed that when student teachers have more instructions to follow and more controlled features, their critical reflection scores increase. Meanwhile, the mean score of reflection of all writing journals was low regardless of the adopted approach. However, it is also found by many authors that trainee teachers often write at a low level even when providing them with supportive structure when they have been asked to reflect in isolation (El-Dib, 2007; Chamoso and Cáceres, 2009; Seban, 2009).

Providing individuals with exemplars could support individuals to understand how to start writing their journals. In this regard, Hume (2009) in her action research found that the regular sharing of both (exemplars and feedback) influenced participants’ thinking which deepened their thoughts while reflecting on their practice and provided them with ample insights regarding their teaching of science. She believed that the explicit use of good RJs, which was suggested by Moon (1999), was beneficial in terms of sharing the needed skills with the students by sharing some RJs from the previous year, particularly those who represented a high level of reflection including reasoning and reconstructing level of reflection. In my study, I shared with the participants some exemplars of pre-service teachers’ RJs taken from Bain, Ballantyne, et al.’s (2002) book.

Ryan (2011), on the other hand, believes that writing in a reflective way is quite challenging

for the students and there is a need to support their writing and thus she proposed an academic reflective writing model to help students while writing their journals. Her model has been translated and applied in this study as a supportive material in the main blog pages (see Appendix K). The Academic Reflective Writing Model consists of a number of linguistic resources and suggested language which is associated with Bain's model of reflection (see Section 2.8 for more details). Nonetheless, there is no evidence according to Ryan as to whether the use of such model could enhance students' reflective writing.

It is also important to consider that even though reflection can be seen to be an individual practice (Rees, 2007), practitioners need to be provided with opportunities to interact with peers and others in order to reflect at a complex level (Suzuki, 2013). One study by Tan (2013) proposed a model to help pre-service teachers move beyond descriptive reflection. Tan's model started by requesting pre-service teachers to write an individual reflective journal, and then to participate in reflective dialogue sessions on campus on a regular basis. This was found to be beneficial and helpful for the pre-service teachers because they learned how to reflect deeply on their practice, due to the opportunity to talk about their own experiences and their reflection, and it also helped them to understand others' perspectives. Indeed, writing a reflective journal cannot occur in isolation, in fact in a study conducted by Bain et al. (1999) it was noticed that when the trainee teachers were assigned into groups to write "reflective dialogue" or "self-analysis conditions", trainee teachers in both groups engaged with previous discussions about their incidents with others, such as their peers and their supervisors, to write their reflective journal (Bain et al., 1999). This is because reflective thinking needs to be in a community in which one has a chance to interact with others (Dewey in Rodgers, 2002).

Furthermore, reflective writing can improve when supervisors provide pre-service teachers with constructive feedback that challenges them to consider other substitutional perspectives (Bain et al., 1999). Indeed, the content and level of student teachers' journal reflections vary because of the different quality of their supervisors' feedback (Bain et al., 1999; Cohen-Sayag and Fischl, 2012). Therefore, the relationship between pre-service teachers and their supervisors should be rethought in order to improve students' ability to reflect on their teaching. For this reason, there is a need to share a common language about teaching and classroom processes and engage in meaningful professional discussions (Calderhead, 1987).

In fact, participants need layers of support not just from the "inner circle" including their supervisors and subject mentor but also from others outside the "inner circle" including parents,

friends and partners (Meierdirk, 2016b, p. 37). Influencing trainee teachers' reflective thinking cannot be achieved by the individual teacher educator support alone (Rodgers, 2002; Rodgers and Laboskey, 2016). This is because reflection depends mainly on interacting with others, such as with critical peers, and thus considering how to facilitate such interactions is crucial; the use of innovative technology should make communications easier throughout time and space (Rodgers and LaBoskey, 2016).

The next section will explain the model used in this study to facilitate reflection within trainee teachers, followed by the use of technology to enhance teachers' learning.

2.8 The adopted model in this study

Reflective practice is not a simple task that can easily be achieved by pre-service teachers, thus, it is essential to establish structured activities and provide students with continuous constructive feedback, as well as the opportunity to interact with peers and their supervisors. In this regard, Bain, Ballantyne, et al. (2002, p. 10) stated that "with appropriate models of reflective writing, and suitable feedback, student teachers can learn to reflect at quite advanced levels". Furthermore, Kaasila and Lauriala (2012, p. 87) stated that "it is also important to identify the phases in professional development in which engaging in a process of reflection might best be introduced, revisited, and/or emphasized".

The 5Rs framework/model of reflection

The process of reflection assumed in Bain's model is more cognitive as Dewey suggested but it is more flexible and nonlinear than Dewey's logical sequences of reflection (Bain, Ballantyne, et al., 2002). Bain also assumes that teaching tacitly involves the emotions, beliefs and values of the practitioner.

This study adopts the 5Rs framework (Bain, Ballantyne, et al., 2002, p. 13), which consists of five major levels of reflection:

- **Reporting:** *a descriptive account of a situation, incident, or issue.*
- **Responding:** *an emotional or personal response to the situation, incident, or issue.*
- **Relating:** *drawing a relationship between current personal or theoretical understanding and the situation, incident, or issue.*
- **Reasoning:** *an exploration, interrogation, or explanation of the situation, incident, or issue.*
- **Reconstructing:** *drawing a conclusion and developing a future action plan based on a reasoned understanding of the situation, incident, or issue.*

This framework is nonlinear with no determined sequences that one has to follow, which means that one can write the three first components in any sequence. However, to reach a deeper level of reflection of writing in the Reconstructing component, one should be able to write, at least, at the second level of “Reasoning” to be able to move and write at the Reconstructing level. Thereby, this would help students to avoid jumping to unthoughtful conclusions without giving careful consideration to the factors underlining the relevant incidents. Table 2.2 explains in detail the meaning and the levels of each component of the 5Rs model.

Component	Levels
1- Reporting	Level 1: A minimal description of the incident or issue is given.
	Level 2: A broad description of the incident or issue is given.
	Level 3: The description provides sufficient detail to allow readers to draw their own conclusion about the incident.
2- Responding	Level 1: Draws attention to significant aspects or expresses the writer’s feeling.
	Level 2: As Level 1 + makes a judgement regarding the incident.
	Level 3: As Level 1 or 2 + poses a question or identifies a problem.
3- Relating	Level 1: The incident related to: <ul style="list-style-type: none"> • The writer’s own strengths, weaknesses or personal learning, or to • Professional matters (pedagogy, curriculum, assessment)
	Level 2: As Level 1, but the entry includes a superficial rationale for the connection.
	Level 3: As Level 2, but the rationale is expanded to include an insight arising from the connections.
4- Reasoning	Level 1: At least one relevant factor underlying the incident is analysed in detail.
	Level 2: As for Level 1 but the discussion considers alternative explanations or interrelationships among a number of factors.
	Level 3: As for Level 2 but the discussion incorporates insights from a different perspective.
5- Reconstructing	Level 1: The discussion leads to a conclusion or a plan for future action.
	Level 2: As Level 1 but also considers the reasons for or possible implications of the conclusion or plan.
	Level 3: As Level 2 but also considers the possible impact of different circumstances.
	Level 4: As Level 3 but the new understanding is integrated with the writer’s personal approach to or theory of teaching.

Table 2.2: 5Rs Reflective Writing Scale (Bain, Ballantyne, et al., 2002, pp. 14–15)

The literature contains many studies that used the 5Rs framework as a model to encourage and assist pre-service teachers when they reflect on their practice as it helps them to move beyond the descriptive level of reflection to think more deeply and intellectually about their practice (Bain, Ballantyne, et al., 2002; Carrington and Selva, 2010; Ryan, 2011; Ryan and Ryan, 2013). This can be achieved when pre-service teachers use this model as a self-analysis scale to evaluate their own journals (Bain, Ballantyne, et al., 2002; Carrington and Selva, 2010). Furthermore, the framework can be used as a tool to assess pre-service reflection levels by their supervisors to support them by giving them relevant feedback on their reflection to help them develop their reflective thinking (Bain, Ballantyne, et al., 2002; Carrington and Selva, 2010; Ryan and Ryan, 2013). I adopted the 5Rs framework (Bain, Ballantyne, et al., 2002) to describe the meaning and the process of reflection for Saudi pre-service teachers. This framework was explained and discussed during a workshop at the beginning of the placement semester. It was also used by pre-service teachers themselves to evaluate their own reflection in order to promote their ability to reflect at a higher level on their teaching practice. Moreover, it was used by the supervisors, and me as a facilitator, to assess pre-service teachers' RJs, to evaluate their reflection ability, and to provide them with feedback to encourage them to reflect at a complex level. Finally, the same framework is used by the researcher to evaluate the pre-service teachers' reflection levels in order to answer the first research question, which relates to determining to what extent pre-service teachers reflect on their practice based on the five components of Bain's model.

Cross-cultural validity of using Bain's model

Bain's model has been developed and used mainly in Australia (Bain *et al.*, 2002; Bain *et al.*, 1999). The 5Rs framework is one of the outcomes of a research study that lasted for three years and was mainly concerned with how to enhance reflective thinking and writing of the pre-service teachers (Bain *et al.*, 1999). Within the Australian literature, this framework was used initially to assess the level of reflection. Then, the framework was used for two other purposes: helping participants to understand the meaning of reflection and providing them with a tool that would help them to evaluate their own writing in order to develop their reflection level (Bain, *et al.*, 2002). Therefore, it is the case that although the literature contains many reflection models, this model is most suitable for this research since it was developed mainly to enhance specifically student teachers' ability to reflect at a complex level, which is associated with the first aim of my study. Furthermore, Ryan and Ryan (2013) state that the description of each level is simple and easy to understand and to use by pre-service teachers as it helps them to understand the complexity of reflective thinking (Bain *et al.*, 2002; Carrington and Selva,

2010). So although this seems like a paradoxical aim, Bain's model is applicable precisely because it offers a clear and lucid pathway to reflection for student teachers undergoing the process perhaps for the first time.

However, this model has also been adopted effectively by many scholars in different countries such as Sweden (Amhag, 2020), New Zealand (Henderson, Napan and Monteiro, 2004), the UK (Samuels and Betts, 2007) and Taiwan (Hung *et al.*, 2014). Adopting the Bain model as self-assessment while engaging with reflection resulted in, over time, improvement regarding the students' level of reflection (Samuels and Betts, 2007; Amhag, 2020). Furthermore, receiving feedback based on the 5Rs model from the lecture about the achieved level of reflection was found to motivate the New Zealand students to improve their level of reflection (Henderson, Napan and Monteiro, 2004).

The reflective process for trainee teachers in Sweden, which was based mainly on the 5Rs framework, was supported by the use of mobile and blended activities. This resulted in progression over time of their reflection relating to self, others, and contextual issues. This contributed to development in their learning personally and professionally (Amhag, 2020). Elsewhere, New Zealand students were asked to reflect based on the 5Rs model with the use of the online facility Blackboard to influence their reflective thinking, and the result of such research was found to be encouraging (Henderson, Napan and Monteiro, 2004). In fact "the findings suggest that the process of reflection may be actively facilitated through interactive journal writing" (Henderson, Napan and Monteiro, 2004, p. 362).

In this research, I adopted Bain's model because it has rich and detailed information that can help to clarify and facilitate reflection. This is because it systematically deals with stages and levels of reflection that transcend cultural norms. Even though reflection itself is culturally difficult, Bain breaks down the levels and expectations into concepts that are workable and clear, which is especially significant given that trainee teachers struggle with complexity, conflict, and problem-solving. Meanwhile, understanding the original model was not easy for Saudi student teachers however, because engaging with thinking activities is uncommon within the Saudi education system. Thus, I decided to visualise the Bain model by designing the infographic (see Figure 3.6), to help the participants understand the purpose of reflection and how to engage with reflective thinking. In fact many of the uploaded online materials were based mainly on the Bain model, for example, the academic writing model (see Figure 3.7), the proposed propping questions (see Appendix R and Appendix S), the exemplars extract from

Bain's book and much of the professional feedback provided was based mainly on Bain's theory. In summary, this research benefited from adopting the online scaffolding materials and from the online feedback provided which was based mainly on the Bain model rather than the direct use of the original 5Rs framework.

Academic Reflective Writing Model:

The Academic Reflective Writing Model is associated mainly with Bain's model of reflection and includes some of the linguistic resources and suggested language that could help to improve the student's reflective writing (Ryan, 2011, p. 105). See Table 2.3 for more details.

Text structure	Linguistic resources
<p><i>Macro-theme (key idea)</i></p> <p><i>Introduce</i> the issue and recount a critical incident; use relevant theory to explain why it is significant; <i>preview</i> key themes of this reflective piece</p> <p>Report and Respond</p> <p style="text-align: center;">↓</p>	<ul style="list-style-type: none"> • First person voice – use of 'I' • Thinking and sensing verbs, e.g. I believe, I feel, I question, I understand, I consider • Nominalization – turn verbs into nouns to say more with less words, e.g. the <i>implementation</i> of explicit vocal routines... • Technical/dense nouns and noun groups, e.g. use discipline and professional 'jargon' and abstract terms such as <i>pedagogy, potential, student-negotiated learning framework, preventative measures</i>
<p><i>Hyper-themes (supporting evidence)</i>. Use a new paragraph for each new idea</p> <p>Relate – to self and professional practice; to other similar incidents or experiences</p> <p>Reason – use relevant theory to explain how and why the incident occurred; appraise what happened; and introduce multiple perspectives</p> <p style="text-align: center;">↓</p>	<ul style="list-style-type: none"> • Language of comparison/contrast, e.g. similarly, unlike, just as..., in contrast to... • Causal reasoning and explanation – e.g. as a result of..., the consequences of..., due to..., therefore, because • Adjectival groups to appraise and show evidence, e.g. the <i>well-disciplined and highly motivated</i> class was evidence of... • Adverbial groups to show reason, e.g. <i>according to Jones (2005)</i>... • Temporal links, e.g. <i>after</i> considering...
<p><i>Reinforce macro-theme (sum-up and plan)</i></p> <p>Reconstruct – hypothesise about different possible responses/actions; reframe future practice and show new understandings</p>	<ul style="list-style-type: none"> • Future-tense verbs to project future practice, e.g. I intend to..., I will ensure... • Adverbial groups to consider different impacts or possibilities, e.g. <i>under these conditions</i>

Table 2.3: Academic Reflective Writing Model (Ryan, 2011, p. 105)

Ryan's study (2011, p. 108) identified some key questions to be used to highlight the textual structure (see Appendix R). Here, Ryan linked between Bain's model of reflection and her academic reflective writing model by referring to Bain's components of reflection. This kind of question could give the students a chance to evaluate their reflection based on Bain's model. Ryan (2011, p. 108) also suggested some probing questions that can be used to identify how the language in the text achieves its purpose (see Appendix S).

In this study I have also adopted Ryan's academic reflective writing model and her other following questions to enhance participants' reflective thinking, in the form of an "infographic" (see Appendix K) and as embedded materials in the main blog (see Appendix I). This is because I noticed from the first informal phase that writing RJs was challenging for trainee teachers as they were describing what happened to them during their school days with so many irrelevant details and this resulted in no clear focus of their main incidents in the first place, which of course led to a superficial level of reflection.

In the next section, I will explain the impact of the use of technology on teachers' learning in general, then in the section after I will be more specific to cover the literature about the use of technology to enhance reflective thinking.

2.9 The impact of technology on teachers' learning

Living in the 21st century raises many challenges regarding education environments as they focus more on high achievement, high teaching and learning standards, and enhancing lifelong learning for students (Pransky, 2008). This means that 21st century teachers should respond actively to these challenges. Teachers need to develop their ability to teach effectively, to support their students' needs intellectually, and to reflect critically in order to develop professionally. All of this puts huge pressure on teachers when their demanding work and other responsibilities do not allow them to attend regular training workshops or education conferences to gain some teaching and learning knowledge (Alrubian, 2014).

Adopting the online professional technologies allows the professional development "providers to draw on resources not available locally, offer "just-in-time" work-embedded support, and accommodate individual teachers' busy schedules" (Borko, Whitcomb, and Liston, 2009, p. 5). Being able to access the online courses at any time and from any internet accessible computer is found to be a valuable feature of technology among teachers (Rienties, Brouwer, and Lygo-

Baker, 2013; Thomas, 2009). The use of technology also helps the educators to develop their professional networks and have new relationships with others across regions and countries to share and discuss their ideas, which helps them to build a network of practices (Holmes, 2013; King, 2011; Lewis and Rush, 2013; Vavasseur and Macgregor, 2008).

Integrating technologies to enhance teachers' learning can be in multiple forms. The most widespread forms according to Borko, Whitcomb and Liston (2009) are the following: first, the use of videos as a tool to share the classroom experience among teachers; second, online professional development programmes; third, the online teachers' communities.

Videos have been used by educators as a learning tool for teachers for a long time, since 1960–1970, in the form of presenting some short video clips which represent the specific teaching approach to be modelled (Santagata, 2009). However, since the development of technologies, the use of videos has changed within teacher education and taken a different form, in which it is usually embedded in a more complex programme that may have different effects on teacher development (Gaudin and Chaliès, 2015; Santagata, 2009).

In fact, it was found in a review of international research literature conducted by Gaudin and Chaliès (2015), which covered 255 articles in the field of video viewing on teacher professional development, that these studies can be categorised based on four aspects which are: the nature of teachers' activities; the objectives of videos; the nature of classroom videos; and the effect of video viewing on teacher education. In this review it mentioned that the nature of these classroom videos was various, to present, for example, “unknown teacher activity”, “peer activity”, or “own personal practice” (pp. 50–51). The objectives of these videos were for some of these studies: to interpret certain events and reflect on them, while in some of these studies viewing video was with the aim of presenting the best practice to build their knowledge on “what to do”. On the other hand, some of the other studies articulated that the objectives of these videos should be based on the learning goals embedded in the teacher education and professional development programme. From this review, it was clear that there were many ways to adopt videos within teacher education to support their learning, however, the simple viewing of videos does not guarantee teachers learning, one should think of how to facilitate teachers' analysing process when viewing these videos (Van Es et al., 2014). Thus, teachers should be supported by guidance to help them make sense of the viewed video, and should also learn how to use videos as a learning tool to “not only see what is worthwhile but also how to dissect the details of the interactions represented in this video and use them as evidence to draw informed interpretations of teaching and learning” (Van Es et al., 2014, p. 352).

When using videos as a tool to develop teachers professionally, reconsidering and evaluating the given activities by redesigning them to meet the teachers' needs is crucial. In this regard, Santagata (2009) conducted a study with the aim of helping teachers in lower-performance schools to deepen their understanding about certain maths concepts, to help them to understand how students can learn in different ways and to provide them with some strategies that maintain maths' richness and complexity while they are guiding and teaching their students through problem-solving solutions. This aim was implanted through the approach of encouraging the target teachers to analyse videotaped lessons as a cyclical process that goes further than describing what happened to engage in planning and reflecting. The study found the participants' teachers had some difficulties responding to the main video-based tasks, and in response to that, the researcher facilitated these tasks to help the targeted teachers to engage actively with these video-based tasks by offering more focused and specific content-questions. These focused on the more common student mathematical conceptual issues, the teachers' interactions were modified to include peer work activities and finally increased guidance was given on how to analyse and reflect on students' learning of the provided videos.

Many studies reported the positive effect of adopting videos to support teachers' learning (Gaudin and Chaliès, 2015; Zhang et al., 2011). For example, it was found that the use of videos increases teachers' motivation, as several studies in a review conducted by Gaudin and Chaliès (2015) point out that the use of videos within teacher education is attractive and influences teachers' motivation and interest. This is because teachers found these videos similar to authentic experiences (Sherin, 2004, in Gaudin and Chaliès, 2015). On the other hand, a large amount of studies in the same review show the effectiveness of video viewing on teachers' cognition in terms of, for example, shifting their thinking from being descriptive to adopting a more focused and interpretive analytical approach to thinking (Gaudin and Chaliès, 2015). See Section 2.10.1 for more details about the use of video to influence teachers' and pre-service teachers' reflective thinking.

Meanwhile, integrating videos within teacher education has its affordances and challenging factors. In this regard, Zhang et al. (2011) highlighted some of the affordances and challenging factors that resulted from integrating three types of videos, namely, viewing published videos, viewing teachers' own videos and their college's videos, all of which has the potential to improve teacher reflective practice. This study demonstrated that teachers were able to engage in descriptive and critical reflection by viewing their own videos individually and engaging

collaboratively in a discussion with their peers. Moreover, the use of a problem-based learning discourse structure that is based mainly on casual explanations and, considering the knowledge gap, is found to be fruitful in terms of providing teachers with general guidance in how to analyse their teaching issues with more flexibility of choosing their preferred research topic. However, teachers were reluctant to critically comment about their colleagues' teaching practices. In the same study, it is reported that some challenging factors emerged such as anxiety of being videotaped, and some of the teachers were unsatisfied with the tendency of their colleagues to be supportive, whereas others were happy to be provided with the positive feedback as this helped them to regain their self-confidence in their teaching.

The second form of technology to support teachers' learning according to Borko, Whitcomb and Liston (2009) is the online professional development programmes; these kinds of technology support large numbers of teachers: "These programs are diverse in their purposes and goals, content areas, pedagogical approaches, and delivery methods" (Borko, Whitcomb and Liston, 2009, p. 5).

Appositive opinions were reported as a result of engaging with online professional development programmes in a study conducted by Thomas (2009) to assess teachers' opinions about the use of online courses as a means of learning method that contribute to their professional development. Moreover, it found that those who have more teaching experience show more positive perception regarding the use of online professional programmes. Meanwhile, this study found that those who participate more often in these online courses reported more positive opinions when demonstrating that they noticed an improvement and a change in their teaching methodology as a result of attending these courses.

Several important aspects should be considered when implementing online professional development programmes for teachers. For example, examining the teachers' readiness is crucial before adopting this kind of technology. In this regard, a generally optimistic picture among teachers regarding their technological readiness for their participation in online professional development was found in the USA in a study conducted by Reeves and Li (2012). Reeves and Li examined teachers' readiness for the online professional development and revealed that teachers in general believe that the online professional development courses were beneficial. They also believe that they have the same impact as the face-to-face professional development programme. They reported having easy access to the required technology, possessing the required technical skills for participation, and that there was an increase in some

of their technical skills as a result of participation.

Furthermore, Dede (2006) highlighted the importance of considering different aspects of the model design when adopting online professional development programmes. Ten models of the highest quality programmes in the USA which implemented online professional development for teachers have been discussed in detail in his book. For example, considering the targeted audience is crucial when thinking of adopting online professional development programmes as some of the models are designed for individual teachers, some focus on certain organisations (schools), others seek the entire school zone, and finally other projects could aim to develop activities to show the teacher how to use certain curriculum. Moreover, the content that would be offered is an important aspect of the design consideration as it could focus on content, pedagogy issues, or delivering some advice about classroom challenges. Finally, the pedagogy is also something that should be considered when deciding which model to use as some use guided social constructivism, coaching, mentoring and/or communities of practice (Dede, 2006).

A few studies have been conducted to examine the effectivity of using these online professional development programmes (Borko, Whitcomb and Liston, 2009; Dash et al., 2012). For example, a study was conducted by Dash et al. (2012) to investigate the impact of online professional development programmes in mathematics on 79 fifth grade teachers' quality as well as the impact of these programmes on their students' achievement. They found that there was a significant improvement in the teachers' pedagogical content knowledge and their pedagogical practice for those who were in the experiment group, however, there was no impact on students' achievements associated with the positive change that occurred within the teachers' level of improvement.

Within teaching practice, it is found that integrating technology within the curriculum is challenging and, thereby, adopting online professional development programmes is used to facilitate this integration (Rienties, Brouwer and Lygo-Baker, 2013). In this regard and within higher education programmes, a study conducted by Rienties, Brouwer and Lygo-Baker (2013) in nine higher educational institutions studied the effect of online professional development programmes towards learning how to effectively implement technology in their practice and how this training programme could lead academics to change their beliefs towards more student-centred learning. The module used in this study aims to improve teachers' practice by working individually or engaging in some assignments and in critical reflection to re-evaluate

their practice in small groups using video-conferencing. This study used a questionnaire based on TPACK model, and another questionnaire about participants' beliefs and intentions towards learning; all of these questionnaires adopted pre- and post-test design. This study revealed that there was a significant increase within the TPACK skilled among participants over the research time. It was found that the academics were able to learn from each other's experience in a flexible manner by choosing the preferred time and place. However, there was no change in teachers' beliefs towards more student-centred learning as a result of completing this training programme. Meanwhile it was found that participants over time were less convinced about the knowledge transmission approach. However, one of the crucial limitations of this research is the fact that it uses the self-reported approach when gathering the data regarding academics' beliefs towards the effectiveness of using the online professional development programme and may not represent the whole picture of academics' experience. This is because it was noticed that those who completed the programme would have more positive and optimistic thoughts about how they changed than those who dropped out earlier from the study and failed to complete it, and thus because the researchers did not randomise the research sample to be in or out of the training programme, "it is impossible to determine whether the academics would have changed even without teacher training" (Rienties, Brouwer and Lygo-Baker, 2013 p. 129).

The other form of technology that was used to support teachers' learning is the online teachers' communities. These communities enable teachers to work and learn together when they engage with synchronous and asynchronous online discussion with the aim of sharing their experiences to improve their practice (Borko, Whitcomb and Liston, 2009). In a study conducted in Australia by Duncan-Howell (2010) it was found that the majority of involved teachers considered the online communities as a valuable tool for their professional learning. The data in this study was gathered from three online communities via a survey to explore the nature of the online communities and present the potential of engaging in such communities. The findings of this research found that teachers tend to spend more time on their professional learning when engaging with such communities, as they spend from one to three hours a week, which equals 60 to 80 hours a year, and this represented a significant increase in the time that they spent on their professional learning. Meanwhile, the main concern for these teachers was to meet their needs of seeking practical teaching strategies within their classroom. Teachers in this study highlighted the importance of having control over the selected content as they were motivated to participate depend on the represented topics in the discussion forum, which was a reflection of the transformation of the just-in-time professional learning.

It was also found that engaging with online communities not only offered an attractive alternative avenue to face-to-face training courses, but also widened the teachers' horizons to understand how to deal with ill-defined teaching issues (Holmes, 2013). However, there are many factors that should be considered when adopting online communities, particularly the communities based on the community of inquiry framework. This was discussed in an action research project carried out by Holmes (2013) in the context of the eTwinning learning event (an online project that encourages teachers in Europe to work informally together). This study discussed how the online learning communities can support teachers' continuous professional development when using the community of inquiry model as a theoretical base. The data of this study was gathered from a questionnaire, interviews and by analysing the discussion messages. In this study the use of the online communities was found to offer an attractive alternative to face-to-face training courses, in fact the online communities facilitate critical reflection, widen teachers' horizons to understand the possible consequences of what they have previously learned to prepare them in how to deal with ill-defined teaching issues and to develop professionally. The online communities offer an environment which is based on trust, respect and shared values with the aim of improving students' learning. These types of communities usually need time to develop which cannot be affordable within face-to-face training courses. The design of activities, the support that the learners are offered, guidance and social setting, especially the role of the tutor, were found to be vital to provide the learners with their needed support on different levels to develop their autonomy, confidence and to become self-organised. Holmes emphasises that the focus of the study was on individual learning, which is different from the aim of community of practice as the aim in the latter concept is to build knowledge by sharing practice, tools and knowledge in which the less competent members usually learn from the more knowledgeable members (Wenger, 1998).

However, engaging with online discussions does not always result in fruitful outcomes. For example, in Taiwan, Chen, Chen, and Tsai (2009) conducted a study to describe teachers' experiences when they engage with online synchronous discussion. The transcription of the online discussions had been analysed and ten teachers were interviewed, all of whom revealed that synchronous discussion offers less advantages when compared to being engaged with face-to-face discussion. There were few messages related to cognition and metacognition skills and the majority were more social messages. Meanwhile this kind of discussion offered the teacher an avenue to ask and to request some information and to support each other.

Another form of online communities, which is based on communities of practice, professional

CoPs are supposed to include a negotiation of the meaning, sharing repertoires and knowledge in appropriate environments which could result in different understandings and practices (Wenger, 1998). The situated learning model occurred in a CoP when newcomers socially interacted with other experts, gradually moving from peripheral to fully participating members (Lave and Wenger, 1991). A large number of studies investigate the impact of online communities of practice on teachers' practice. For example, a mixed method study conducted by Vavasseur and Kim Macgregor (2008) gathered and analysed data from two sources of quantitative methods which are self-efficacy surveys at the beginning and at the end of the study, and teachers' achievement on the culminating project was based on a rubric. Furthermore, the data was gathered from two sources of qualitative methods, which were analysing the online threaded discussions and focus group interviews. This study found that the online communities of practice provide the middle school teachers with vital chances to share, discuss their ideas and to build new relationships with others. Furthermore, this study found that engaging with the online community of practice helps participants to increase teachers' self-efficacy related to implementing technology and to collaboratively engage to develop interdisciplinary curriculum.

An online CoP can be cultivated for teachers to deepen their understanding about specific knowledge such as mathematical pre-service teachers who learn geometry by interacting with each other in a virtual platform; raising inquiries was helpful to develop critical pre-service teachers' knowledge (Bairral, 2007).

The impact of engaging with online communities of practice within Eastern culture society was crucial in terms of reshaping the behaviour pattern and relationship between trainee teachers and their supervisors. In this regard, an ethnographic case study conducted by Hou (2015) found that being involved in an online community of practice allows Chinese pre-service teachers to realise the importance of the presence of others (peers and supervisors) in supporting their learning. Furthermore, engaging in this community empowered the students which led to adopting equality and democratic relationships between students and their teachers which are unfamiliar or could be unacceptable within Chinese culture. In fact "[engaging in online communities of practice] empowers student teachers to shift from teacher-orchestrated learning to self-directed and peer-support learning" (Hou, 2015, p. 6).

It is also crucial to identify the factors that could support or hinder CoP productivity. For instance, Cho (2014) and Hanewald (2013) found that considering the relationship between participants is crucial within a CoP, which means that spending some time face-to-face could be useful at the beginning of the project, to establish a good relationship. In addition, using new or unfamiliar technology could affect the success of the community (Hanewald, 2013). Thus, asking participants at the beginning of the project to choose the appropriate technology tools is vital, or perhaps affording them a training course which can help them to overcome these difficulties. Furthermore, Alrubian (2014), who conducted qualitative research to show the potential of engaging with an online community of practice within 14 Saudi male teachers, found some improvement in the participants' practice as a result of engaging with this community. Alrubian emphasised the importance of participants' self-motivation and commitment when engaging with the online community of practice as without having this attitude the aim of the community would not be accomplished.

Meanwhile, Web 2.0 technology seems to be vital in supporting teachers professionally and personally, especially when using social networking media such as blogs and Twitter, which can support teachers' learning environment (Lewis and Rush, 2013; Anderson et al., 2013). In this context, a study conducted by Lewis and Rush (2013) used Twitter within a framework of a community of practice to increase the university academics' experience and knowledge about the use of social media tools for educational purposes. This study found that a personal network had been created, and some features of the community of practice were noticed. The engagement within Twitter activity demonstrated the advantages of the use of social media in supporting professional academics regarding their use of technology for education purposes.

Another study conducted by Anderson, Justice, Gorhan, Wall, Boyd, Nichols and Altheiser (2013) aims to investigate the affordances of using blogs for pre-service teachers' development within a community of practice. The findings of the research revealed that some participants found it difficult to engage in writing informally, reflecting and engaging in such a community. On the other hand, other students fully engaged in the community and were able to analyse their own and others' practice. Furthermore, this study found that the use of blogs provides the researchers with insight into how trainee teachers develop epistemologically, in their identity and as reflective participants while progressing to become classroom teachers. It is also found that the use of blogs enhances participants' dialogue about their practice which helps them to overcome their feeling of isolation especially during the school field experience.

Finally, the use of technology can also help to enhance and change trainee teachers' attitude towards adopting technology for education purposes. In this regard, Camileri (2014) investigated the role of adopting a virtual 3D world to help in changing trainee teachers' perspective to overcome their fear when integrating technologies in their classroom. The study revealed a significant positive impact on their perceptions regarding using technology in the classroom. Furthermore, participants valued the flexibility of their experience as well as the use of activities that are learner-centric when engaging in such an environment.

The familiarity of using technology is not only vital to develop professionally but it also helps to encourage teachers to integrate these technologies within the pupils' learning environment (Hramiak, Boulton and Irwin, 2009). In fact, integrating these technologies is essential, especially with today's generation that uses technology at a very early age as a way of learning and as a way of life (Murati and Ceka, 2017).

2.10 The use of technology to influence reflection in teachers' learning

Encouraging pre-service teachers to reflect on their practice is considered by many scholars to be an essential part of their field experience. However, it can be challenging to move beyond a descriptive account of their teaching when reflecting on their practice (Daniil, 2013 and Hourani, 2013), since reflection is challenging enough on its own (Francis, 1995; Rogers, 2001). Thus, the supervisors of many pre-service teachers use technology to foster the reflection process by using, for example, recorded videos, blogs, animations, online discussion forums and "Videopapers" technology (Makinster et al., 2006; Shoffner, 2008; Yang, 2009; Calandra, Brantley-Dias; Lee and Fox, 2009; Hramiak, Boulton and Irwin, 2009; Kong, 2010; Deng and Yuen, 2011; Luik et al., 2011; Boulton and Hramiak, 2012; Eröz-Tuga, 2012; Daniil, 2013; Brooke, 2014; Moore-Russo and Wilsey, 2014; Weber et al., 2018).

Numerous studies have been conducted to explore the potential of using such technologies to develop reflection levels within pre-service teachers. The findings are mixed, and different aspects should be considered prior to their adoption. Because such technological tools cannot foster teaching reflection alone, the process and other methods used with these tools give them their value, while their range of features can help facilitate learning and teaching. For more details, see Figure 2.7 about the main findings of studies that use technology to promote reflection.

2.10.1 *Using videos to promote reflection*

Recorded videos have been used frequently to promote teachers' reflection. Using this technology provides participants with the opportunity to view, think, and rethink deeply about their practice, rather than simply writing down their experiences. The evidence appears to show that video-based reflection is deeper and better than relying on taking notes or memorising teaching events. Kong (2010) found that the length of reflections of eight student teachers increased about 50 per cent when using this technology, in comparison with the same student teacher when they used note-based reflection. Moreover, their reflection deepened because they considered more aspects of their teaching, such as pedagogical arrangements. Consequently, trainee teachers were able to engage in critical discussion with their supervisors. Indeed, Calandra et al. (2009) found that novice teachers who were asked to use recorded videos to capture incidents during their teaching and to reflect on two of the recorded incidents could reflect more deeply and critically, compared with the other novice teachers group who were debriefed by their supervisors on completion of a practice teaching session and then wrote about their incidents.

Using recorded videos changes how teachers reflect on their practice. For example, Rosaen et al. (2008) found that when teachers revisited their video recordings, they reflected on more specific and thoughtful aspects of their teaching, in comparison with memory-based reflection. Their focus shifted away from themselves and towards their students' learning; furthermore, they began to contemplate other teaching aspects by, for example, shifting from focusing on classroom management to focusing on classroom instructions. Similarly, Eröz-Tuga (2012) examined the value of reflective feedback with the use of video-recorded lessons as a means for the professional preparation of pre-service teachers. In Eröz-Tuga's study, it was found that reflection helps to improve participants' awareness as teachers and they become more aware of their weaknesses and strengths. Furthermore, they progressively become more critical when they reflect on their practice and they engage with more thoughtful comments about their peers' performance.

A qualitative study conducted by Cherrington and Loveridge (2014) focuses on examining the value of the use of video when followed by collective dialogue to engage in reflection when viewing the recorded videos and having a chance to discuss their own and others' practices. The study found that the use of videos and engaging in collective dialogue about their practice are available learning tools for childhood teachers to examine and to develop shared understanding about their practice to improve their teaching. However, some challenges arose

such as resistance to critique their own or others' practice; the authors argue that this could be due to the research's main focus of having to reflect on their interactions with pupils.

Some studies have found that pre-service teachers can self-reflect critically when revisiting video recordings of their teaching experiences (Calandra et al., 2009; Kong, 2010; Rosaen et al., 2008). However, Gelfuso (2016) argues for the need to provide pre-service teachers with a close support, even when using recorded videos. In his study, Gelfuso used a framework consisting of four stages to facilitate the process of reflection for 15 pre-service teachers. When adopting the suggested framework, the teacher educator has to move through these stages gently to help participants reflect on their practice. This begins with sharing participants' hypothesising regarding their incidents to discuss them, then posing some questions to develop their thinking further. This would lead eventually to generate "warranted assertabilities"; whereby, the participants have been helped to move from analysing their certain issue to synthesising some possible meaning. At the final stage, the teacher educator has to revise with participants what happened during the four stages of the used framework to call the participants' attention to the reflection process.

The purpose of the study conducted by Gelfuso (2016) was to support pre-service teachers in reflecting on a specific aspect of their teaching (the nuances of literacy teaching/learning). This is because according to Gelfuso (2016) it can be challenging for pre-service teachers to identify and improve unclear aspects of their teaching when only just starting to write their reflective journal. However, Bain et al. (1999) argue that student teachers can engage with writing their RJs and benefit from that without the need of intensive support from their supervisor to develop their thinking. Bain, Ballantyne, et al. (2002) argue that with the use of the appropriate model and with the expert feedback, trainee teachers can learn how to reflect at a deeper level. In fact, Kaasila and Lauriala (2012) shed light on a crucial point that could help trainee teachers to deepen their reflection which is the importance of enabling participants to reflect on wide aspects of their teaching when asking them to reflect on their practice when they stated the following: *"if the goal is to deepen and broaden pre-service teachers' reflections, the reflection processes should focus not only on the lessons but also on wider and multiple contexts"* (Kaasila and Lauriala, 2012, p. 86).

The role of experts when conducting such technology is crucial in promoting an understanding of their teaching practice among trainee teachers. In this regard, a study conducted by Weber et al. (2018) aimed to promote the professional vision of classroom management by examining

and comparing the effect of two groups adopting online and video-based self-reflection and feedback (the first group received feedback from peers, whereas the second received additional feedback from experts about their reflection on their own recorded videos) with a control group which was adopting traditional coaching. All members of three groups were tested before and after the practicum by using the standardised video-based test to measure the trainee teachers' professional vision of classroom management. The result of this study articulated that the first online video-based group who received feedback from their peers appeared beneficial; however, the result of the pre- and post-test of the second group, who received feedback from experts and peers, outperformed the first group, and had a significant increase than the control group, which was supervised in a traditional manner. Thus, the use of technology in this research was found to be promising; however, this should be associated with the support of experts who have thoughtful insight and experience, which can help promote trainee teachers' understanding of their teaching practice.

Using videos to foster teachers' and pre-service teachers' reflection seems to be practical and to have high potential, as demonstrated by many studies (Rosaen et al., 2008; Calandra et al., 2009; Kong, 2010; Eröz-Tuga, 2012; Cherrington and Loveridge, 2014; Gelfuso, 2016; Weber et al., 2018). This is because it provides teachers with opportunities to view their practice multiple times, thereby enabling them to consider many aspects of their teaching. Some of these studies use the recoded video as a means to review their teaching practice and reflect on it individually (Kong, 2010; Calandra et al., 2009; Rosaen et al., 2008), while others use the recorded videos to reflect collaboratively in groups (Cherrington and Loveridge, 2014; Eröz-Tuga, 2012). Both types of reflection have been proven to be fruitful.

Meanwhile, considering the role of experts in giving feedback on the trainee teachers' reflection was found to be crucial in promoting pre-service teachers' understanding of their practice (Weber et al., 2018; Gelfuso, 2016).

However, although many studies have asserted that the use of videos is beneficial in terms of promoting reflection, due to cultural issues in Saudi Arabia, it is impossible to employ such technology because it is culturally unacceptable to record videos within the female community.

2.10.2 Using other technologies to promote reflection (Videopapers, animations, computer-based scaffolds)

In addition to the use of videos previously mentioned, other technologies can be used to support

the process of reflection within pre-service teachers such as “Videopapers” (a tool that integrated videos, text, slides and hyperlinked into one document). Daniil's (2013) study aimed to explore the process of reflection of student teachers when they use Videopapers to engage with reflection. Daniil found that the use of Videopapers, particularly the link between videos and text, helped the two cohorts of pre-service teachers explore and analyse their teaching practice on a deeper level. In this study, trainee teachers structured the video-recording tasks, reading the Videopapers created by previous students to familiarise themselves with this technology, and created and edited their own Videopapers to reflect on their own practice. This study emphasised that the process of using such software, in addition to attending some workshops with their tutor, helped the students to engage with knowledge regarding some aspect of their teaching, such as pedagogy, curriculum and instruction. Furthermore, collaborating and interacting with each other in the workshops seems to sharpen their understanding of how to reflect deeply on their teaching practice.

Lai and Calandra (2010) investigated the effects of two types of computer-based scaffolds on novice teachers' reflective writing. This study featured two treatment groups: the first used question prompts (see Figure 2.3), in which the participants were asked to reflect on their incidents by answering a series of computer-based questions; while the second used a structured flow chart, in which the students' reflections were guided by the flow chart to describe their writing requirements step by step (see Figure 2.4). All of these technology scaffolds were developed in a revision loop by three instructional technology experts before finally receiving the panel's approval.

LAUNCH NAV-TOOL

MY PASS-PORTACCOUNT INFOARTIFACTSFOLIOSHELP CENTERCONTACT

You have no tasks.

Field Experience Reflection

During your practice teaching, you were constantly interacting with your students. Please recollect a critical incident that happened during your practice teaching. The critical incident was usually an "aha..." or "oops" moment that you experienced during a teaching episode. The incident may be something that amused or annoyed you, or something that helped you achieve a sense of difficulty or success. Generally, the incident raises a few questions for you to think over and challenge your previous beliefs about teaching and learning.

In the following journal entry, you are going to reflect on the incident that happened in your practice teaching. Please follow the question prompts to write your reflection.

- What happened in the incident? Describe the incident itself, the activities that led up to the incident, the people involved in the incident, the consequence(s) of the incident, and the significance of the incident for you.

Erase this and add your reflection here.

- What were you thinking when the incident happened? What feelings guided your responses toward the incident?

Erase this and add your reflection here.

COVER

1

2

3

4

5

6

STANDARDS

EVALUATIONS

Figure 2.3: Question prompts as a scaffold strategy—step-by-step (Lai and Calandra, 2010, p. 426)

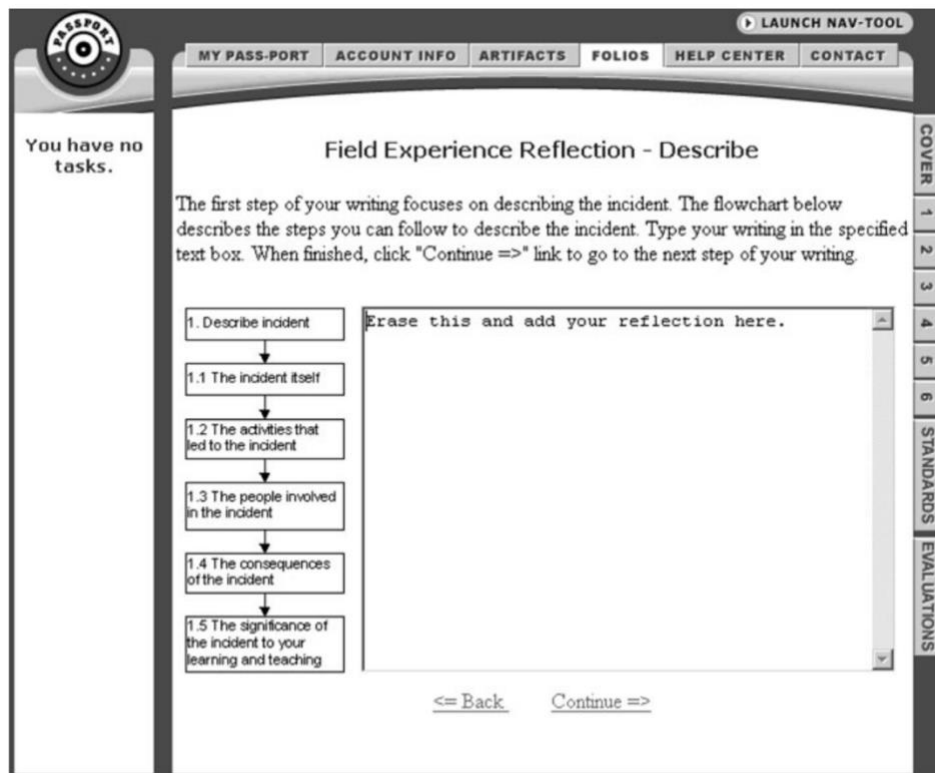


Figure 2.4: Visual writing process display as a scaffolding strategy (Lai and Calandra, 2010, p. 427)

The result of this study found significant differences between the level of reflection of the two treatment groups and the control group, as 80% of the writing journals were within the lowest two levels of reflection in the control group, while the majority of the writing in the treatment group was in the two highest levels of 81.8% for the flow chart group and 78.2% for the question prompts group. Furthermore, the participants express their positive experience when engaging with writing with the help of the computer-based scaffolds, as this method helped them focus and structure their writing.

Lai and Calandra's study findings sound promising, as it is suggested that reflection is enhanced when it is broken down into steps and when using question prompts as this could help to focus their writing. However, human interaction should not be neglected when engaging with reflection. This was articulated clearly by Dewey nearly eight decades ago, when he stated that reflection occurs within a community (Rodgers, 2002).

Another use of technology to enhance reflection is suggested by Moore-Russo and Wilsey (2014). Their study aimed to explore novice teachers' reflection productivity when viewing

several animations of algebra lessons to reflect on the representation of teaching. Two groups of novice teachers typed their reflection on an electronic discussion board, without any instructor-provided guidelines, revealing different levels of reflection; one was able to reflect critically, while the other did not go beyond the descriptive level. This demonstrates the importance of providing novice teachers with guidelines and support from their teacher educators, as some future teachers were unable to make the connection between theory and practice.

Another study, conducted by Brooke (2014), explored and analysed the use of online virtual learning environments to promote trainee teachers' reflection during their school practicum. This study found that, as a result of interacting with each other, an online community of practice has evolved among the trainees. Moreover, while approximately 27% of their posts focus on self-awareness and self-evaluation, most targeted a superficial level of reflection. Furthermore, participants were able to learn through the first loop learning but they could not move and apply the double loop cycle of their learning as they found it very challenging to adopt a new paradigm of knowing. Nonetheless, the researcher argues that adopting VLE among trainee teachers is beneficial in terms of providing a virtual space in which they can invest in the opportunities that arise during the field experience and, consequently, develop their reflective thinking.

Apparently, the reason for the low engagement with critical reflection in Brooke's study could be due to their need to be provided with more scaffolding materials such as providing them with some exemplars on how they could engage with high levels of reflection (Hume, 2009), or by enhancing them to read from professional literatures, as this could promote their thinking to reflect at a deeper level (Smith and Lev-Ari, 2005).

In fact, reaching a high level of reflection requires time and a balance of thinking individually, which involves internal dialogue (Ryan, 2013) and sharing one's thoughts with others (Zeichner and Liston, 1996; Bain et al., 1999; Freese, 1999; Ryan, 2013). In this regard a study conducted by Makinster et al. (2006) aims to examine the use of different online networking technology in the reflective practice of trainee teachers. Students were placed randomly within three online settings: private journal, asynchronous dissection forum, and discussion forum with support provided by communities of expert teachers. Analysing all the posted text using a specific coding scheme revealed that the students in the first group (private journal) achieved a better initial reflection than the other two groups; however, the students from the other two groups wrote some reflective posts. Conversely, only the students in the third group found great value

in having the opportunity to interact with experts; however, they expressed that the public nature of the online discussion made it difficult to engage with certain topics. This study highlights the value of writing a personal journal, as the participants were able to chronicle their practical experiences and engage in self-reflection to a greater extent than those in the online discussion groups. Meanwhile, the research found that the first group received more feedback on their journals from their professor than those in the online discussion groups.

Finally, a review paper conducted by Kori et al. (2014) to review all the studies between 2007–2012 that used technology as an enhancement learning environment to support reflection, distinguished three types of support namely: “technical tools, technical tools with predefined guidance, and technical tools with human interaction guidance” (p. 45). However, they found that the use of technical support alone could not be sufficient to support individuals’ reflection; therefore, one should consider using the technical support with predefined guidance or human interaction guidance when planning such online environments.

This demonstrates that adopting technological tools alone cannot always foster teaching reflection; the process and other methods used with these tools gives technology its value, in that it has various features that can help to facilitate learning and teaching.

The following section focuses on the use of blogs to enhance reflective thinking.

2.10.3 Using blogs to promote reflection

Blogs have been used in many studies to explore their enhancement of students’ reflection. Some studies have used informal reflection via the use of individual blogs, in which pre-service teachers can take total control when using blogs to write their own RJs (Shoffner, 2008), while others encourage students to engage in flexible, reflective dialogues, with students free to choose any teaching topics to discuss (Divitini, Haugaløkken and Morken, 2005; Yang, 2009; Luik et al., 2011; Granberg, 2010). Conversely, blogs can be used as a form of private electronic journal (Hramiak, Boulton and Irwin, 2009; Killeavy and Moloney, 2010); to use them more effectively, they can be shared with peers in the community (Boulton and Hramiak, 2012). Some issues should be considered when using such technology to enhance pre-service teachers’ reflection, which I will discuss while reviewing the relevant studies.

Adopting an informal individual reflective journal, in which pre-service teachers have total control of their reflection topics, reflection structure, or the frequency of their blog posting has

yielded some productive results in some aspects of individual learning. This was illustrated in a qualitative study conducted by Shoffner (2008), who encouraged the trainee teachers to engage with informal reflection via the use of the blogs. The informal reflection, according to Shoffner based on conceptualisation of reflection stated by both Dewey (1960) and Schön (1983, 1987), includes the following elements: “practical theory, flexible structure, communal interaction and personal expression” (p. 124). He found that engaging with the informal reflection encourages trainee teachers to consider their previous personal experience, belief and draw on their practical theories to understand their practice in a very flexible way with no determined structure or a certain approach to follow. Participants interacted with one another to clarify their understanding which represents the communal interaction as a part of the informal reflection. Accepting personal expression and giving participants a space to express their emotions was revealed in this study. All of which represented the informal reflection components implemented by Shoffner to engage with reflection as a “habit of mind”. In fact, Shoffner (2008) found that “weblogs as a reflective space offer the flexibility, personalization and informality to support pre-service teacher informal reflection” (p. 132).

Moreover, the literature reveals that when pre-service teachers understand the meaning of reflection and the reason they are asked to reflect on their practice through blogs, they choose to reflect on some aspects, such as self-awareness, teachers’ roles, and practice management (Luik et al., 2011). They are also able to reflect on both the descriptive and critical level (Yang, 2009; Luik et al., 2011). However, their blog posts were more descriptive than critical (ibid).

Meanwhile, not having a clear agreement about the meaning of reflection or the objective of reflective practice can lead to unsatisfactory results (Divitini, Haugaløkken and Morken, 2005; Granberg, 2010). For example, one study by Divitini, Haugaløkken and Morken (2005) used blogs to support 30 pre-service teachers’ learning by encouraging them to engage in informal communication and share their thoughts about their field experience. The results were disappointing; many trainee teachers did not use their blogs during their practice. The researchers reported that many lessons can be learned from this study; for example, pre-service teachers did not understand exactly what they had to do, nor how to do it. Thus, it is essential to reach an agreement with participants about the purpose of reflection, how one can start reflecting, and why it is significant to engage with reflection (Divitini, Haugaløkken and Morken, 2005; Granberg, 2010).

Another study conducted by Granberg (2010) shows 57 student teachers' experiences when engaging with reflective dialogue via the use of blogs. After analysing the blog posts, this study found that participants could be classified into three categories. The first category (A) consists of five study groups, who merely engage in superficial discussion, the second category (B) consists of three study groups who were able to share and develop some ideas, and the third category (C) consists of two study groups who were engaged to some extent in the process of reflection. The prevailing of descriptive level of reflection posts in some studies (e.g. Luik et al., 2011; Granberg, 2010; Yang, 2009) could be explained due to adopting a collective blog to enhance the reflective dialogue which means using the blog as a discussion forum instead of adopting individual or personal blogs to write a complete reflective journal, as this may not allow participants to develop their thoughts to reach a deeper level of reflection.

It is also found that relying solely on peer feedback while adopting writing journals to enhance reflective thinking is not beneficial. This was demonstrated in a mixed methods study conducted by Killeavy and Moloney (2010). The researchers investigated whether using blogs to write individual electronic journals, and receiving peer feedback, would develop new teachers' reflection over time. The study found that the participants' level of reflection remained at the lower level (descriptive) with no progression. However, the researchers admitted that they left the new teachers without support or guidance because they assumed they already had a sufficient level of experience of critical reflection. Thus, it is essential to provide participants with guidelines and feedback regarding their knowledge of reflection.

In fact, if the aim of reflection is to go beyond the descriptive level and reflect at a more complex level, then the role of supervisors is essential in encouraging students to think deeply in their practice, helping them to understand their knowledge by asking challenging questions, discussing their concerns with them, and supporting them to think deeply to link between their previous knowledge and their new practical knowledge (Granberg, 2010; Jones and Ryan, 2014). Some studies have shown that, regardless of the design and the structure of the use of blogs, if the roles of the supervisors are not taken into account during student teachers' reflection, they are more likely to remain in the stage of descriptive reflection (Reupert and Dalgarno, 2011; Jones and Ryan, 2014).

In this regard, Jones and Ryan (2014) used two moderated online methods (unstructured personal blog and a structured threaded discussion). The discussions were guided in the second type of online environment. This study found a low level of reflection for both groups and the

researchers acknowledge that providing participants with structured topics was not sufficient to promote their reflection. Indeed, they conclude there is a need to consider the lecturer role in terms of challenging the participants' writing, which would help to deepen their reflection. Likewise, a study conducted by Reupert and Dalgarno (2011), the aim was to investigate trainee teachers' experience when using blogs to help them with their reflective thinking on behaviour management. This study revealed mixed responses among the participants: some considered the method to be a valuable and supportive learning tool, while others considered it to be time-consuming and of little value. In fact, the participants in the same study suggested receiving feedback from the supervisor regarding their thoughts.

Another study conducted by Deng and Yuen (2011, p. 443) proposed a working framework comprising the individual dimension of "self-expression, self-reflection" and the social dimension of "social interaction, and reflective dialogue" (see Figure 2.5: The working framework). They conducted their study to examine the proposed framework within two trainee teachers' groups.

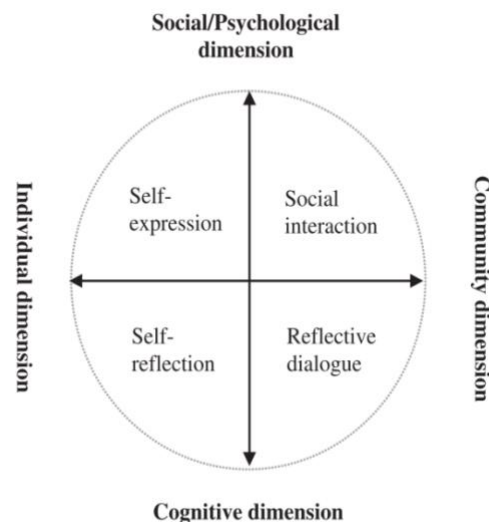


Figure 2.5: The working framework (Deng and Yuen, 2011, p. 443)

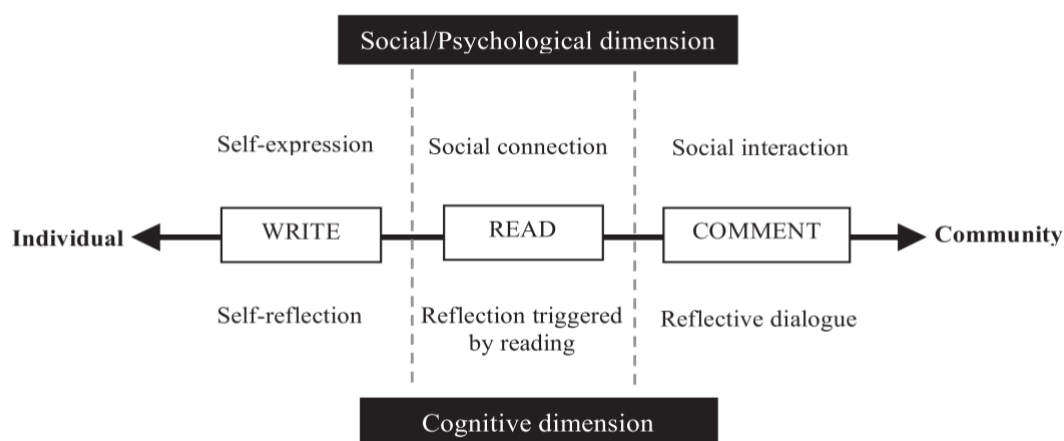


Figure 2.6: The new framework for the educational affordances of blogs (Deng and Yuen, 2011, p. 450)

The study found that the main values of blogs were “centered on emotionally charged and social-oriented individual expressions as well as self-reflection” (p. 441). This means that the use of individuals’ academic blogs promoted trainee teachers’ reflection, to think and evaluate their teaching practice. However, it is found that within the social interaction and reflective dialogue, the collective blog is mostly used to engage in social interaction to seek social support instead of engaging with reflective dialogue. In fact, a new dimension emerged and added to the proposed framework which is reading one another’s blogs in which this promotes trainee teachers’ inner-reflection as reflection triggered as a result of engaging with such reading (see Figure 2.6 of the new framework for the educational affordances of blogs).

Hramiak, Boulton and Irwin (2009), on the other hand, considered the privacy of having personal and private blogs and sharing them only with their tutor to receive feedback, and found it to be beneficial. This study was conducted at Sheffield Hallam University and Nottingham Trent University and found that 38 trainee teachers using blogs to write their private reflective journal as an alternative to the traditional reflective papers had a generally positive impact on supporting pre-service teachers’ reflective process. However, not all participants were able to develop their level of reflection because some were reluctant to post blogs about their experiences. In fact, after analysing the blogs’ text, two types of bloggers were identified: those who were reluctant to post and tended to reflect at a low level; and those who blog frequently and gradually improve their level of reflection and their ability to write critically. Indeed, it found that a deeper level of reflection was developed over time within the students who frequently blog.

This finding was similar to that reached by Boulton and Hramiak (2012) who aim to explore whether reflection in a community could enhance the reflective practices of 32 pre-service teachers. The trainee teachers in this study had private blogs but could also share the content of their blog posts in a community blog. During the research, tutors were able to access both the community blog and the trainee teachers' blogs at any time to provide them with feedback about their level of reflection. After analysing the blogs' text and interviewing participants, the researchers found that there were two types of bloggers: the reluctant bloggers and the frequent bloggers; the latter group were able to improve their level of reflection gradually during the study. Participants in this study appreciated and valued the experience of sharing their reflections within a community of learners, finding it useful and helpful. They were able to share their experiences, receive advice from peers, and support each other emotionally, during their experience.

Based on the findings of these studies, I decided to adopt personal (individual) blogs that can be shared among the trainee teachers instead of adopting a dialogue reflective blog (a collective blog). This is principally because it was observed (from the relevant literature) that when engaging with dialogue reflection, participants usually seek social support (Deng and Yuen, 2011) and often reflect at a low level in the collective blog (Yang, 2009; Granberg, 2010; Deng and Yuen, 2011; Luik et al., 2011). While adopting both of them sounded more promising and beneficial, as Boulton and Hramiak (2012) suggested, due to the current study circumstances, as the participants were voluntary subjects in this study, adopting the two approaches could adversely affect the students' motivation and effort in participating in the study as it would result in significantly more time and effort. Given the difficult cultural and pedagogical context of the study, I thus decided to focus on encouraging them to write and share their individual blogs, to write critical comments on each other's blogs and provide them with feedback from experts.

Furthermore, I realised from reviewing the literature the importance of establishing clear and focused objectives for both student teachers and supervisors. In my study, I conducted two workshops to clarify the meaning of reflection, providing participants with examples and engaging in discussions about the importance of reflection and how and when we can reflect on our own practice. Furthermore, the main blog provided the participants with many materials and reading resources that could help them reflect at a deep level. This study particularly adopted the 5Rs framework (Bain, Ballantyne, et al., 2002, p. 13), which has five major levels

of reflection, as a facilitator to enhance trainee teachers' thinking and as a scale for evaluating their level of reflection. Here, I should clarify that the critical approach of reflection, which concerns the social and ethical implications of teaching, is beyond the scope of this research. Here I am supporting the argument of Bain, Ballantyne, et al. (2002, p. 11) who stated that "reflection should not be focussed on 'just' the moral and ethical dilemmas of teaching, but on any matter of professional concern to the student teacher".

Furthermore, it is necessary to emphasise and consider the role of supervisors in encouraging students to reflect deeply by asking them questions about incidents that take place in the course of their teaching and giving feedback about their reflection. In my study, supervisors and me as a facilitator encouraged pre-service teachers to reflect deeply on their practice by asking several questions to lead them to think more deeply and giving them feedback regarding their level of reflection.

2.11 Conclusion

The significant role of reflective thinking in teachers' practice and particularly within teacher education has been discussed. However, the relevant literature also highlighted the complex meaning of reflection, which led this teacher educator to establish and implement some models and approaches to enhance reflection.

The use of technology has the potential to promote teachers' learning and reflective thinking; as a substantial number of studies have been conducted to investigate the potential of using such technologies to develop reflection levels within trainee teachers. The findings of the relevant literature are mixed. See Figure 2.7 which summarises and categorises these studies; however, caution should be exercised when designing such online environments. In this regard, Kori et al. (2014) articulated that *"when designing technology-enhanced learning environments, a variety of support types can be used. Which type of support is most beneficial depends on the type of environment and reflection activity"* (p. 53).

In fact, providing the participants with the basic knowledge of reflection, knowledge of teaching practice and furnishing them with feedback from experts was found to be vital to enhance reflection. Considering that would be more important within the Saudi context in which such concept is relatively uncommon. Implementing this study could give a new approach of how to use technology to stimulate reflection and how Saudi pre-service teachers experience their engagement with writing the online RJs. Indeed, to the researcher's knowledge, this would be

the first study to use technology to promote reflection among Saudi trainee teachers. One of the aims of the study is to explore whether the use of the online RJs could support Saudi trainee teachers to engage with reflection, and whether this would help them contribute to their learning while engaging in their teaching practice within the school setting.

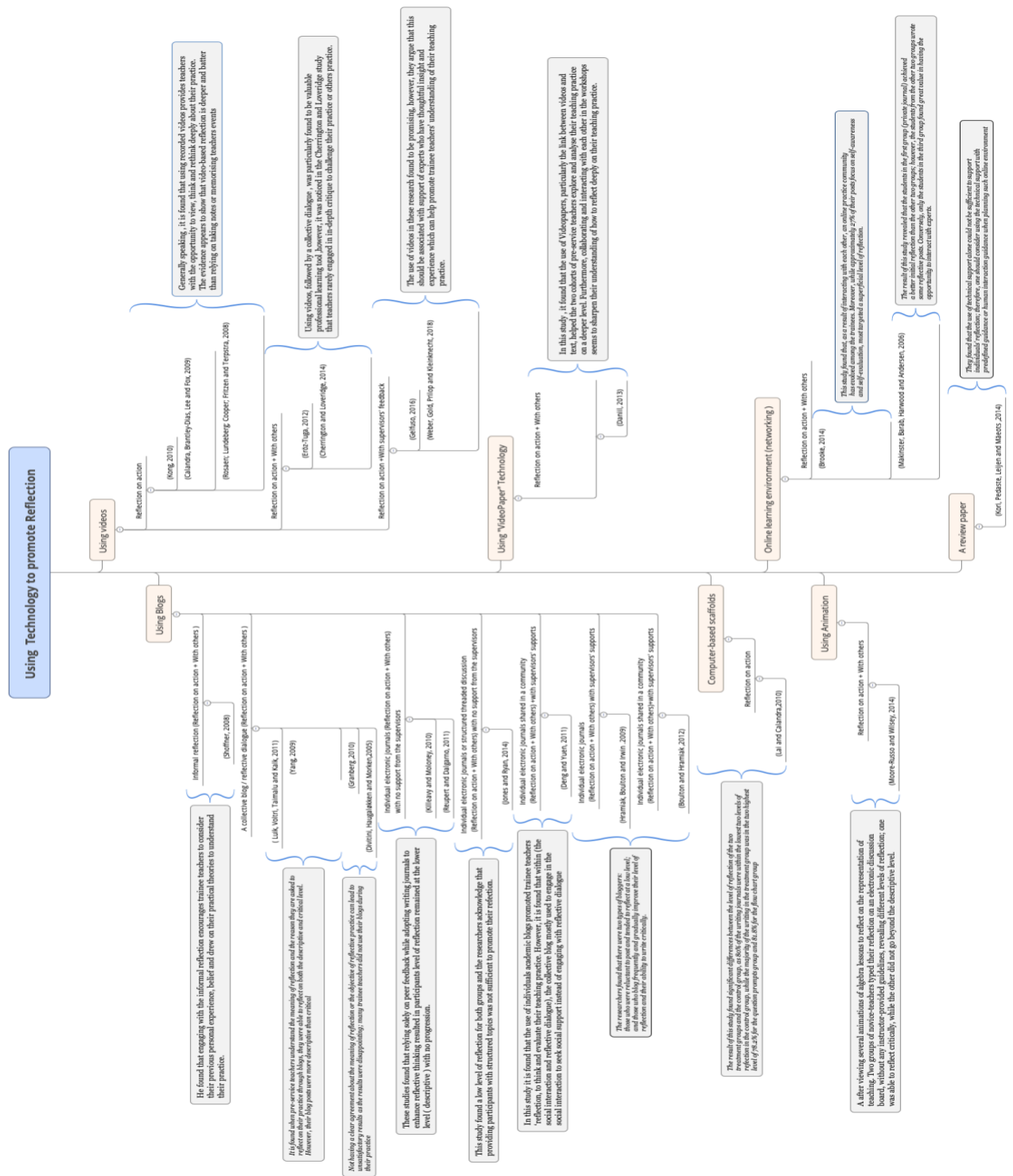


Figure 2.7: Using technology to promote reflection

Chapter3: The Research Design and Methodology

This chapter presents the research design. Following the objectives and research questions, this chapter presents the research context, and then the research design in practice is explained. The theoretical framework of the research is then presented, followed by the methodological details of the research phases, the sampling, and the data collection techniques. Then this chapter presents the process of data analysis, followed by an explanation of the researcher's role and beliefs. Finally, the limitations and ethical considerations are provided.

3.1 Objective and research questions

This study is designed to explore and understand Saudi pre-service teachers' experiences and their supervisors' perspectives when using technology to promote the reflection process to help the former understand their work as trainee teachers. A combined action research framework design with narrative analysis has been adopted to conduct this study. The sample of this study consists of 12 elementary pre-service teachers and their supervisors at the IAU in eastern Saudi Arabia.

This study has three purposes:

1. To explore Saudi pre-service teachers' experiences when engaging with reflective thinking frameworks.
2. To explore whether electronic reflective journals can promote reflective practice among Saudi pre-service teachers.
3. To explore supervisors' perspectives on the use of electronic reflective journals by Saudi pre-service teachers as a method of professional and personal learning.

This study has five main research questions:

1. To what extent do Saudi pre-service teachers reflect on their practice in this context?
2. What are Saudi pre-service teachers' attitudes and orientations towards using reflective journals as a method of learning?
3. What do Saudi pre-service teachers see as impedimentary and disincentive factors which limit the use of electronic reflective journals as a method of learning within their field experience?

4. What do Saudi pre-service teachers believe to be the affordances and facilitatory factors for using electronic reflective journals as a method of learning within their field experience?
5. What are educational supervisors' perspectives on the use of electronic reflective journals as a method of learning?

3.2 The research context

In the research context, I present a brief background of the study setting of the KSA, then this section demonstrates the general facts about the education system in Saudi Arabia, and this is followed by explaining the style and the procedure of education in the Teacher Education Programmes in KSA.

3.2.1 *Brief background of the study setting: KSA*

The KSA is located in the Southwest of Asia, the land area is 2,150,000 km², and it is considered as the largest state in the Middle East (see Figure 3.1 a map of KSA). The total population in 2019 was 34 million (*Central Department of Statistics and Information*, 2020). The official language within Saudi is Arabic and Islam is the religion for almost all Saudi citizens.

The economy in Saudi Arabia depends heavily on oil as it is considered as the second largest oil proven reserves in the world (Sawe, 2017). However, in 2016 the 2030 vision launched by the Saudi government aims to reduce the dependency on oil and to diversify the economic resources.



Figure 3. 1: Map of KSA (Source: On The World Map & Worldatlas)

3.2.2 Educational system in KSA

The first education system within KSA was “the Directorate of Knowledge”, which was established in 1925, then in 1951, in the reign of King Saud Bin Abdulazi, the “Ministry of Knowledge” was established which was concerned with planning and mentoring boys’ education. Nine years later in 1960, the “General Presidency for Girls’ Education” was launched and was responsible for a number of female schools (*The establishment of the Ministry*, 2019).

The education system consists of four levels which are: kindergarten (3 years), primary (6 years), intermediate (3 years), secondary (3 years) and university (usually 4 years). Lately there were two education ministries within the Saudi educational system: The Ministry of Education (MOE), which was responsible for general education within schools, and the Ministry of Higher Education system (MOHE), which was responsible for higher education in universities and colleges. In 2015 a significant change occurred when the two ministries were merged into one ministry named the Ministry of Education (MOE) which is responsible for both school and university education (*The establishment of the Ministry*, 2019).

The Saudi education system is highly centralised, which means all education policies are planned and controlled by the Saudi Ministry of Education. This includes decisions regarding curricula, the financial support and supervising the schoolteachers. Indeed the curriculums are unified among all public and private schools in Saudi Arabia, and they are determined and

developed by a certain department within the MOE (Alsaleh, 2017; Meemar, Poppink, and Bierlein Palmer, 2018; Rugh, 2002). All subjects' aims, goals and topics are provided in textbooks which have to be followed by teachers in all schools. Thus the school principals are occupying a more managerial role rather than leader role (Meemar, Poppink, and Bierlein Palmer, 2018).

The current education system in Saudi Arabia seems to be based on a traditional style of teaching where teacher-centred learning rather than student-centred learning is privileged (Al-jadidi, 2012; Almazrawi, 2014; Alsaleh, 2017). Thereby students do not play an active role in their learning, and they tend to believe that all knowledge is fixed and unchangeable (Alghamdi, 2014). Learning in Saudi is influenced directly or indirectly by culture, for example, Alghamdi (2014) found that Saudi students often lack in their self-directed learning and their motivation to learn and they do not usually realise that learning is their responsibility.

There were many projects launched to reform the Saudi education system, such as Tatweer project and the Aafq project which emphasise the importance of engaging with critical thinking (Allamnakhrah, 2013), however, the education system remains traditional. In this regard, one should state that the current Saudi Vision 2030 emphasised the importance of developing students' basic knowledge and lifelong skills that help them to meet the future labour market needs (*Education and Vision 2030*, 2019). Meanwhile, within the document of the Saudi Vision 2030 there was an acknowledgement that in order to develop the current education system there will be some barriers such as some issues within the school environment, the dependency on traditional methods of teaching and the lack of personal and critical thinking within students (*Education and Vision 2030*, 2019). Thus, to develop the current education system, careful consideration should be sought to understand the barriers and to plan how to address them with the importance of considering the priorities of change and giving enough time to the required change. Developing teachers' thinking to encourage them to evaluate their beliefs and practices would be one of the top priorities at this stage to reform the current education system. It would have a crucial impact on improving the students' thinking when they are taught by thoughtful and reflective teachers (Rodgers and LaBoskey, 2016).

3.2.3 Teacher education programmes in KSA (style of education and the procedures)

Once again, the traditional method of rote learning and the lack of support of metacognitive skills are found also within teacher education programmes in the colleges of education. A study conducted recently by Alnasib (2017) in a college of education at a University in Saudi Arabia

found a lack of support for metacognition skills within lecture rooms. She explained that the traditional method of rote learning was prevalent as well as a general concern within students of acquiring grades by memorising knowledge for the purpose of passing examinations. Al-jadidi (2012) found many limitations regarding the current training programme as it is based mostly on a transmissive style of education. This limited the trainee teachers' ability to engage actively and critically with their practice (Al-jadidi, 2012; Alrumaih, 2016).

Within the college of education, the teacher education programme used to offer two types of qualifications: bachelor's certificate and diploma. The bachelor's degree can be gained in various fields depending on the availability of each university (e.g. junior primary classes teacher programme, kindergarten teacher programme, Arabic language programme, Islamic programme, English language programme). Trainee teachers study for four years and then can apply to work as a teacher. The diploma qualification on the other hand is available for candidates who studied in a pure field such as science or maths and when they want to qualify as a teacher, they study for two years to gain the diploma certificate. However, many changes have occurred recently with the education system as a whole as well as with teacher education. For example, the diploma qualification has been cancelled from all educational colleges in Saudi Arabia. The other bachelor's degree of all subjects has also been cancelled within the college of education and yet, they offer the bachelor's degree in one established and new field named "Early Childhood Education", which covers the three levels in kindergarten and the first three levels in the junior primary classes. Furthermore, the new orientation within the colleges of education in Saudi universities is to offer more educational master's degrees which consist of two years of study and offer the chance for the students who have a bachelor's degree in their main fields to be qualified as teachers. For more information see the website (*Improving teacher preparation programs*, 2019).

Within the college of education, pre-service teachers have the chance to engage with theoretical knowledge during their studies, and they also have a chance to engage with some micro-teaching to develop their practical knowledge. With regards to engaging with the practical aspect of teaching in school placements, the Saudi universities follow one of two systems in their teacher education programme of the 4-year bachelor's qualification. The first offers the practical training within their seventh and eighth semesters. Usually, trainee teachers have a chance to observe and/or practice teaching once a week during the last two semesters under the supervision of their university supervisors (Alrumaih, 2016). The second teacher education system, which is the prevailing one, offers the theoretical knowledge during all their studies and then focuses on the

practical knowledge in the eighth semester, which lasts for 12 weeks; pre-service teachers have to attend four full days in each week. The IAU implements the second system of giving a chance for students to engage with teaching in the last semester. In the IAU school placement programme, the first two weeks are specified for observation and trainee teachers can practice teaching once or twice usually during the second week, then they practice teaching four full days in each week and are supposed to be supervised by the classroom teachers as well as their university supervisors who usually visit about four times during this semester.

3.3 Research design in practice

Reflective thinking is regarded as a valuable aspect of ongoing learning and professional development in teaching and other caring professions (Rodgers and Laboskey, 2016). Larrivee (2000) argues that to be an effective teacher requires much more than accumulating some teaching strategies and skills. If teachers do not learn how to reflect on their practice at a critical level, they will not be able to deal with ill-defined and complex teaching problems (Zeichner and Liston, 1996; Rodgers and Laboskey, 2016). Indeed, reflective practice helps professionals to deal with the complex, unique and ongoing dilemmas involved in teaching (Rodgers and LaBoskey, 2016). Thus, preparing pre-service teachers to be thoughtful and critical about their decisions and practice seems to be vital during their field experience (Cochran-Smith and Lytle, 1999; Korthagen, 2001; Loughran, 2008; Korkko, Kyro-Ammala and Turunen, 2016), as reflective practice helps them to fill the gap between their theoretical and practical knowledge when they integrate their prior knowledge into a new learning experience (Cochran-Smith and Lytle, 1999; Korthagen, 2001). When individuals learn to ‘stop’ and ‘think’ in their teaching practice, they avoid the biases of intuitive decision-making (Zeichner and Liston, 1996; Rodgers and Laboskey, 2016); consequently, they will probably be able to improve their teaching practice independently in the future (Arthur, Davison and Lewis, 2005).

While many studies have been conducted in developed countries such as the USA, Australia and the UK, in which these studies emphasise the importance of reflective thinking within teaching 20 years ago (Cochran-Smith and Lytle, 1999; Freese, 1999; Bain, Ballantyne, et al., 2002; Hamlin, 2004; Meierdirk, 2016), reflective thinking seems to be an uncommon approach in some developing countries for several overlapping and complex reasons. The relevant literature contains very few studies on reflection in Arab countries, for example, one study has been conducted in Jordan (Bataineh et al., 2007), one has been conducted in the United Arab Emirates (Hourani, 2013), and one study took place in Yemen and Saudi Arabia (Al-Ahdal and Al-Awaid, 2014). A few studies have been conducted in the Saudi context, such as Alrumaih

(2016) who conducted her study within teacher education; the other studies concern reflection within teachers (e.g. Almazrawi, 2014; Shukri and Studies, 2014; Sibahi, 2016). However, many of these studies could not represent the reality of whether Saudi participants engaged and understand the real meaning of reflection (see Section 1.2 for more details).

Indeed, it has been noticed that Saudi teachers are more likely to struggle when trying to make wise decisions to address the daily challenges in teaching. These struggles could be explained by the tendency of the MOE in Saudi Arabia to focus more on improving technical aspects of teaching rather than helping teachers to think critically about their practice. As a result, teachers lose the chance to grow professionally when they do not receive training in how to think critically to improve their practice and how to develop their ability to make wise decisions to handle professional incidents in their teaching. The absence of accountability within the educational system might also explain why Saudi teachers are reluctant to take the responsibilities of their teaching and the responsibilities of their learning to grow professionally. In this regard, Alnahdi (2014, p. 3) stated that “the lack of accountability for teachers’ performance is one of the obstacles that Saudi Arabia is facing nowadays in many fields of work, particularly government jobs”.

However, according to Solbrekke and Englund (2011), responsibility comes before accountability. Nonetheless, responsibility comes as a result of the accumulation of culture and values which take a long time to be improved within a certain society (Alnahdi, 2014). Thus, I argue that encouraging reflection within teachers after explaining how to engage with it systematically and critically probably would help to develop their sense of responsibility gradually, regarding their decision of teaching and learning when engaging with the complexity of teaching.

Indeed, in the Saudi context, the supervision model in the teacher preparation programme remains traditional (Kabli, 1999; Al-Zarah, 2008; Al-jadidi, 2012), which means that pre-service teachers do not play an active role in their learning. They are not encouraged to reflect systematically on their practice to explore situations in order to obtain practical wisdom to make their tacit knowledge explicit. Studies conducted by Al-Zarah (2008) and Hamdan (2015) emphasise the gap between theoretical and practical knowledge in Saudi pre-service teachers, in which they find it challenging to address their teaching practice issues.

However, there have been some attempts by various supervisors at the IAU in the department of junior primary classes teacher programme to encourage students to reflect on their practice using paper-based journals. However, unsurprisingly, a descriptive level of RJs was the result of such attempt. To me, this was an expected result, considering that these students did not understand the meaning of reflection and how they could reflect on their practice. This was due to the fact they simply had not received sufficient guidelines, a model or regular feedback to help them to be reflective practitioners. Furthermore, one should notice that there is a lack of Arabic publications explaining the meaning of reflective thinking. The relevant literature demonstrates that supervisors and their pre-service teachers should reach a clear agreement about the meaning of reflection and how they can reflect on their practice, otherwise the goal of integrating such an approach will not be achieved (e.g Divitini, Haugaløkken and Morken, 2005; Granberg, 2010).

I argue that if the concept of reflection is introduced and integrated in a warm and supportive environment and if they receive sufficient support on how to reflect on their practice, the trainee teacher would learn how to reflect on their practice (Francis, 1995; Roberts, 1998; Hobbs, 2007). To achieve this, the literature shows that using technology to create an enhanced learning environment could help to promote pre-service teachers' ability to reflect on a deep level (Hramiak, Boulton and Irwin, 2009; Deng and Yuen, 2011; Boulton and Hramiak, 2012; Daniil, 2013; Kori et al., 2014). However, one should not rely on the use of technical tools alone; predefined guidance and human interaction are essential to help trainee teachers reflect on a complex level (Kori et al., 2014).

Consequently, the research design of this study must first of all consider the fact that such an approach is uncommon, and new to the participants in the Saudi context. Secondly, there is an urgent need to improve the current teaching preparation programme (specifically in the field of the junior primary classes teacher programme) by introducing and integrating reflective practice within the field experience programme in the Saudi context. All of which would help to achieve some of the Saudi Vision 2030 aims, which mainly emphasise the importance of being responsible citizens to represent "the ambitious nation", and to do so, Saudi Arabian people should start to think differently and responsibly. Taking the responsibility of developing oneself by developing new skills, seeking new experience to ultimately become active members of society (Saudi Vision 2030, 2016). Thus, if we want to become a productive state and not just dependent on oil revenues (which inevitably will be drained someday), in line with the main aims of the Saudi 2030 Vision, then there are some radical changes that should be addressed

within the Saudi education system (*Saudi Vision 2030*, 2016). This should start with developing teachers' way of thinking, as teachers are considered the backbone to the education system, which in turn would provide many benefits to students and society as a whole.

3.4 The research philosophy

Addressing the research objectives is the main aim of the research design. Pring (2004, p. 89) declares that “without the explicit formulation of the philosophical background – with implications for verification of explanation, knowledge of reality – researchers may remain innocently unaware of the deeper meaning and commitments of what they or how they conduct their research”. Thus, articulating the appropriate paradigm at an early stage of the inquiry is essential in guiding the research process (Guba and Lincoln, 1994; Crotty, 1998). The research paradigm is known as “the basic belief system or worldview that guides the investigator, not only in choices of the method but in ontologically and epistemologically fundamental ways” (Guba and Lincoln, 1994, p. 108). In order to describe the research paradigm, I will clarify the ontological, epistemological and methodological assumptions of the current research (Guba and Lincoln, 1994).

3.4.1 *Ontological considerations*

Ontological consideration is what one believes about the nature of reality (Guba and Lincoln, 1994; Ormston et al., 2014; Creswell, and Poth, 2017). The objective of this research is to explore Saudi pre-service teachers' experiences and their supervisors' perspectives when the former use electronic RJs to reflect regularly on their practice, which means it is expected that various interpretations will be produced as a result of this research.

This inquiry does not consider a social phenomenon as an external fact that one cannot reach or have an impact on. Alternatively, it considers reality as a social construction built up on the meaning that is shaped in and through individuals' interactions with a constant state of revision (Bryman, 2012; Ormston et al., 2014). This is because I believe that the reality does not have an objective nature, in contrast, I believe that the nature of reality is seen by different people and they construe the meaning of it in various ways (Bryman, 2016).

3.4.2 *Epistemological considerations*

Epistemological consideration focuses on how to understand social reality and what the basis of the accepted knowledge in a discipline is (Bryman, 2012; Ormston et al., 2014). The researcher's epistemological position with this inquiry is based on constructivist interpretivism

(Crotty, 1998). Thus, the research findings will be mainly obtained through an analysis of the participants' oral and written narratives (interviews and RJs) in order to understand their experiences through their stories when they are participating actively in this qualitative action research. The findings will also be shaped by considering and analysing the researcher's own reflective diary during the inquiry phases. The researcher, from this epistemological point of view, should grasp the subjective meaning of social reality (Bryman, 2012). I believe that the meaning is not discovered; instead it is shaped and constructed when the researcher interacts with the participants in a certain context (Creswell and Poth, 2017). This is because pre-service teachers are different and they will interpret the guidance and world differently, thus, understanding the social reality would be obtained by constructing the meaning of all participants' experiences when they interactively share their experiences with the researcher.

3.4.3 Methodological considerations

This concerns answering questions about how the research obtains its findings (Guba and Lincoln, 1994) and what the process of the research is (Creswell and Poth, 2017). This research adopts narrative as a data collection method and analytical framework set within an action research design. This means that the report about this action research will not be derived from the researcher's own stories alone. Instead, the participants in this study will be actively involved and tell their stories during the inquiry when answering the in-depth interviews so that the researcher can understand their experiences and give them a voice to improve the intervention (which is using technology as a means to reflect on their practice); working with rather than on or for the researcher (Koshy, 2005; Heikkinen, Huttunen and Syrjälä, 2007). The researcher had to be thoughtful when setting the research design in order to answer the research questions appropriately. The decision of adopting narrative within an action research design framework was made after careful consideration. I will clarify the reasons for adopting action research as the main design, and then clarify why I decided to adopt narrative as a data collection method and as an analytical approach within the qualitative action research design framework.

Reasons for adopting qualitative action research as my main research design

Qualitative action research is adopted in this study because action research is considered to be a very powerful tool when there is a need for improvement and change at a local level. Cohen, Manion and Morrison (2011) highlighted the importance of adopting action research when there is a need for change, they stated that “[Action research] can be used in almost any setting where a problem involving people, tasks and procedures cries out for a solution, or where some

change of feature results in a more desirable outcome...[it] is a flexible, situationally responsive methodology that offers rigour, authenticity and voice” (p. 334, p. 361).

In this study, I believe that the current practice of traditional supervision adopted by Saudis should be improved by integrating and fostering reflective thinking during pre-service teachers’ practicum programme in order to help them to understand their work as a teacher. I have chosen to adopt action research to change the direction of participants’ learning by encouraging them to take a positive role in their own development during their field experience. By choosing this approach, I was able to ensure that they are making some progress by providing them with relevant resources, modules and feedback to support them during their journey when reflecting on their practice.

Reasons for adopting narrative within the qualitative action research framework

In much research in educational settings, narrative is not only used as an analytical framework but is also an approach that asks questions that encourage participants to tell their stories (Bryman, 2016). In this research I adopted narrative as an analytical approach to analyse different kinds of data (interviews, RJs, research diary) narratively, as well as designing the interview questions based on a narrative approach (by adopting in-depth interviews; see Section 3.9.1, in which the questions stimulated the participants to recount their stories).

Understanding pre-service teachers’ experiences cannot be achieved by applying action research alone. This is because their experiences are linked to unique cultural contexts. As mentioned earlier in the chapter, reflective thinking is not a common concept or way of learning in Arab countries (Alrumaih, 2016). I also note that the pre-service teachers in the field of the junior primary classes teacher programme are reluctant to take part in this research because they are unsure of their reflective ability and concerned about their relationships with their supervisors, wanting to demonstrate their strengths during the field experience, rather than their weaknesses. Indeed, they seem to have developed this negative attitude towards reflective practice after hearing from other students (in another department) that writing a reflective assignment is very demanding and hard work. These students have not been well supported in understanding how to reflect on their practice. Acknowledging the complexity of the cultural context has led me to adopt narrative methods within this action research in order to understand pre-service teachers’ experiences through their stories. Indeed, Walker (2007, p. 295) emphasised that “the point in action research is that change is not just an abstract construct, but how real participants acted, learned, hoped or despaired, and changed”. Thus prompting

participants to tell stories about specific experiences not only helps me as a researcher to understand their complexity, but also helps the pre-service teachers themselves to make sense of those experiences (Clandinin and Connelly, 2000). Webster and Mertova (2007) stated that narrative inquiry is based on the assumption that individuals tend to make sense of their random experiences by imposing structure on their stories. In this context, Toledano and Anderson (2017) explain the four main aspects of a narrative (drawn from relevant literature), and how these elements can work within a framework of action research, as shown in the table below.

Narrative aspect	How narrative elements can be adopted within action research
Reflectiveness	Reflections on self and on society are common within the reflective element of a narrative. In action research, self-narrative can influence the research process and lead to personal growth as a part of change prompted by the research. Furthermore, intersubjective reflection between self and others makes narrative a valuable instrument for participative orientation.
Cooperation	Narrative is considered a socialised activity that should occur in a democratic environment. Action research gives space to various voices and allows all participants to give an interpretation of the same event.
Language	Bruner mentions that experience can be difficult to articulate literally within a narrative; figurative language conveys more of the felt meaning, and should be considered in order to fully understand an individual's experiences. Figurative language is also very important in action research for the creation of practical knowledge.
Time and space	In a narrative, time and space are important for the understanding of experiences. Change occurs over time. Location may also help to illuminate the meaning and uniqueness of the narrative. In the context of action research, time and space are even more important because time helps the development of understanding and orientation during the research. Action research also emphasises the importance of spatial context in understanding different points of view.

Table 3.1: Explaining how narrative can be adopted in an action research framework (Toledano and Anderson, 2017)

Thus, the complexity of the current cultural context can be understood by adopting narrative as a main research method (when conducting the in-depth interviews) within a framework of action research. To do so, one should consider the main narrative elements mentioned by Toledano and Anderson (2017). One of these elements is the use of figurative language in a narrative to convey felt meaning within an experience. This will probably help to produce more practical knowledge during the action research (ibid). Another element is the cooperative relationship between the researcher and the participants, as narrative is considered a socialised activity. When adopting narrative within action research, this relationship helps to enrich the inquiry with stories that reveal participants' voices and interpretations; action research is more concerned with acquiring knowledge with people, rather than about them (ibid). Therefore, the use of narrative in this inquiry not only helped with the understanding of pre-service experience, but also helped to achieve the intended practical outcomes by helping the researcher to plan the second phase of the cycle in light of the perspectives given during the first phase. In this regard Cohen, Manion and Morrison (2011) state that during action research, the group of people who are experiencing the issue should have a chance to become involved in the decision-making.

Time and space are both crucial elements of the narrative inquiry. It is important to fully understand how certain experiences change through time. Time is an important aspect of action research as well, bringing clarity to the development of orientation. The space or place in which an experience occurred is also important, as it helps to contextualise a narrative structure in order to fully understand the uniqueness of the meaning. In this respect, Toledano and Anderson (2017, p. 9) articulate that "the spatial dimension of narratives offers to action researchers a medium that may help them to understand the world that they are trying to change, considering situational idiosyncrasies".

Based on the above explanations of the philosophical assumptions of this inquiry, I regard myself as an interpretive researcher who is aiming to understand Saudi pre-service teachers' experiences when using technology to reflect on their practice and their supervisors' perspectives about reflective thinking. The research questions of this inquiry focus on exploring the participants' experiences and perspectives. Therefore, the interpretive approach is considered to be the most appropriate for gaining a deep understanding from a personal and social point of view. Thus, pre-service teachers are required to share their experiences with me as a researcher in order to help revise and develop an action plan, and this in turn resulted in a detailed, holistic picture of pre-service teachers' experiences when reflecting electronically on

their practice. The interpretive research paradigm is known in educational research by other names, such as “constructivist”, “naturalist” and “qualitative” research (Ernest, 1994).

3.5 Theoretical framework

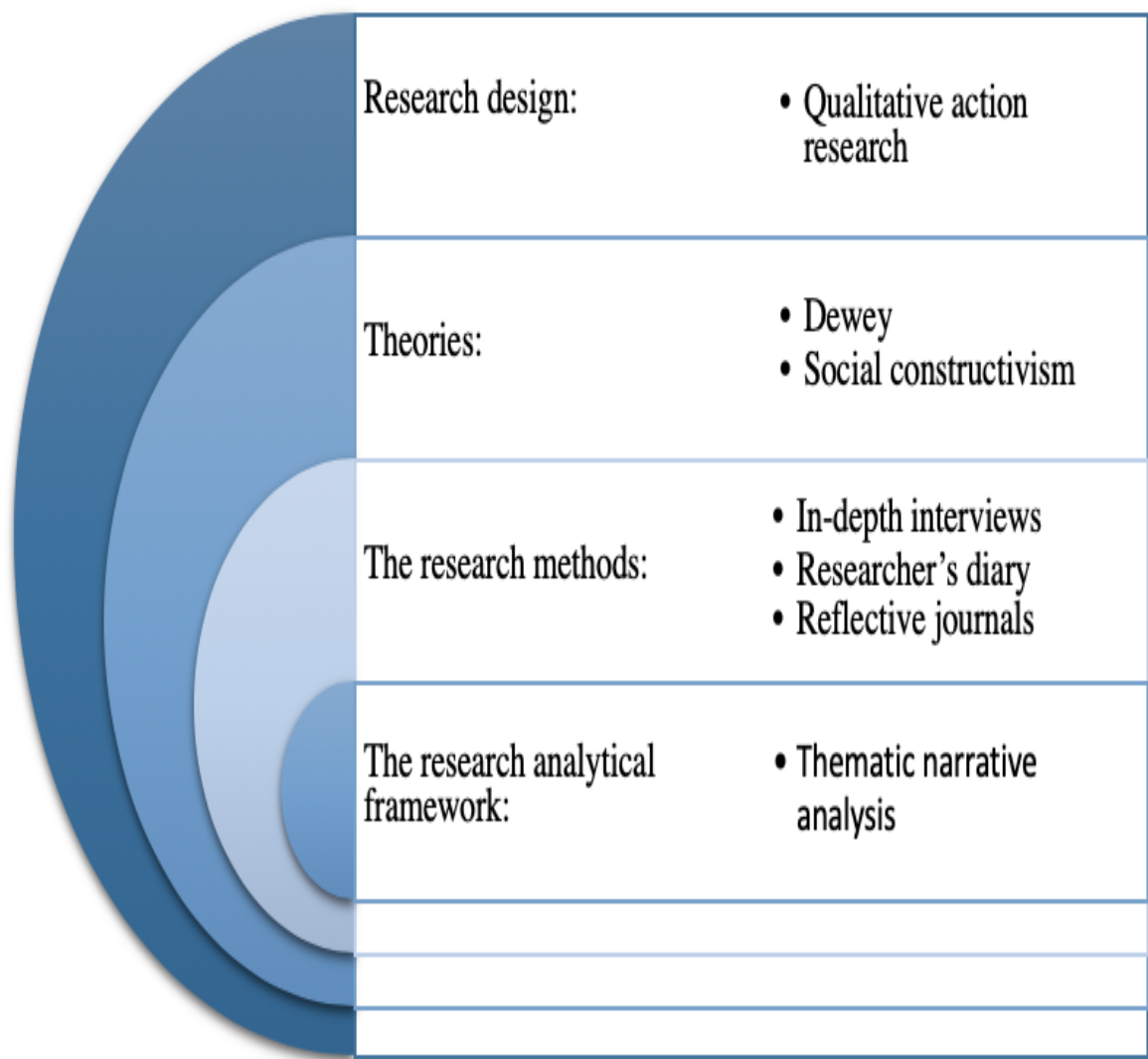


Figure 3. 2: The theoretical framework of the research

Theoretical research frameworks have been increasingly used as a theoretical lens, providing the researcher with an orientation of how to shape the appropriate research questions as well as enlighten the researcher in how to collect and analyse research data (Creswell, 2014). As explained in the previous section, this research design adopted narrative as the main research method when conducting in-depth interviews to stimulate participants to tell their stories. This research also adopted narrative as an analytical approach to analyse different kinds of data, including in-depth interviews, RJs and research diaries, all of which was set within a qualitative

action research framework. I decided to use a combination of action research design and narrative because of the complexity of the current situation within the Saudi teacher education programme and the unfamiliarity of the orientation of reflection in the Saudi education system (Almazrawi, 2014). Thus, I adopted in-depth interviews to reach in-depth data on how the participants understand the concept of reflection and how they reflect on their practice. On the other hand, I adopted the action research design to introduce the intervention, which was the use of technology to enhance reflection in the Saudi context.

Regarding the use of theories in qualitative research, Creswell (2009) highlighted that using theories as an overall lens for the study entails starting with certain theories that inform the research stages. Thus, the design of this research is based on the use of two theories, which are Dewey's theory and social constructivism theory. In this research, participants were asked to reflect on their practice based on Dewey's purpose of reflection "to make sense of experience toward the end of (a) individual growth, and thus, (b) the growth and health of a democratic society" (cited in Rodgers and Laboskey, 2016, p. 76).

Participants were asked to use the Bain model of reflection, which consists of five components (reporting, responding, relating, reasoning and reconstructing), as a practical guide to reflect on their practice. The process of reflection, according to Bain, Ballantyne, et al. (2002), is heavily cognitive similar to the 'scientific inquiry' of the reflection process suggested by Dewey but in much more flexible and nonlinear sequences.

Dewey's scientific inquiry of the reflection consists of several phases:

- "suggestion", which represents the initial impression of an experience,
- "naming" the issue, which includes raising and articulating some questions and setting several hypotheses,
- "intellectualizing" a given experience and identifying its aspects,
- and "examining" such hypotheses to obtain
- "intelligent action" (Rodgers and Laboskey, 2016, p. 74).

Pre-service teachers were asked to reflect on their practice by describing the incidents and their feelings towards the situation, linking that with the relevant literature, their skills and experience trying to expect the action's results, then evaluating each solution and considering the main factors underlying the incidents or issue, and finally hypothesising and thinking about the future practice to reach a new understanding.

Furthermore, in this research technology was used mainly to influence pre-service teachers' reflective thinking, as some scholars believe that the use of technology can offer a powerful environment to support students' reflection (Lin Hmelo, Kinzer and Secules, 1999). Indeed "*when designing technology-enhanced learning environments, a variety of support types can be used [such as a] technical tool, technical tool with predefined guidance, and technical tool with human interaction guidance, which type of support is most beneficial depends on the type of environment and reflection activity*" (Kori et al., 2014, p. 53). In fact, within the social constructivism theory, Pritchard (2005) emphasised the importance of scaffolding students' learning, arguing that this scaffolding will support them in moving through the zone of proximal development. This implies that the students must be given the required support at an appropriate time and at an appropriate level. According to Pritchard, the scaffolding could be accomplished in a number of ways, including providing the learners with the appropriate materials to help them accomplish their tasks or suggesting a writing framework that will help them to write in a certain style.

In this research, pre-service teachers were provided with the main blog, which consists of online predefined guidance from the literature such as online infographics of the 5Rs (Bain, Ballantyne, et al., 2002; see Figure 3.6 and Appendix J for the Arabic version), online infographics of the academic reflective writing model (Ryan, 2011; see Figure 3.7 and Appendix K for the Arabic version), some examples of RJs, and online books about teaching, to help pre-service teachers when they reflect on their practice (see Appendix I).

Furthermore, the process of reflection does not occur in isolation but rather involves both internal dialogue (Ryan, 2013) and the importance of interacting with others (Zeichner and Liston, 1996; Bain et al., 1999; Freese, 1999; Ryan, 2013) which is in line with the main principle of social constructivism theory in which it is believed that knowledge is constructed when sharing experiences (Lin, Hmelo, Kinzer and Secules., 1999) and is developed when interacting intellectually with others (Goodman, 1998; Pritchard, 2005). Thus, the importance of social interactions as well as the importance of internal conversation were recognised when designing the current research online environment. Therefore, to influence self-reflection (the internal conversation), participants were provided with the online materials, notably the 5Rs infographic that includes many prompting questions that support the participants to start writing their RJs. On the other hand, the online environment was designed to encourage participants not just to write their RJs, but also to share them with others and comment on each other's

blogs. Moreover, the design of the current research considers the importance of providing pre-service teachers with online feedback from their supervisors, experienced teachers and me as facilitator, to encourage them to think at a deeper level. This would help them to construct their understanding of their learning about the profession of teaching with the aim to help them develop professionally and personally during their school placement.

3.6 The relationship between Dewey's theory, the Bain model and the unique context of the study

In this section, I am going to explain the relationship between Dewey's theory and the Bain model in terms of the process of reflection, and then explain the importance of considering the context of the study when the participants engage in reflection. All of these concepts are represented in Figure 3.3.

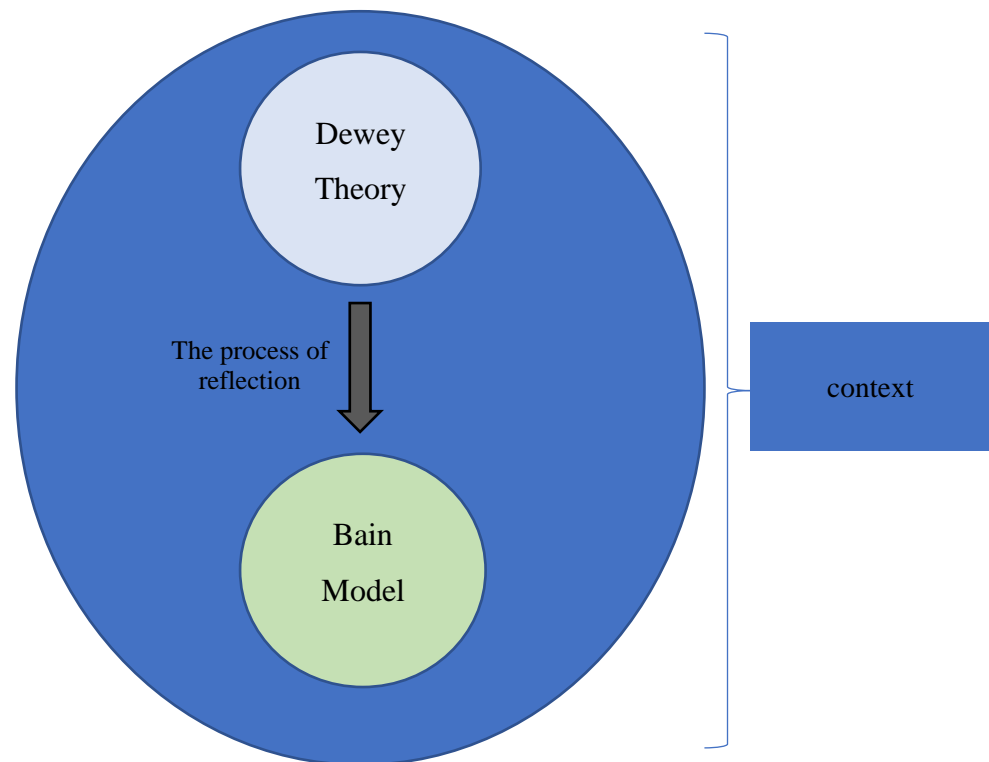


Figure 3. 3: The relationship between Dewey's theory, the Bain model and the unique context of the study

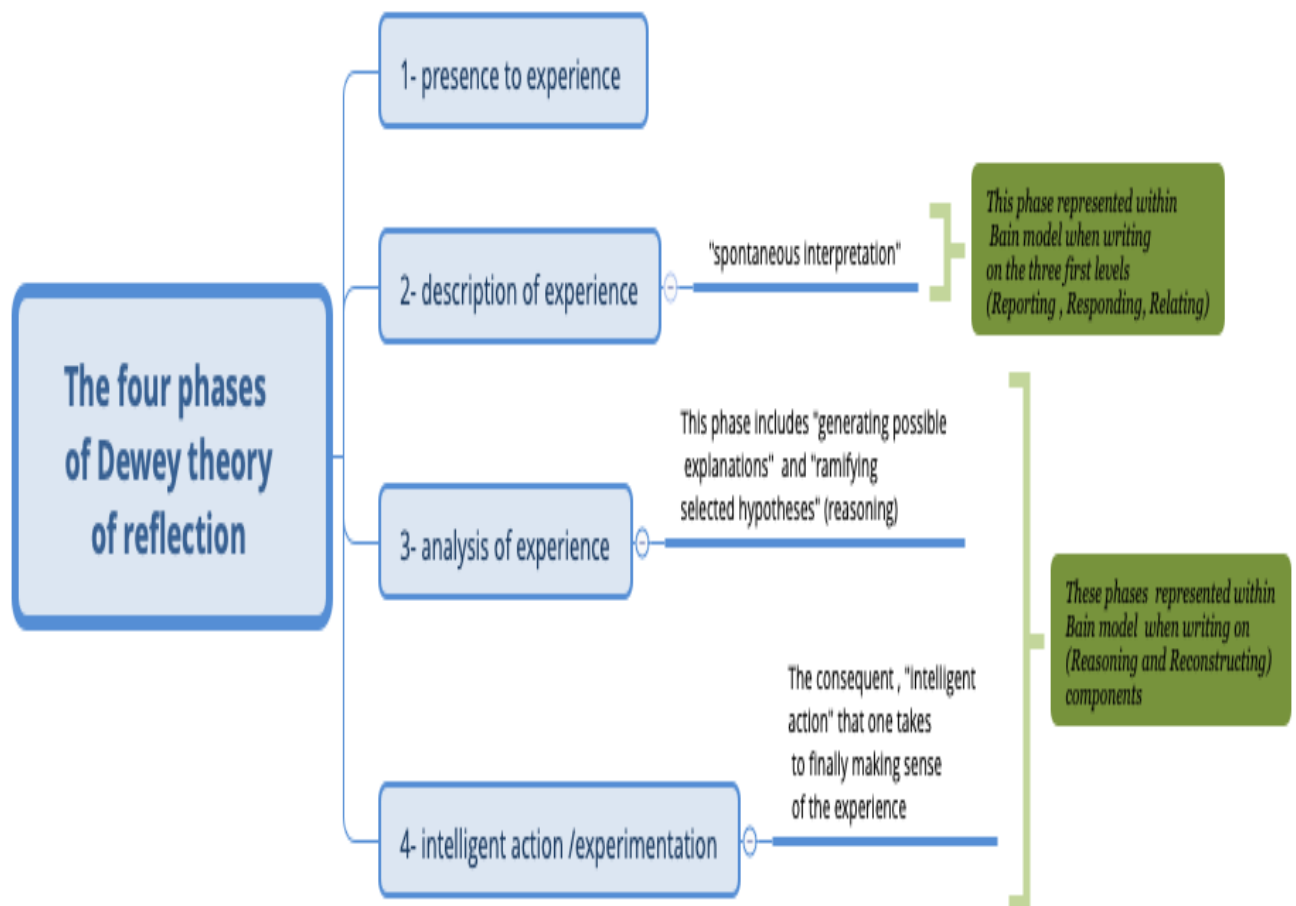


Figure 3. 4: Reflection process (the relationship between Dewey’s theory and the Bain model)

The process of reflection (the relationship between Dewey’s theory and the Bain model)

The process and the phases of reflection are illustrated in Figure 3.4, in which the link between the Bain model and Dewey’s theory is explained. This figure explains the phases of Dewey’s reflective thinking according to Rodgers (2002), who summarised and represented reflective thinking in four main phases. From the figure, we can see that the second phase of Dewey’s theory of reflection is represented by the three components of the Bain model. In this phase, teachers usually engage in describing and explaining the incidents from their perspective based on their background or some general knowledge, this is why this phase is called “spontaneous interpretation” in Dewey’s theory. The third and fourth phases of Dewey’s theory (analysing and experimentation) are represented by the last two components of Bain’s model (reasoning and reconstructing). These involve a series of analyses and reasoning with their conclusions, which requires individuals to engage with the available resources. They may do this by discussing their thoughts with others, or by reading books to reach a new understanding and to make sense of their experience, in order to reach what Dewey termed “intelligent action”.

The importance of the context according to Dewey

According to Dewey, one of the essential attitudes that is considered vital when engaging in reflection is “Whole-Heartedness”. This is represented by feeling enthusiasm for one’s subject, which encompasses the content, the pupils’ learning and how the teacher’s teaching affects the pupils’ learning. All of these three aspects exist in certain contexts of the classroom and the school. In this regard, Rodgers (2002, p. 859) argues that “without whole-heartedness, there exists indifference, and the energy to observe and gather information about learners and their learning, one’s teaching and so forth is not there”. However, when teachers work in unsupportive contexts, such as in crowded classrooms, dealing with an unflexible curriculum, the “Whole-Heartedness suffers, and too often withers to resignation and even bitterness” (Rodgers, 2002, p. 859).

Thus, in this study, the impediment and disincentive factors related to the unique context of Saudi Arabia have been discussed as they emerged from the participants’ narratives when they engaged in reflective thinking in this study.

3.7 The phases of the action research

This action research consists of three phases: the informal phase, the first phase of the main study and the second phase of the main study. I am going to explain each phase in detail.

3.7.1 *The informal phase*

An informal phase took place before conducting the main study. I noticed while writing the research proposal that one of the bachelor supervisors in the junior primary classes teacher programme encouraged her students to write a weekly reflective journal during their school placement. During this phase, I had a conversation with some of the pre-service teachers who had been asked to write paper-based RJs at IAU University, I also checked some of their reflective journal assignments directly after they completed their school training period. From these conversations I was aiming to understand pre-service teachers’ experience, how they perceive reflection and what they learn from reflection.

Having said that, although the student teachers’ supervisor was trying to explain to them orally the meaning and the importance of reflection, the students could not understand the meaning of reflection. Moreover, they did not know how to reflect on their practice and how to deepen their reflective thinking as they did not receive continuous feedback on their written journals. Thus, a descriptive level of reflection was dominant across their written journals.

3.7.2 The design of the main study

The informal phase helped and informed me in how to design this action research, as I kept all the data from the informal phase in my diary as a researcher to understand the current situation and how it could be improved. Thus, I decided that it is essential when conducting such a study to consider, first, clarifying the meaning of reflective thinking and, second, to facilitate the process of reflection. All of which were considered by doing the following:

- Conducting two workshops at the beginning of the semester to clarify the meaning of reflective thinking.
- Providing them with some online guidance from the literature embedded in the main blog (see Appendix I and see Figure 3.5) such as:
 - Online infographics of the 5Rs framework (Bain, Ballantyne, et al., 2002; see Figure 3.6).
 - Online infographics of the academic reflective writing model (Ryan, 2011; see Figure 3.7).
 - Several exemplars of RJs about the three topics (classroom management, teaching strategies and learning assessment).
 - Other materials that were embedded in the main blog (translated video about how to reflect, the Bain model in detail, some translated information about reflection; see Appendix I).
 - Online books based on practical knowledge which include more stories and scenarios on how one could address some teaching and learning issues. These books focus on some of the more common issues that were noticed in the informal phase such as classroom management, proactive teachers, effective teaching and embracing diversity.
- Designing online environments with the support of human interactions:
 - Providing the participants with continuous feedback (from researchers, supervisors and experienced teachers) after writing their RJs on their individual blogs.
 - Encourage the participants to write critical comments on each other's blogs.
 - Including the individuals' blogs within the main blog to give the participants more chance to read and comment on each other's RJs (see Appendix I).
 - Encourage the participants to share their RJs with others to improve their thoughts.

- Establishment of three official WhatsApp groups (for each supervisor's students) to give the participants another chance to comment and discuss their issues, as well as remind them to upload their journals and provide general comments about their reflective journal issues.

All the uploaded online materials were translated to Arabic by the researcher; the language accuracy of all the translations was checked by a postgraduate student who is fluent in both English and Arabic languages and by an Arabic editor to ensure the language clarity and accuracy for the uploaded materials.

From the informal phase, I realised that students have more incidence of some issues such as classroom management, implementing some teaching strategies or learning issues, and issues regarding assessment. Therefore, I decided to ask students to reflect on these topics, with two weeks allocated for each topic. Asking the students to reflect on certain topics probably encouraged them to interact with one another to address their issues. I advised them to focus on their main incidents and to carefully identify them to address them intellectually instead of explaining and describing every single event which could not help them when writing their thoughtful RJs. The last two weeks had no specific topic so they could consider and reflect on any aspect of their experience (see Table 3.2). However, this plan was flexible which means that it was acceptable for participants to write about other issues if they decided to do so.

3.7.3 The design of the infographics

It has been noticed that although the reflection concept is a “complex, rigorous, intellectual, and emotional enterprise that takes time to do well” (Dewey, cited in Rodgers, 2002, p. 844), engaging in reflective thinking is a worthy experience that leads to learning and eventually professional and personal development (Rogers, 2001; Husu, Toom and Patrikainen, 2008). However, when pre-service teachers do not understand the meaning or purpose of reflection, a descriptive and superficial level of reflection will result (e.g. Divitini, Haugaløkken and Morken, 2005; Granberg, 2010). Facilitating reflective thinking within trainee teachers is crucial, therefore educators must “*clarify the concept of reflection and implement additional techniques that will enable students to learn and apply habits of reflective thought ... [However, one should be aware of] how to clarify the process of reflection without falsely formularizing or oversimplifying it*” (Rogers, 2001, pp. 52, 55).

Visualising the meaning and process of reflection was considered in this study, hoping to help the participants to reach an understandable and comprehensible meaning of how to engage with the reflective thinking process. In this regard it is reported that knowledge visualisation “*aims at supporting cognitive processes in generating, representing, structuring, retrieving, sharing and using knowledge*” (Tergan 2005, p. 168, cited in Draper, 2015, p. 221). My aim when visualising the meaning and the process of reflection is not to encourage individuals to simply “bring something to minds” but it is rather what Dewey stated that reflection includes thoughts, feelings and actions (Husu, Toom and Patrikainen, 2008, p. 40). Furthermore this visualisation also aims “to invite students into a process that is not so pat and organized as to be false, but at the same time encourages them to appreciate the value of uncertainty” (Rogers, 2001, p. 52).

Thus, after deciding to use the Bain model as a practical guide for pre-service teachers, I was aware that because of the unfamiliarity in the Saudi context of engaging with metacognitive activities, this model would be difficult to understand and to implement. I was also aware that the pre-service teachers would face some writing difficulties, as this was almost their first experience of writing about themselves, their thoughts and beliefs, and sharing them with others. Therefore, I decided to scaffold their engagement with reflection by visualising the reflection process’s stages, based on the Bain model. This could help them with their writing by providing them with the Academic Reflective Writing Model (Ryan, 2011) via the use of infographics.

The following section demonstrates the steps that I followed to design the online infographic of the 5Rs framework (Bain, Ballantyne, et al., 2002). The online infographic of the academic reflective writing model was directly extracted from Ryan (2011, pp. 105, 108).

The process of designing the 5Rs infographic involved the following steps:

- 1- To visualise and represent the information involved in the Bain model, I read the reflection components and their levels multiple times to understand the meaning of each component and level.
- 2- I then summarised the meaning of each component to explain the straightforward meaning of each component.
- 3- I decided to mention some of the characteristics of each level briefly within each component.
- 4- I then added the prompting questions as other authors have found that using these questions helps to enhance participants’ reflective thinking.

- 5- I added some pictures to visualise the aspects that the participants should engage with during each component. For example, for the first stage I added a pen and paper, which represented their need to report what was going on. I also added a heart to represent the strong feelings that would be expected during this stage, when they may be experiencing problems and do not know how to tackle them. The reasoning component, on the other hand, involved more reading and the need to think carefully, in order to balance the whole situation and to make links between various factors that could explain the initial reasoning and the solutions to the current incidents.
- 6- Emojis were added to represent the expected feelings during each component, to send the message to the participants that feeling confused and uncertain is expected and acceptable when they engage in reflecting.
- 7- Then I evaluated the infographics by asking two of my colleagues to provide me with feedback, I was advised to add more pictures to visualise the meaning of each component. For example, I used puzzles to represent the uncompleted vision of the meaning of the issues in the first stage, and explained that this would become better when engaging in other reflection stages (Relating and Reasoning). This vision was then represented by the use of light in the Reconstructing component – this represented the idea of reaching a new understanding that would enlighten their thoughts as teachers.

On the other hand, the design of the reflective writing infographic was extracted directly from Ryan (2011, p. 105, 108). I just added an example of two writing samples to explain the differences between reflective writing and descriptive writing.

In the final stage I translated the two infographics and sent them to one of my postgraduate colleagues whose major was English, to check the accuracy of the translation.

Reflective Thinking

ملفات إنشاء وتعديل صفحات المدونة

ماذا يقصد بالتفكير التأملي ؟

يعتبر التفكير التأملي جانباً حيوياً من جوانب التعلم المستمر والتطوير المهني في مجال التدريس ومجالات مهنة الرعاية الأخرى (رونجرز، 2002؛ كيلي أند مولوني، 2010؛ جونز وريان، 2014). ويمكن للتفكير التأملي أن يساعد المعلمين في التوصل إلى فهم جديد لممارستهم الخاصة، وذلك عند استكشافهم وتأملهم في المعرفة الضمنية خلال ممارستهم التعليمية (كوكران سميث ولويل، 1999؛ بود وآخرون، 2013؛ غاي، 2010).

ويحدث ذلك من خلال مبادرات الطلاب المعلم المستمرة للتعلم في كيفية الاختيار بين الاستراتيجيات المختلفة، واتخاذ القرارات الحكيمة، والتفكير بشكل عقلاني عند البرهنة أو الاستنتاج، من أجل تحسين ممارستهم التدريسية (كوكران سميث ولويل، 1999).

ويعرف ديوي (١٩٣٣، ص ٩) (الذي يعتبر مؤلفاً رئيسياً في مجال التأمل) التفكير التأملي بأنه "الدراسة النشطة والمستمرة والدقيقة لأي اعتقاد أو شكل من أشكال المعرفة المفترضة في ضوء مسبقاتها ونتائجها".

ومن الضروري استيعاب أن التأمل ليس هدفاً في حد ذاته؛ بل هو وسيلة تُمكن المعلمين من التعلم أثناء ممارستهم.

يذكر رونجرز (2002، p.86) بأن "التأمل ليس غاية في حد ذاته بل هو أداة أو مركبة تُستخدم في تحويل التجربة الخام إلى نظرية غنية بالمعنى مستندة إلى التجربة، مستنيرة بالنظرية القائمة، بحيث تخدم الغرض الأكبر للنمو الأخلاقي للفرد والمجتمع".

وينظر إلى التأمل على أنه عملية تساعد على سد الفجوة بين النظرية والممارسة لأنها تساعد المعلمين - بمرور الوقت - من إبراز معرفتهم الضمنية بشكل صريح، تلك المعرفة المتواجدة بشكل ضمني في تجاربهم الحقيقية (كوكران و آخرون، 2001؛ كوكران سميث ولويل 1999). وينتج التأمل أيضاً للمعلمين المتدربين الحصول على معرفة جديدة وبصيرة من خلال ممارستهم الحالية بغرض تحسينها (غاي، 2010).

الصفحات

- الصفحة الرئيسية
- ماذا يقصد بالتفكير التأملي ؟
- الفائدة من التأمل
- انفوغرافيك الممارسة التأملية المعتمدة على نموذج بي...
- الكتابة و التفكير التأملي
- التأمل باستخدام إطار بين الخعاسي
- خطوات إنشاء و تعديل صفحات المدونة
- تطور أحد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجالات تأملية تركز على إدارة السلوك
- مجالات تأملية تركز على إدارة وتنظيم الصف
- أمثلة لمجالات تأملية حول التقييم

من أنا

shatha

عرض الملف الشخصي الكامل الخاص بي

المدونات التأملية للطلّبات

- المدونة الأولى
- المدونة الثانية
- المدونة الثالثة
- المدونة الرابعة
- المدونة الخامسة
- المدونة السادسة
- المدونة السابعة
- المدونة الثامنة
- المدونة التاسعة
- المدونة العاشرة
- المدونة الحادية عشر
- المدونة الثانية عشر

ليست هناك تعليقات:

إرسال تعليق

أدخل تعليقك...

تسجيل الخروج

التعليق باسم: shatha (G)

إعلامي ☐ معاينة

الصفحة الرئيسية

الاشتراك في: الرسائل (Atom)

قائمة الكتب للتحميل

المدونات في إدارة الصفوف

Participants' individual blogs

88

Reflective Practice Guidelines

First stage

Describing,feeling,identifying the problem

Reporting (Level 1,2,3)

Report what happened or what the issue or incident involved.
Why is it relevant?



Responding (Level 1,2,3)

Expresses the writer feeling.
Make a judgement regarding the incident.
Poses a question or identifies a problem.



What's happening here?

Why it is important?

How do I feel about it?

What is the real problem?

Second stage

Linking with skills ,experience ,literature &expecting the action's results

Relating (Level 1,2,3)

Makes a connection between the incident or issue and the writer's own skills,experience, learning or understanding,rationale of using certain strategy.



Have I seen this before?

Were the conditions the same or different?

Do I have the skills and knowledge to deal with this? Explain

What is the rationale of using certain strategy?

Third stage

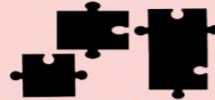
Evaluating each solution & considering the main factors

Reasoning(Level 1,2,3)

Highlight in details significant factors underlying the incident or issue.

Explain and show why they are important to understanding of incident or issue.

Refer to relevant theory and literature to support your reasoning.



Why do I use certain strategy to solve the problem?

What are alternatives solutions?

What are the positives and negatives of the strategies you describe?

What are the limitations of the strategies?

Fourth stage

Hypothesising ,thinking about the future practice &reaching a new understanding

Reconstructing (Level 1,2,3)

Hypothesise about different possible responses/actions.

Reframe future practice and show new understanding



If ----?



What is really the key issue?

How would I deal with this next time?

What might work and why?

What might happen if ---?

Are my ideas supported by theory?

What other said about the issue?

What I really believe ?

Can I make change to benefit others

Figure 3. 6: Online infographic of the 5Rs framework (Bain, Ballantyne, et al., 2002)

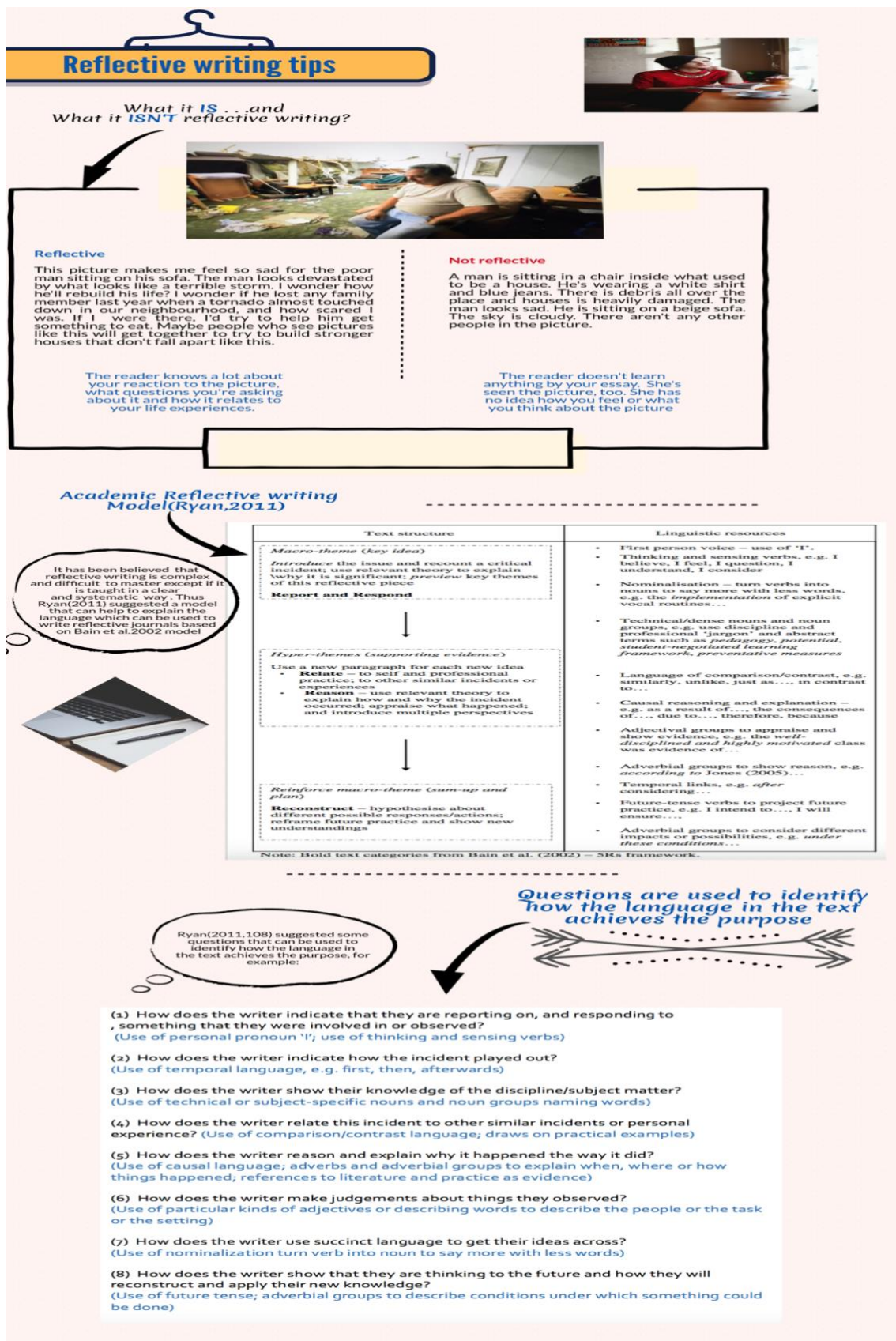


Figure 3. 7: Online infographic of the academic reflective writing model (Ryan, 2011)

The main action research consisted of two phases: the first phase lasted for four weeks and the second phase lasted for eight weeks. See Table 3.2 for more information about the timetable of the plan for writing the RJs.

Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12
Observing school teachers	Observing school teachers + Teaching	Teaching									
Contacting participants	Attending the first workshop	Attending the second workshop									
		Writing the first RJ about Classroom management		Writing The Second RJ about Classroom Management	Writing RJs about teaching strategies or Learning	Writing RJs about assessment	Writing RJs about any topic			Writing Reflecting on their reflection	



Table 3.2: The two phases timetable within the main study

3.7.4 The first phase of the main study

This phase lasted for four weeks and focused on first contacting the participants, introducing and explaining the meaning of reflection as well as asking the students to write their first journal on classroom management. During this phase two workshops were conducted in which the following aspects were considered:

- Explaining the meaning of reflection by presenting some relevant translated knowledge about reflective thinking from the relevant literature.
- Clarifying the importance of engaging with reflection to highlight to them the reason behind this project, by for example explaining the difference between reflective teachers who regularly reflect on their practice and make careful decisions, to others who teach on a routine basis and repeat the same mistakes.
- Discussing with the students how to reflect on their practice.
- Explaining to them their role when they decided to volunteer to participate in this study.
- Clarifying to them what kind of support they will get when participating in this study.
- Giving the pre-service teachers a chance to ask any questions or for clarification about any aspects related to this project.

- Providing the students with some information about the relevant ethical issues such as their right to protect their privacy and their right to withdraw from this study with no consequences (see 3.14 for more details about the ethical considerations).

In the first workshop, all of the above was discussed briefly to give the pre-service teachers general information about the current project. Then, the trainee teachers who liked the idea of reflection attended the second meeting to get more information about the project and to sign the relevant ethical papers.

In this phase I asked the trainee teachers to write their first RJs on two stages within two weeks (at the end of week 3 and in week 4). The first stage aimed to cover the reporting, responding and relating levels and the second stage covered the reasoning and reconstructing levels based on Bain's model (see Table 3.2). This is because of various reasons which are:

- Reflective thinking is not a common way of learning or thinking within the Saudi context.
- Pre-service teachers do not have enough experience of teaching, so they need time to practice teaching, to read and learn about the issues that they encounter.
- Saudi pre-service teachers in IAU lack knowledge of classroom management, so they need time to read about these issues.

3.7.5 The second phase of the main study

This phase lasts for eight weeks and during this phase, participants were asked to write a complete journal rather than writing them in two stages. Participants were given a chance to contribute to the plan of the second phase of this study by asking them about their experience when writing their first journal. Most of them articulated that writing in two stages was helpful in their first journal, however, it would be more meaningful to write a complete journal in the second phase of this study. They suggested writing a complete journal on the first week of each suggested topic to cover the five components of the Bain model and to improve it after receiving feedback from professionals and peers on the next week of each topic (Research diary).

This means that within both phases (the first and second phases) there were several cycles where the participants had to write their journals then receive online feedback. As a follow-on step they had to modify their journals based on this feedback.

However, what happened was that many participants wrote about more than one issue in their journal for some of the suggested topics, so I asked them to focus on one incident in each

journal, thus they wrote another journal on the same topic. Reema, on the other hand, was able to write a reflective journal on every week. Thus, the number of the total written journals varied among participants. For example, all participants wrote six journals while Reema wrote eight, and Rana uploaded just five journals because she had maternity leave for two weeks (see 4.1.2 for more details).

At the end of the semester, participants were asked to reflect on their reflection by answering some questions regarding their experience when engaging with reflection.

3.8 Participants

This study used a convenience sample of 12 primary school pre-service teachers at the IAU. The sample was small and homogenous as all of the participants were in their fourth year and from one field (junior primary classes teacher programme). Convenience sampling is considered as a dominant strategy within qualitative studies. Cohen, Manion and Morrison (2011) explain that convenience sampling is about choosing the individuals who are accessible at the time, and the researchers usually choose the sample which is easy to access.

The procedure for selecting the participants went in two stages, and took place in the first week of the semester. In the first stage of this study, I had individual meetings with three supervisors to explain the aim and the objectives of this study as well as their role when they agreed to participate in the project. The decision of choosing the three supervisors (Dr. Noor, Dr. Samira and Dr. Afnan) was made because of the following reasons:

- All three supervisors were interested to participate in this study as they believe in the potential of reflective thinking, indeed Dr. Noor informed me that she already completed research about reflective thinking in the Arabic language and she will submit the paper soon. Thus, I assume that the supervisors had the desire to engage actively in this study, although all of them, especially Dr. Samira and Dr. Afnan, were overwhelmed by their academic and administrative responsibilities.
- I have a good personal relationship with all of them as we work at the same college (College of Education).

The second stage involved sending an invitation through the Blackboard system to all pre-service teachers who were being supervised by the three mentioned supervisors. In the invitation, I explained to them the general idea and asked them whether they are interested in attending a meeting where the aim and the objectives of this study will be explained in detail.

My previous plan was to accept the first ten registered students, however, I could not reach an agreement with the administration officials in the department of teacher education programme about how we could encourage students to engage in this study, as I was planning to replace one of their requirements with the reflection requirement or give them at least five grades as a bonus to encourage them to participate in this study. Thus, I decided to invite and accept as many as I could, in case they changed their mind and dropped out of the study as their participation was voluntary.

During the first meeting, the total number who attended the first meeting was 41, as follows: 17 of Dr. Noor's students, 18 of Dr. Samira's students and six of Dr. Afnan's students. In the following second meeting, a total of 28 pre-service teachers attended the second meeting and agreed initially to participate in this study: ten of Dr. Noor's students, 14 of Dr. Samira's students and four of Dr. Afnan's students. However, at a very early stage of the study, eight students withdrew, then, later, eight students withdrew after writing the first part of their RJ and/or conducting their first interview; 12 participants luckily remained until the end of the study (see Table 3.3).

Although I contacted the withdrawn students to understand the reason behind their withdrawal and to try to offer them some support to help them continue participating, the majority of pre-service teachers who withdrew at an early stage mentioned that they would like to participate but because of time constraints, as they were overwhelmed by so many tasks to complete and some of them were busy with their personal life, they preferred to withdraw from the study. The other students who withdrew after writing the first part of their RJ or being interviewed, two of them (Ruba, Alanoud) mentioned that it was hard for them to continue as they could not improve their writing to write thoughtfully on their incidents, three of them (Raneem, Rawan and Basma²) articulated that writing these journals was challenging and they would try to write them again but they never came back, two students (Zakia and Rouda) mentioned that they have a family reason to withdraw, and finally Zohoor could not continue because she was very busy with extra hours on top of the school placement to complete in the university to graduate at the end of the year, so she decided to drop the study.

The participants who took part in this study may have had a personal interest in engaging with online reflective thinking, especially after being extremely disturbed by the reality of teaching and realising that many other teacher training students in diverse other international contexts and situations, deal with their issues more systematically and thoughtfully, at least according to

the extant literature. Furthermore, it was noticed that the participants who were in supportive groups in their placement school remained in the study whereas the other pre-service teachers who were placed in unsupportive groups (and did not have the interest to engage with reflection) withdrew from the study. The group was self-selecting and therefore is inherently and unavoidably biased only in the sense however, that within the group, those of the self-selection may have more implicit interest in technology and in learning about reflective thinking. I therefore acknowledge the bias within the group on the basis of their self-selection and consider this to be a limitation. However, this is not a particular issue in this study because the research is not aiming to generalise to a population, it is only aiming to explore and to represent participants' experience in detail, to a very high degree and to the extent that great richness in the study and its design therefore allow other future researchers to transfer research of such a study to a different population.

Supervisor name	Pre-service name	Status	Time of withdrawal
Dr. Noor	Sultanah	Remain	-
	Nourhan	Remain	-
	Aldana	Remain	-
	Mona	Remain	-
	Rawan	Withdrawn	After writing the first part of RJ
	Basma	Withdrawn	At a very early stage
	Sultanah2	Withdrawn	At a very early stage
	Raneem	Withdrawn	After writing the first part of RJ and first interview
	Lamees	Withdrawn	At a very early stage
	Najow	Withdrawn	At a very early stage
Dr. Samira	Marwa	Remain	-
	Rana	Remain	-
	Hanan	Remain	-
	Asma	Remain	-
	Kholoud	Remain	-
	Nada	Remain	-
	Zohoor	Withdrawn	After the first interview
	Zakia	Withdrawn	After writing the first part of RJ and first interview
	Sarah	Withdrawn	At a very early stage
	Basma2	Withdrawn	After writing the first part of RJ and first interview
	Amjad	Withdrawn	At a very early stage
	Rouda	Withdrawn	After writing the first part of RJ and first interview
	Reham	Withdrawn	At a very early stage
	Ashjan	Withdrawn	At a very early stage
Dr. Afnan	Reema	Remain	-
	Haifa	Remain	-
	Ruba	Withdrawn	After writing the first part of RJ and first interview
	Alanoud	Withdrawn	After writing the first part of RJ and first interview

Table 3.3 Study participants in the main action research (supervisors and pre-service teachers)

Communication with the experienced teachers, who participated in this study to provide the pre-service teachers with some online feedback, was through a well-known teachers' supervisor (Nadia) in Riyadh city. I got in touch with her and I explained to her my project idea and she welcomed the ideas of this project and offered her help by nominating some of her effective supervised teachers. I contacted about 14 teachers and explained the idea to them by sending

WhatsApp messages, six replied that they were happy to offer their help. The total number of teachers was seven (one teachers' supervisor, six teachers), see Table 3.4.

Teacher name	Age	Degree	Major(s)	Teaching experience	Career
Nadia	54	Bachelor's	Geography	30 years	Teachers' supervisor
Lujain	34	Bachelor's	Arabic	11 years	Teacher
Dema 1	33	Bachelor's	Special learning	5 years	Teacher
Dema 2	47	Diploma	Maths	28 years	Teacher
Susan	45	Diploma	Maths	20 years	Teacher
Rahaf	45	Master's	Religion	18 years	Teacher
Mashael	39	Bachelor's	Arabic and social studies	14 years	Teacher

Table 3.4: Study participants in the main action research (experienced teachers)

The total number of participants was 12 pre-service teachers, three supervisors, and seven experienced teachers. Although the sample was small, it was sufficient for a narrative study which is concerned with obtaining rich narrative stories from a highly homogeneous sample (Ritchie et al., 2013) to understand pre-service teachers' experience and their supervisors' perspective when the former reflected electronically on their practice.

3.9 Data collection techniques and sources

This research adopted several qualitative methods (see Figure 3.8) to understand pre-service teachers' experience and their supervisors' perspective when the former engaged in reflective thinking via their electronic journals.

Data was collected using many methods, which are the following:

- Pre-service teachers' in-depth interviews (in three stages)
- Supervisors' in-depth interviews (at the end)
- Pre-service teachers' journals
- Official documents
- Researcher's diary

- Observing the individuals' blogs
- Reflecting on the reflection requirement from pre-service teachers

In this research, the in-depth interviews were considered as the main methods used to generate narratives that would help to understand the participants' experience when engaging with reflection. These interviews were conducted several times during the pre-service teachers' field experience to explore how they make sense of reflective thinking when using electronic journals to reflect on their practice as a learning method. These multiple in-depth interviews helped to ensure the sequence and progression of themes which represent their personal experience (Andrews, Squire and Tamboukou, 2008). All the research methods triangulated with each other to generate more stories and in-depth data regarding participants' reflection. Andrews, Squire, and Tamboukou (2008) stated that the researcher could triangulate the interviews by looking for evidence elsewhere to enrich the interview data. A number of methods were used to answer each research question (see Table 3.5 for more details about what research methods were used to answer each research question). Furthermore, transcriptions of electronic journals were rated to evaluate pre-service teachers' ability to reflect at a complex level. The data from journals are also used to reach an in-depth understanding of how the current participants engage with reflection.

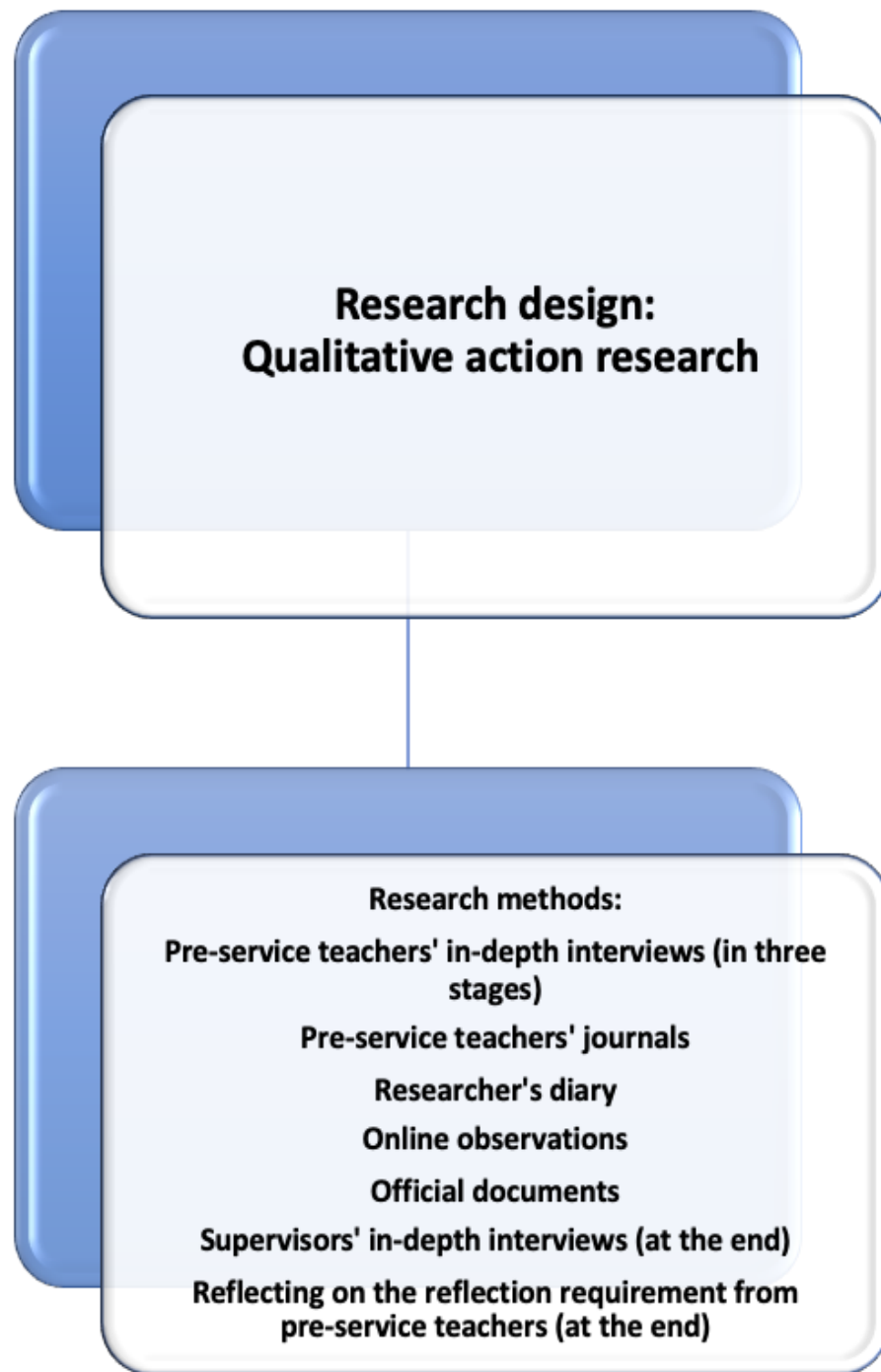


Figure 3. 8: Research methods used within the research design

The connection between the main research methods and their effect during the research phases

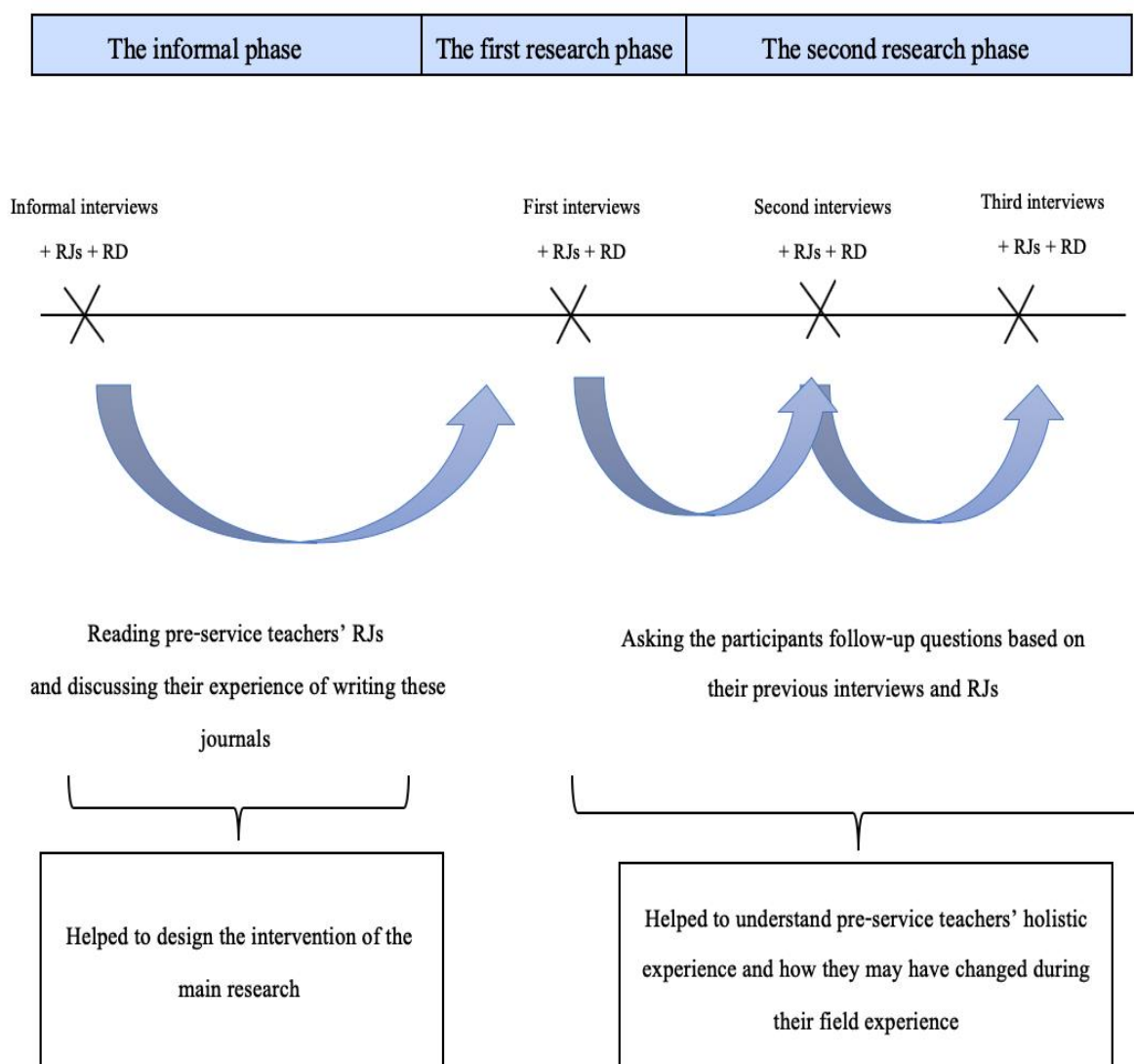


Figure 3. 9: How the research methods helped to inform each research phase

Figure 3.9 represented how the research methods helped to inform each research phase. In the informal phase, reading the participants' reflective journals and discussing their experience of completing their written journals helped me when designing the intervention of the main research. For example, I noticed their unawareness of the meaning of reflection and their negative attitude towards reflection. Thus, I designed the main blog and uploaded many online materials to try to explain the meaning of reflection. Furthermore, I provided the participants with several online books to help them broaden their horizons. Moreover, providing the

participants with online professional support was vital to support them while reflecting on their practice.

Within the main research (the first and second phases) I adopted follow-up questions while interviewing the participants by asking questions based on their previous interview and their RJs to help me as a researcher to understand how the participant may have changed during their field experience. For example, pre-service teachers mentioned in their first interview that they faced some difficulties regarding identifying their incidents. In the second interview I asked the participants about this issue, whether they overcame this problem or not and how they dealt with this issue. Furthermore, I discussed with the participants some of the issues mentioned in their reflective journals, how they identified them, and their technique for reaching the solutions.

Writing the researcher's diary while conducting this research helped me to focus carefully and to be more thoughtful about the study by reflecting on certain situations and drawing concept diagrams that could explain participants' experience when engaging with reflection (see section 3.9.5). All of that helped me as a researcher to understand the holistic experience of the participants during their field experience.

Research question	Tools to answer the question	Time
RQ1: To what extent do Saudi pre-service teachers reflect on their practice in this context?	Pre-service teachers' journals	During the study
	Pre-service teachers' interviews	In three stages
	Online observations	During the study
	Researcher's diary	During the study
RQ2: What are Saudi pre-service teachers' attitudes and orientations towards using RJs as a method of learning?	Pre-service teachers' interviews	In three stages
	Pre-service teachers' journals	During the study
	Researcher's diary	During the study
	Reflecting on the reflection	At the end of the study
	Official documents	At the beginning
RQ3: What do Saudi pre-service teachers see as impedimentary and disincentive factors which limit the use of electronic RJs as a method of learning within their field experience?	Pre-service teachers' interviews	In three stages
	Pre-service teachers' journals	During the study
	Online observations	During the study
	Researcher's diary	During the study
	Reflecting on the reflection	At the end of the study
	Official documents	At the beginning
RQ4: What do Saudi pre-service teachers believe to be the affordances and facilitatory factors for using electronic RJs as a method of learning within their field experience?	Pre-service teachers' interviews	In three stages
	Pre-service teachers' journals	During the study
	Online observations	During the study
	Researcher's diary	During the study
	Reflecting on the reflection	At the end of the study
RQ5: What are educational supervisors' perspectives on the use of electronic RJs as a method of learning?	Supervisors' interviews	At the end of the study
	Researcher's diary	During the study

Table 3.5: The research methods used to answer each research question

3.9.1 *In-depth interviews (pre-service teachers/supervisors)*

In some research, narrative can emerge from qualitative interviews spontaneously and these raw data can be analysed narratively. However, in other researches, stimulating participants to tell their stories is planned intentionally from the beginning of the study to generate stories and to analyse them narratively (Bryman, 2016). The design of this study concurs with the second orientation of focusing on stimulating participants' narratives when interviewing them three times during the study (for the pre-service teachers) and at the end of the study (for the supervisors).

The use of qualitative interviews, generally speaking, is considered as a powerful way for the researcher to explore and investigate individual experience in depth and in detail (Cohen, Manion and Morrison, 2011; Seidman, 2013; Denscombe, 2014). Kvale (2007, p. 5) states that "[an] interview is literally an inert-view, an interchange of views between two persons conversing about a theme of common interest". These conversations enable participants to express how they consider situations from their own perspectives (Cohen, Manion and Morrison, 2011).

In this research, I have chosen the in-depth interviews as a fundamental research method to answer the research questions, as I aim to explore and understand participants' experience regarding using electronic journals for reflection as a method of learning. This will help to gain an in-depth insight into how pre-service teachers view their experience of using technology to reflect on their practice. The in-depth interviews are usually set up with the aim of covering certain topics or issues but in a more flexible way which allows the researcher to ask more questions to get in-depth insights. This kind of interview is generative in which the participants may go further to generate some new knowledge in terms of suggestions of solutions for a certain issue, for example, during the interview (Legard, Keegan, and Ward, 2003).

The researcher should play an active role to collaboratively engage with participants when the researcher actively listens, digests the interviewee's answers, and asks appropriate questions to engage participants to express their thoughts deeply (Legard, Keegan and Ward, 2003). This brings us to the third feature of the in-depth interview which is its interactive nature; this helps to seek more detailed accounts and in-depth data instead of receiving general responses (Legard, Keegan and Ward, 2003).

In this research, I have used probing questions to encourage the participants to narrate their experience in a more flexible way (see Appendix C and Appendix D for the Arabic version). Therefore, formulating questions such as “Can you give me an example?” or “Tell me more about when...” is a good way to encourage participants to talk about their experience in depth (Andrews, Squire and Tamboukou, 2008). For example, one question was: “Tell me about your teaching experience in the classroom after reflecting, through your e-journal, on a certain aspect of your teaching practice”. A discussion then followed on some of their e-journal reflective text to reach in-depth data. Further questions were: “Can you give me examples of challenging incidents while writing your electronic journal to reflect on your practice?” The participants were also asked about the factors that they think facilitate their reflection process with the following questions: “Tell me about factors that help you to think deeply when reflecting on your practice via your e-journal”, “How do you think these factors help you to do this?”, “What do you think about using technology as a means to reflect on your practice?”, and “How do you think using technology could help or hinder your engagement in reflective practice?”

The “follow-up” questions technique was adopted while interviewing the current participants, not only during each interview but also as a way to seek more evidence and to understand in which ways the trainee teachers might have changed during the three interview stages. In this regard, Hollway and Jefferson (2000, p. 36) explain that “the follow-up questions constructed should be as open as possible and framed so as to elicit further narratives”. In fact, I tended to check each participant’s previous interview before conducting the following interview, as I represented their interviews in a visual graph to clarify each participant’s experience (see Figure 3.11), and I also tended to check their RJs to ask them a follow-up question about their specific experience. For example, asking them about their experience regarding “identifying their incidents” when they reflect on their practice and how they dealt with this impediment factor (as it was emerged as an impediment factor during the first interviews). In fact, conducting the multiple interviews was vital to ensure the sequence and progression of themes in which it helped to understand participants’ experiences and in which ways they may have changed during their school placement.

Pre-service teachers’ multiple interviews were carried out in three stages during the course (see Table 3.6): near the start, in the middle, and at the end. Each interview lasted between 45 and 60 minutes. On the other hand, the supervisors’ interviews were held at the end of the semester. Their interviews were concerned with knowing how the supervisors perceive the experience of reflective thinking as a supervisor, whether using technology as a means of reflection was

beneficial or not and why, as well as asking them about the facilitating and impediment factors that were noticed when asking the students to reflect on their practice (see Appendix E and Appendix F for the Arabic version).

All interviews were recorded using an MP3 to increase the internal reliability of the data by storing all conversations accurately. Recording interviews helps the interviewer by allowing him/her to not get distracted by writing notes during the interviewing (Bryman, 2016); see Appendix Q for a sample of an interview in Arabic. The interview was in Arabic as it is the native language of all the participants. I then transcribed all of the recorded interviews in a Microsoft Word document. I then just translated the data used in this study.

Week 1	Week 2	Week 3	Week 4		Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
First interview					Second interview						Third interview	

Table 3.6: The three stages of interviews

3.9.2 *Blog journal transcripts*

The majority of qualitative research is represented in the form of some kind of text (Cohen, Manion and Morrison, 2011; Bryman, 2016). For example, when researchers conduct interviews in their research, they end up working on a written text. In this study, however, the text is generated not only from the interview transcripts but also from pre-service teachers' journal reflection in their blogs. The transcripts of the blog journals were analysed based on the 5Rs Reflective Writing Scale (Bain, Ballantyne, et al., 2002).

The model 5Rs Reflective Writing (Bain, Ballantyne, et al., 2002) was employed as an analytical framework to analyse pre-service teachers' reflective thinking levels for several reasons. Firstly, the model contains five gradual phases to enable the measurement of the student teachers' reflection levels. Secondly, unlike other reflection models, this model has sub-levels that offer more accurate measurements regarding student teachers' reflective thinking levels. The five levels of the reflection scale are described in Table 2.2. See Appendix O for a sample of a participant's journal transcript and see Appendix N for an example of an evaluated RJ based on Bain's model.

3.9.3 Official documents

Official documents derived from the state can offer vital information for social researchers in the form of statistical reports or other textual materials (Bryman, 2016). In this research, I used two official documents from the state university (IAU) related to the Junior Primary classes teacher programme. One of these documents has information about the whole programme in terms of the aim and the previous requirements of entering the programme, and some information about giving compulsory and optional modules (see Appendix A). The second document was related particularly to the school placement training programme. The document has information about the aim, previous requirements of the training programme and the time plan. Furthermore, the second document clarifies the role of all people who are involved in the training programme and finally the same document explains the assessment procedure in some detail (see Appendix B). Reading these documents carefully helped me to link the current research findings with some information in the official documents to help me when interpreting the current study findings. For example, from the official documents it was clear that reflection has not been mentioned explicitly or implicitly within either document. Thus, I used that as evidence of the absence of the general orientation to engage with reflective thinking as a fundamental part of the school training programme in IAU in the field of the Junior Primary classes teacher programme.

3.9.4 Online observation

Observation is considered as a highly flexible method to collect data in that it allows the researcher to have access to participants' interactions in a social context (Cohen, Manion and Morrison, 2011). Online observation was used to understand pre-service teachers' experiences through how they interact with each other, how they respond to the online feedback in their blogs, and how they discuss their ideas in the official WhatsApp group. It was also used to observe the quality of the online comments given by others such as experienced teachers and peers. I kept a diary to record all of that on a regular basis.

3.9.5 Researcher's diary

I kept a diary from the early stages of this study when conducting the informal research phase and continued to write down notes during the whole study. In fact, the researcher's diary is used with other data sources to contribute to answering all the research questions (see Table 3.5). Writing the research diary in this research concurs with Bennett, Glatter and Levacic, 1994 p. 301), who believe that research diaries include three writing approaches. First "it includes a log

of all the activities and decisions in which the writer has been engaged”. In this regard, the majority of daily activities and the decisions that had been taken were reported and labelled with the day and the date. I wrote my thoughts, beliefs, planning and all the important events on paper, as I kept a notebook with me everywhere, then when I went home I wrote my thoughts down in Word program to organise my diary (see Figure 3.11). This includes reporting the online observation and how the participants interact with each other and how they respond to the given comments. Second, according to Bennett, Glatter and Levacic (1994 p. 301), the research diary, “can involve a free-flowing account where the writer reflects on some aspects of the log at the end of a busy day by writing up some aspects in more detail”. In my diary, I was reflecting on some aspects of the study. For example, I wrote down my thoughts and feelings after interviewing the participants, or when they contacted me asking for help or more clarification. I also reflected on some aspects of the study when highlighting the possible reasons that could explain some situations, such as writing the possible reasons why there was a negative feeling among pre-service teachers about reflection in the informal phase.

<p>قابلت اليوم [] بدت تكون اتجاه إيجابي للتقنية ، كان لدى [] مشكلة في تحديد المشكلات و تحديد سببها و يأخذ وقت منها ذكرتها [] في مقابلتها الثالثة بأنها أصبحت تتوقع المشاكل وتحلها (pre-reflection)</p> <p>[] ذكرت بأنها استفادت أكثر من مجلة ضبط الصف لعدم وجود معلومات مسبقه لديها بينما في مجله الاستراتيجيات تذكر بأنها ستأمل حتى لو ما اشتركت لأنه طبعها التأمل لاحظت [] بأنها أصبحت أكثر اهتماما بالطالبات من قبل التأمل (Caring)</p> <p>قابلت [] تناقشنا حول مستوى [] وبأن مستواها متوسط ولم تتغير كثيرا بينما [] تحسن مستواها بشكل واضح سألت [] عن الطالبات حول مدى استفادتهم من التأمل الیقظة هي الفائدة العامة ،،، ننتبه للمشكلات و ننتبه لتقييم حلول المشكلات .</p> <p>رددت بأنها فخوره بذاتها و باتهم صاروا يواجهون الطالبات الي ما شاركوا في البحث بضرورة تحديد المشكلة في البداية و حلها و تقييم الحل</p> <p>أكدت بأنها تكتب بشكل اعمق وتستوعب مشاكلها بعد مناقشة مشكلاتها مع الآخرين و تبدأ في الكتابة (تحتاج مجد لمناقشة اعمق)</p>	<p>٣-٢٢</p>	<p>الخميس</p>
<p>اليوم شعرت بأن الطالبات في مستويات الممستوى الأول مثل [] ممنواهن ممتاز في التدريس و تأملهن كذلك كان واعي و لم يكن يرفههم كثيرا ممكن عن طريق القراءة الواعية تحل المشاكل</p> <p>الممستوى الثاني الجيد</p> <p>أغلبية الطالبات هنا احتجن لمساعدة في المجلة الأولى ثم انطلقن في المجلات الأخرى بسهولة ويسر</p> <p>الممستوى الثالث الأقل من متوسط</p> <p>عدم وضوح وفهم للمشكلة بالمناقشة تحل غالبا المشاكل الممستوى الأقل</p>	<p>٣-٢٣</p>	<p>الجمعة</p>

Figure 3. 10: An extract of the researcher's diary

Finally, a research diary “may include a record of a particular situation or event in which the writer has been actively involved and wishes to describe” (Bennett, Glatter and Levacic, 1994, p. 301). In this research, I also concentrate on some severe situations and wrote a diary to fully explain them and to help me when interpreting the findings of this study. For example, I reported the situation at the beginning of the main study when the pre-service teacher was worried and unsure about their ability to reflect on their practice, that time was hard for me as well, as I was overwhelmed by so many phone calls, emails and messages asking me whether their level of reflection is acceptable or not. In my diary, I explained what type of difficulties they face, the reasons behind them and how they improved. This helped me to ask for more explanation from participants when conducting the forthcoming interviews. Over time, writing the research diary helped me to link the ideas together as I started to draw some graphs to represent each candidate’s thoughts and how they progressed during the study (see Figure 3.11), as well as drawing a diagram of the whole research idea by linking the ideas together (see Figure 3.12). In fact, these graphs helped me when coding the research data while conducting the analysis.

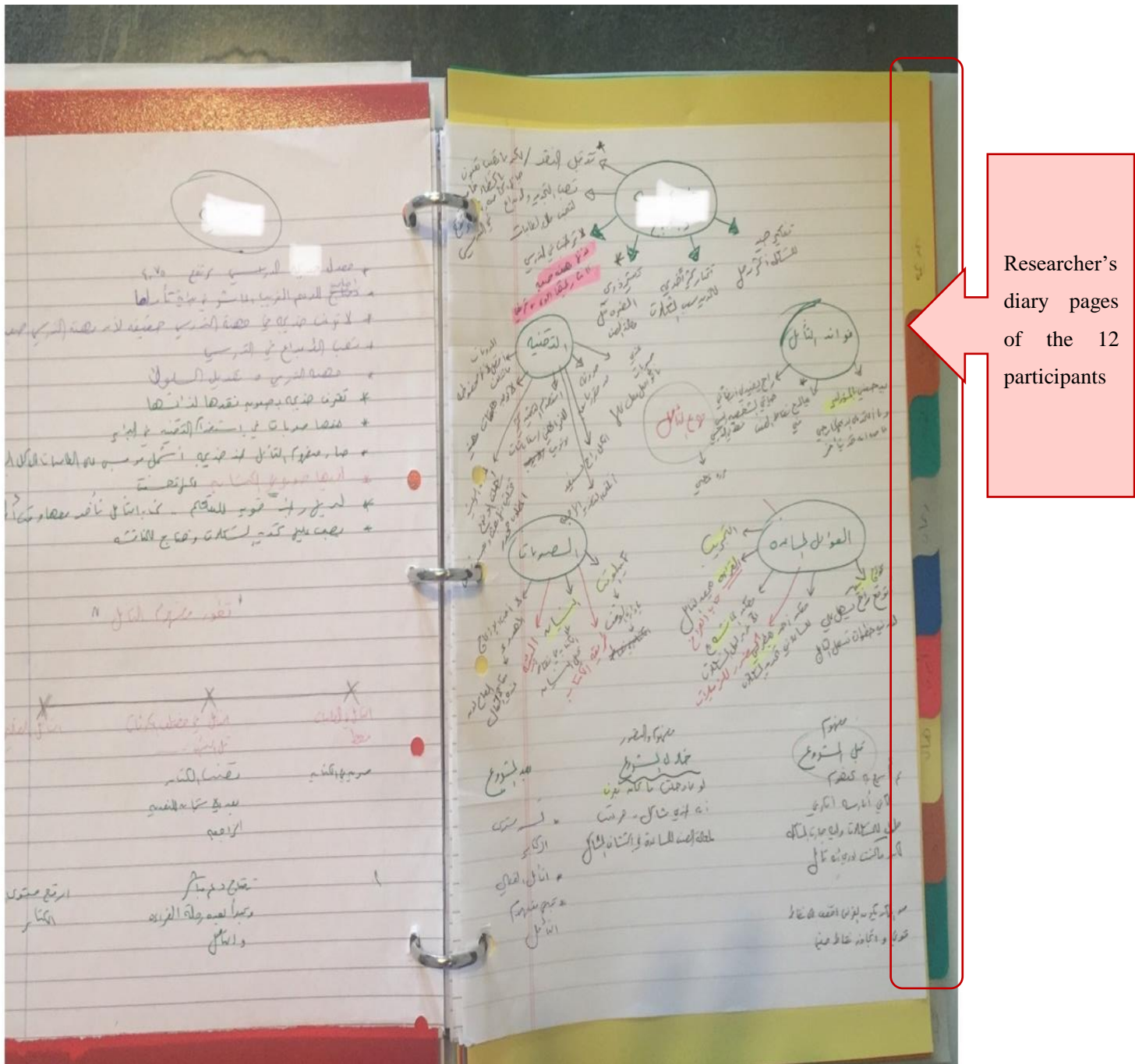


Figure 3. 11: An example of the researcher's diary regarding participants' thoughts

The aim of keeping the reflective diary was not only to reach in-depth data and thoughts but also to manage the insider issues, as I consider myself as an insider researcher who shares the experience of reflection with the participants. Cohen, Manion and Morrison (2011) stated that when participants, as researchers and practitioners, reflect regularly, they become more aware of their feelings, thoughts and beliefs that they have which could affect the conducted study. In fact, reflexivity is considered as "a major strategy for quality control in qualitative research" (Berger, 2015, p. 219). See Section 3.11 for more details.

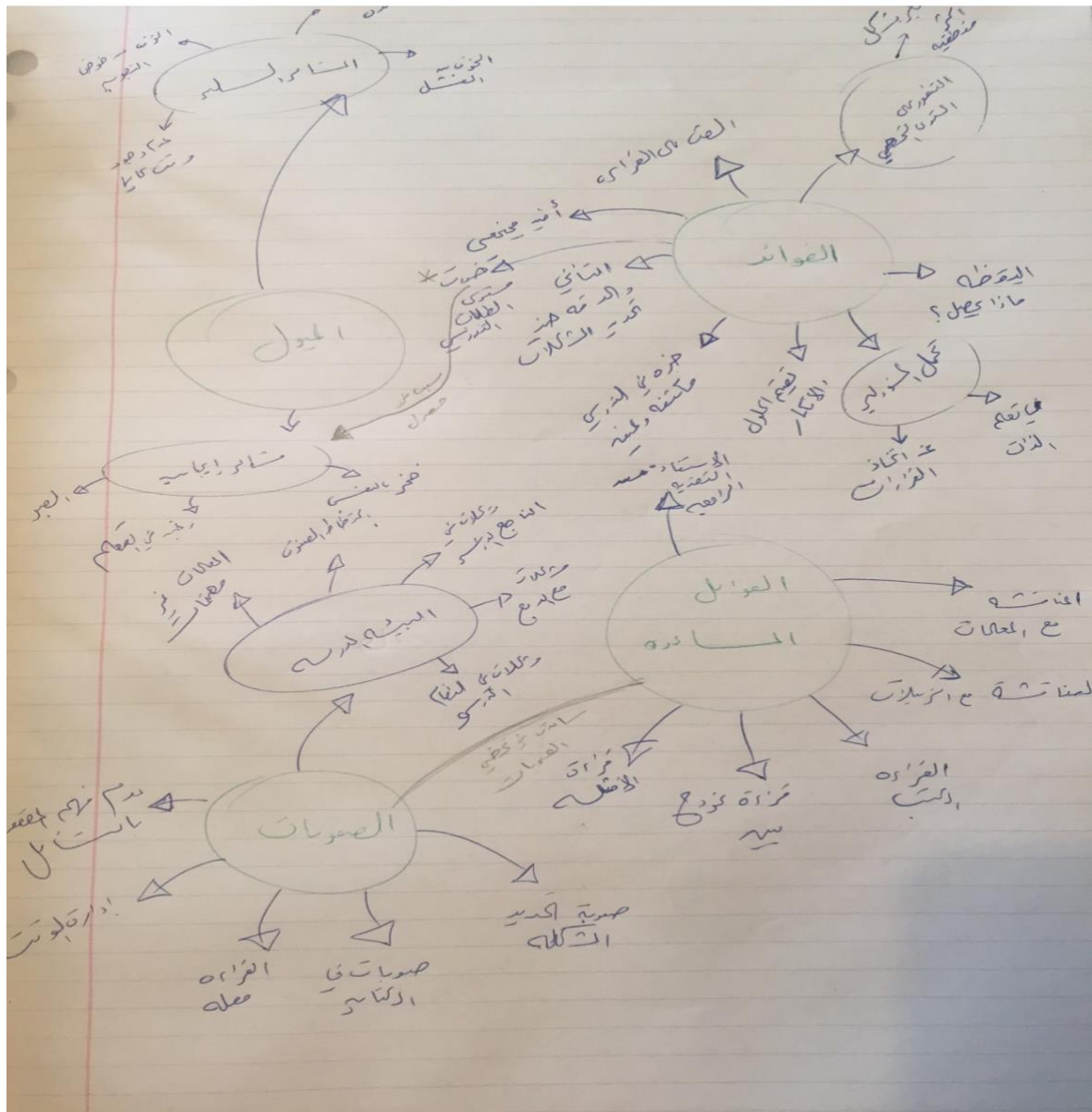


Figure 3. 12: The researcher's diary at the end of the study

3.9.6 Reflecting on the reflection

Reflection is considered as an available tool within qualitative research to give the participants a chance to express their thoughts and feelings that would be hard to reach when using other research methods (Creswell, 2014). At the end of the semester, I asked the pre-service teachers to reflect on their whole experience of engaging with reflection by sending them certain questions to help them to express and explain their thoughts (see Appendix G and Appendix H for the Arabic version). The reflection on reflection questions include asking participants, for example, about how they feel that they have changed, to express their thoughts about unexpected difficulties and how they overcame them. I asked them to reflect on their reflection as a final step in this research to compile the achieved data with other data sources to get an in-

depth understanding about their experience, particularly at the end of the research (see Appendix P for a sample of RoR in Arabic).

3.10 Analysis of data

The aim of my research is to understand pre-service teachers' experience and their supervisors' perspective when using technology to enhance pre-service teachers' reflective thinking and how they changed professionally and personally while reflecting on their practice. To do so, a thematic narrative analysis (Polkinghorne, 1995) was adopted with the use of an analysis method framework developed by Braun and Clarke (2006) to analyse the research data (see Table 3.7 for more details about Braun and Clarke framework). The focus of narrative analysis "shift[s] from 'what actually happened?' to 'how do people make sense of what happened?'" (Bryman, 2016, p. 589).

Paradigmatic data analysis is common among qualitative researchers (Kim, 2015). It aims to recognise the common themes among several stories (Polkinghorne, 1995), by covering the commonalities that appear among different resources of data (Kim, 2015). In this regard, Polkinghorne (1995, p. 13) articulated that "the paradigmatic analysis of narrative seeks to locate common themes or conceptual manifestations among the stories collected as data. Most often this approach requires a database consisting of several stories (rather than a single story)". These themes can be informed by certain theories deductively or can emerge from research data inductively (Polkinghorne, 1995), and themes can also be "derived from the predetermined foci of one's study" (Kim, 2015). In this research the main themes were derived from the main research foci, represented in the research questions, however, the sub-themes and the process of coding emerged inductively from the research data. I identified the sub-themes based on commonalities present across all of the data. To manage the data analysis, I adopted the analysis method framework developed by Braun and Clarke (2006).

N	Phase	Description of the process
1	Familiarising yourself with your data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3	Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4	Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis.
5	Defining and naming the themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6	Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Table 3.7: Six phases of thematic analysis (Braun and Clarke, 2006, p. 87)

I transcribed all the interviews by myself on the same day or the day after conducting the interviews then I revised all the transcriptions very carefully before analysing them (after completing the data collection and coming back to the UK), as I reviewed all the transcriptions to make sure that there were no mistakes, which increased the accuracy of the data. This resulted in being more familiar with my data as I also wrote memos and my initial idea about them while reviewing the transcription. I kept all the data in the original language (Arabic) and just translated the data used in this research. This decision was made to avoid the limitation of losing

the meaning and thus to enhance the study's validity (Van Nes et al., 2010). I read the data several times and started coding all three stages of pre-service teachers' interviews, supervisors' interviews and then coding the RJs, my diaries which contained the online observation and finally the RoR requirement. All of these analysed data were in the form of narratives.

I then decided to gather the codes into meaningful sub-themes and to locate them in their main themes to answer the main research questions. Sub-themes and codes within themes were reviewed consistently in terms of the relations between them to avoid the overlap that could occur between them. These themes, sub-themes and codes were analysed in hermeneutic ways in which they represented description themes that hold across the stories (Lieblich, Tuval-mashiach and Zilber, 1998; Polkinghorne, 1995). According to Polkinghorne (1995, p. 12), the paradigmatic analysis resulted in "descriptions of themes that hold across the stories or in taxonomies of types of stories, characters, or settings". Nonetheless, the analysis was not a simple identification and description of particular themes, but included the explanation of the relationships within them (Polkinghorne, 1995).

I then revised the meaning and the translation of all the themes, sub-themes (codes) and sub-codes as well very carefully. I contacted my colleague (a TESOL postgraduate student) and discussed the meaning of each code and sub-theme and the relevant data to reach an accurate translation to represent the meaning. At the final phase of data analysis, I chose the quotes to represent the meaning of each code or sub-code in the research report, linking some of these codes to the relevant literature, illustrating the meaning of the whole data to answer each research question and synthesising the data to understand its entire meaning. In Table 3.8 an example of the use of thematic analysis is given.

Theme	Sub-theme or code	Sub-code	Data
Impedimentary factors	Time constraints		<i>Sometimes, the time is tight and I cannot find the time to think and write...because sometimes I have to handle my teaching plans and the extracurricular activities as well as the reflective journal. With this, I feel that I am under pressure in terms of time.</i>
	Lack of writing ability		<i>It was hard for me to link my ideas to each other...I do not know how to sequence my ideas...I think to overcome this problem I need to read more and to have a look at the examples on the main blog and to see my peers' journals...I also need to revise my journals after writing them.</i>
	Lack of thinking skills	Difficulty of identifying some incidents	<i>Sometimes, when I ask myself many questions I feel like I am lost, with so many answers...thus, when I get confused...I like to speak up and talk about my issues with my friends. This makes the reflection easier for me.</i>
		Inflexibility	<i>We were asked to assess the students in terms of certain skills such as their ability to communicate and their proficiency in diction. However, they never explained this to us, neither in the curriculum nor in the teachers' guide book...So how can we do this?</i>
		Inability to speculate	<i>Being asked for more thinking after implementing and assessing certain solutions was often hard for me, especially when I had found very good solutions. I feel that it is hard to think about alternative solutions...because I found the solutions that work for me after thinking carefully...and then I have to think about other situations. I feel like I got stuck with this kind of question.</i>
	Resistance to use blogs as a means of interaction		<i>My friends shared their journals in the online group for the whole students who are in the last semester of their study... but they did not receive any critical comments... They just tell them that your journals are beautiful we liked them and we liked your solutions.</i>
	External factors that affected student		<i>In each class, you will find a couple of special needs students...and there is usually one special education teacher in the whole school who can support these students' learning needs...but I do not know what exactly she is doing...there is no connection between us... and there is no clear plan....</i>

Table 3.8: Demonstration of coding impedimentary factors themes

With regards to the participants' level of reflection, as mentioned before this research adopted Bain's model of reflection which consists of five levels of reflection, thus, this model is used

to rate the participants' reflective thinking. All blog transcripts for each journal were coded and analysed based on a five-point scale (Bain, Ballantyne, et al., 2002) to measure the reflection level of each journal. The model 5Rs Reflective Writing (Bain, Ballantyne, et al., 2002) provides an assessment of the depth of reflective thinking. It consists of five categories: reporting, responding, relating, reasoning, and reconstructing. Each component consists of several levels (see Table 2.2) which offer more accurate measurement to evaluate the participants' RJs. The model was employed to evaluate all individual e-journals and each e-journal was rated according to the highest level reached within the entry. In the first stage of the analysis, I used colours to analyse each journal, with a certain colour for each component; then, I drew a diagram for each journal to visualise the concepts related to each component (see Appendix M). All the transcribed journals were then evaluated by another reviewer, after sitting and discussing Bain's model of reflection (see Appendix L, the Arabic version of Bain's model); all journals that we did not agree on were sent to a second reviewer. In fact, when answering the first research question ('To what extent do Saudi pre-service teachers reflect on their practice in this context?'), I synthesised the meaning from various data sources which are the research diary, RJs, pre-service teacher interviews and online observations and I presented the answer to this question in a thematic way to understand the participants' experience clearly.

3.11 Researcher's role and beliefs

Based on my previous experience as a pre-service teacher and my work as a former teacher and then as a lecturer and supervisor in a college of education, I hold a particular view about the current situation in our educational and supervision system. For example, I have noticed that some teachers and the majority of pre-service teachers are struggling in their practice when having to deal with the complexities of teaching situations. Indeed, I have had a chance to work as a supervisor of trainee teachers, and I realise that they tend, when facing any problems, to wait passively for direct advice to address the teaching incidents they encounter. Thus, I believe that current educational supervision should be improved and this could be achieved by integrating the reflective practice into the programme. Together this has given me a passion to conduct this action research to explore participants' experiences narratively when they are using technology to reflect on their practice. During this research, I was aware of my feelings, thoughts, knowledge, and my passion to improve the current situation.

In fact, during this study, I played the role of a facilitator, supporting participants to reflect at a deep level. I worked with supervisors cooperatively by having regular meetings to read pre-

service teachers' online journals and discuss their incidents to support them during this research. This includes providing them with regular feedback on their RJs, posing various online questions, and offering online comments to encourage them to reflect at a complex level. I played also the role of a technical facilitator by supporting the pre-service teachers when they seek technological help on using the blog to reflect on their practice.

Thus, concerning my position during this study, I believe that I am both an outsider and an insider, but that I am closer to the latter. Dwyer and Buckle (2009, p. 61) believe that "we may be closer to the insider position or closer to the outsider position...we cannot fully occupy one or the other of those positions". I am an outsider in terms of acknowledging that I cannot understand pre-service teachers' full experience when they engage with reflective thinking and fully understand what kind of difficulties they face, how they face these difficulties and how they benefit personally and professionally overall. Thereby, by conducting this study I was hoping to understand their experience when hearing their own stories and when interacting with them actively to reach in-depth insights about their thoughts and feelings regarding reflection (Dwyer and Buckle, 2009).

However, I am more insider in terms of being familiar with many aspects of the Saudi cultural context under study, and because I have developed knowledge when engaging with the relevant literature and when sharing the current participants' experience when playing the facilitator role to help the pre-service teacher to write RJs at a deeper level. Although being an insider researcher has its positive aspects of being more familiar and having an in-depth understanding of participants' lived experience of the current research (Berger, 2015), it has its challenges of subjectivity and biased issues within qualitative research (Greene, 2014).

To manage the insider issues, I used self-reflexive techniques by writing the researcher's diary (see 3.9.5) to separate my attitudes, beliefs and knowledge from the knowledge that was formed by the participants (including myself, the pre-service teachers, and the supervisors), and the knowledge that was formed by myself as the researcher. In this regard, Cohen, Manion and Morrison (2011, p. 359) believe that "reflexivity is the self-conscious awareness of the effects that the participants, as practitioners and researchers, are having on the research process, and how their values, attitudes, perceptions, opinions, actions, and feelings are feeding into the situation being studied". Therefore, I kept a daily diary to describe any incidents and to reflect on them, I also reported my thoughts, feelings, and any challenging events that I faced during this study. This helped me to manage my insider issues as well as to understand how my beliefs

or actions could influence the research results and this consequently helped me to deepen my thoughts and develop personally and professionally as a researcher.

In this regard, it is believed that personal growth of action researchers is considered as a vital part of the change associated with such inquiry (Stokols, 2006; Toledano and Anderson, 2017). In fact, I believe that engaging with participants to understand their experience in interactive and narrative ways creates an empathetic relationship between me, supervisors as facilitators, and pre-service teachers as reflective practitioners, which resulted in being more flexible and open regarding participants' thoughts, beliefs and perspectives, all of which helped me to understand the new social reality (Toledano and Anderson, 2017).

3.12 Limitations

This research has some limitations that should be considered when interpreting the study findings. One of the limitations related to my dual role in this research as a researcher and facilitator when working with pre-service teachers' supervisors to influence the participants' reflective thinking. This could have had an impact on the pre-service teachers' participation when they tried to meet the researcher's and their supervisors' expectations. To illuminate this issue, I was clear with the pre-service teachers from the beginning of the semester that participating in this study would not affect their grades at the end of the semester. I was aware that my role could influence the research findings and thus to increase the objectivity in this study I had my reviewers who helped me to rank the RJs. Furthermore, to address this limitation, I kept a diary to reflect regularly on my thoughts and actions and to separate my thoughts and beliefs as a researcher from my thoughts and beliefs as a participant who facilitates the pre-service teachers' reflective thinking (see 3.9.5).

Some of the other limitations related to the current research context such as the following:

The current research includes only 12 pre-service teachers, three supervisors and me as a researcher and facilitator. In qualitative action research, this may be considered as a very small number of participants, however, having 12 pre-service teachers with their supervisors in this study was sufficient when considering that this research adopted narrative as a research method (to gather the data) and as an analytical framework (to analyse the data), in which telling their stories over three stages during this study generated in-depth data meaning. Analysing them based on a narrative analytical framework helped me as a researcher to understand their complex experience when they engaged with writing their online RJs.

The current research was limited to female participants because of cultural reasons. The education system in Saudi Arabia segregates between males and females in both school and university studies. Thus, it would be impossible for me to have face-to-face interviews with male pre-service teachers nor have frequent meetings with the male supervisors. Therefore, having the sample from both genders was inapplicable due to these cultural reasons, and I assume new findings might emerge when having the sample from both genders.

The short duration of the study, about 12 weeks, was a limitation for the time needed to engage with reflection effectively. The first two weeks are designed by the college of education to allow pre-service teachers to observe other schoolteachers and to teach one or two lessons in the second week. In the second and third weeks, all participants attended two meetings about introducing and explaining the concept of reflection. Over nine weeks, starting from the third week, they started teaching (for four full days) and engaging with writing their online RJs and, in the last week, they wrote their RoR requirement. Meanwhile, developing reflective thinking and writing skills requires time and effort to be obtained and realised. However, the findings highlighted some changes in the participants' attitude and orientations and how they adopt new methods of learning when learning how to teach effectively. Indeed the current teacher education system was limited to the nine weeks of real teaching engagement and thus the ministry should consider giving the pre-service teachers a chance to engage with teaching in the related schools for a longer period, perhaps start practice teaching over one year on their seventh and eighth semester. This would allow future research to implement such research over a longer period, which probably has more implications and could influence the participants' thinking further.

All the participants in this study were from IAU University and are studying in the programme "Junior primary classes teacher" in the School of Education. This means that conducting this study with other students in other departments within the college of education or even in different schools such as in the health care field may lead to different findings. This is because the students from other fields may experience reflection differently. As a result, this is another factor that might affect the generalisation of the current research.

In fact, I admit that generalisation of this qualitative research study would be limited, and in this case researchers (Gibbs, 2007; Creswell, 2014; Creswell and Poth, 2017) have stated that the main aim of conducting qualitative research is not to generalise the findings but instead the value of conducting such research is to reach developed themes and understanding of a specific

context. Thus it is crucial within qualitative research to provide the reader with thick and detailed description, so the reader can decide if the findings can be generalised to another situation (Schofield, 1996, p. 200, in Cohen, Manion and Morrison, 2011). I have reported the findings in the form of narratives that would help to represent the participants' experience as this brought thick and in-depth descriptions. I cannot claim that this research can be generalised but there is probably some commonality between the students in IAU and other universities' students in which some findings could apply to other Saudi university students.

3.13 Reliability and validity

Within the history of education research, validity and reliability are considered as key tools to evaluate the quality of qualitative research (Heikkinen, Huttunen and Syrjälä, 2007). However, "validity...should be seen as a matter of degree rather than an absolute state" (Gronlund, 1981, cited in Cohen, Manion and Morrison, 2011, p. 179). According to Cohen, Manion and Morrison (2011, p. 179), "reliability is a necessary precondition of validity, and validity may be sufficient but not necessary condition for reliability throughout a piece of research".

Gibbs (2007) suggested several procedures to address the reliability of research such as the following:

Checking the transcription to make sure that no obvious mistakes occurred while transcribing the data. In this regard, I transcribed the interviews immediately after conducting them on the same day and I wrote some comments on them to help me to generate more questions when conducting the later interview. Then before I started analysing the data (when I came back to the UK after completing the data collection).

I reviewed all the transcriptions carefully and repeatedly to make sure that I did not miss any sentences and to make sure there are no mistakes during my transcription. I also wrote my thoughts as memos on them to help me when I started coding them.

Furthermore, making sure about the accuracy of coding and that there is no drift in the meaning of the established codes while coding the other research data. This could be achieved by constant checking of the data with the codes as well as by writing explanation and memos of each code and its definition (Gibbs, 2007). In my study, I was aware of the importance of writing memos and clarifying the meaning of each code. Furthermore, I reviewed all the generated codes with my colleague who is fluent in Arabic and in English to ensure that each code represents the relevant data and there is no shift in the meaning, as well as checking the accuracy of the meaning of the translation.

The other strategy that I adopted to increase the reliability was evaluating all the RJs by another reviewer and sending them to a third reviewer when we did not reach an agreement regarding the rated level; this helped to decrease the bias and increase the accuracy of this research.

Creswell and Poth (2017) and Creswell (2009) articulated that qualitative validity involves checking the accuracy of the research results by following some particular procedures. In this regard, Creswell recommended using multilabel procedures to assess research validity. In this research, I adopted many strategies to increase validity such as:

Using a rich and thick description of the data (Creswell and Poth, 2017; Creswell, 2009). The use of stories being told in three stages and combining that with the other data sources such as written journals and the researcher's diaries, all of which provided the reader with thick and rich data which would help to understand the participants' experience when they engage with reflective thinking, this adds to the validity of the research.

Another strategy was used to increase the validity, which is conducting the study in Arabic, which is the mother tongue of all participants, all the research methods were in Arabic. I also kept all the data in Arabic and translated just the extracted and the used data in this research. The translation was checked by an external expert (reviewer) to ensure the accuracy of my translation.

Using member checking by taking the final report of the qualitative research or some themes of the study and asking the participants for their opinion about them and whether they are accurate and represent their thoughts would increase the validity of the study (Pitney, 2004; Creswell, 2009; Birt et al., 2016; Creswell, and Poth, 2017). After completing the research analysis, I sent the main emerged themes with some descriptions and the practical theoretical framework to three of the participants, and I asked them about their opinions and checked with them the meaning accuracy of these themes.

Self-reflection by being honest and clarifying the bias that the researcher brings to the current study increases the validity of the research (Creswell, 2014; Creswell and Poth, 2017). During this research I kept a reflective diary to report my thoughts, feelings, any planning or evaluating, I kept that also to manage my insider issues (see Section 3.9.5 for more details).

Nonetheless, *“the ‘truth’ might not be anything permanent, standing, constant, unchangeable or stabile. Rather, it might be something shifting and transient”* (Heikkinen, Huttunen and Syrjälä, 2007, p. 18). Thus, Heikkinen et al. (2012) and Heikkinen, Huttunen, and Syrjälä (2007) suggested a new way to evaluate the quality of action research from a narrative

perspective by considering the five following principles:

1. Principle of “historical continuity”, which is about answering the questions of “how has the action evolved historically?” and “how logically and coherently does the narrative proceed?” (Heikkinen, Huttunen and Syrjälä, 2007, p. 8). In this research, the history of action had been considered by reviewing the literature related to the use of technology to enhance reflection (see Section 2.10) as well as reviewing all reflection studies conducted in the Saudi context. Furthermore, the informal phase of this research considers how the students and their supervisors engaged with reflection. Lessons have been learned and considered when designing and conducting this study. Furthermore, the research report was logically written as it enlightens how the participants changed personally and professionally and it also highlighted the causes underlying such changes or stories (see Chapter 4).
2. Principle of reflexivity, which is about clarifying the natural relationship between the researcher and the participants, clarifying the ontological and epistemological stance, the transparency of explaining the research methods (Heikkinen, Huttunen and Syrjälä, 2007, p. 8). During this research I have been aware of my own beliefs and thoughts and how that could affect the participants’ action and thoughts, thus, I kept a diary to reflect regularly and to consider and separate between what I wish to happen and what is going on in the research. I have explained my role as a researcher/facilitator with the other participants in section 3.11. Moreover, the research philosophy has been clarified in section 3.4, as the research ontology considers reality as a social construction built upon the meaning that is shaped in and through individuals’ interactions. My epistemology is guided by constructivist interpretivism. The research report was consistent with my philosophical position. The research methods that have been used in this research such as the official documents, the three stages of interviews, and the RJs were described in detail and mentioned in the report of this study.
3. Principle of “dialectics”, which can be achieved by explaining how the researcher’s insights developed, how the research represents the other voices and how authentic these stories are (Heikkinen, Huttunen and Syrjälä, 2007, p. 9). My insights as a researcher have been developed during the current research. For example, I thought that by offering all of the online materials and with the online feedback, participants would be able to engage with writing their RJs at a thoughtful level, however, the reality was more

complicated and thus I learned that one should consider the cultural factors that may affect participants' reflection as well as considering the individual differences among the participants when providing them with the support to help them reflect at a deeper level. Furthermore, the research report presented different participants' voices. For example, different orientations towards reflection found among the participants, different needs of support. Indeed, some of them aired their voice to the authority by giving their opinion about the current education system and how things should be reconsidered to improve the teaching and learning in Saudi schools. In the research report all participants' stories are presented in their genuine form to represent the participants' thoughts. Member checking was implemented as a way to check the authenticity of the main findings' interpretation by asking three participants from the three different group levels to review and comment on them.

4. Principle of workability and ethics, about whether the current research succeeds to create a workable practice, what kind of critical discussion does this research bring and how the current research dealt with ethical issues (Heikkinen, Huttunen and Syrjälä, 2007, p. 9). The findings of this research stated that developing reflective thinking ability within Saudi pre-service teachers was possible as they developed their direction to emerge thoughtfully with their practice by identifying and addressing them with others openly after participating in this study. This research contributes to the practical knowledge by suggesting a practical framework to engage with online reflective thinking (see Figure 5.3 for more details). Furthermore, this research discussed the dominated power that could affect pre-service teachers' reflective thinking. For example, through their stories, the participants articulated that they were overwhelmed by so many duties when being treated as actual schoolteachers, not as trainee teachers who need support and time to learn and to reflect deeply on their practice (see section 5.2.2).
5. Principle of evocativeness, which concentrates on knowing how the findings touch the reader's emotions (Heikkinen, Huttunen and Syrjälä, 2007, p. 9). I would leave the evaluation of such principle to the audience by engaging with the narratives reported in the research findings. These stories speak about themselves as they involved participants' feelings and thoughts in which one can imagine what the participants went through and how they overcame many of their difficulties.

3.14 Ethical considerations

Ethical consideration is mainly about finding the balance between the pursuit of truth and considering participants' rights and values (Cohen, Manion, and Morrison, 2011). Indeed ethical consideration should be integrated into all research stages, starting from the early stage of research when deciding the research aim (by considering the nature of the sample and choosing the appropriate methodology), during the research (when considering ethical issues regarding recording and using research data) and finally considering ethical issues after collecting the data (by thinking about the possible consequences for the individuals who took part in the research) (Oliver, 2010; Cohen, Manion and Morrison, 2011).

Therefore, and based on the ethical guidelines provided by the British Research Association (BERA, 2011), all aspects of ethical issues have been considered related for example to persons who may participate in the study, the knowledge and democratic value. Thus, before conducting this study the ethical approval was obtained following the NCL guidelines by clarifying the aim and procedure of this study. Additionally, I obtained an official permission from both NCL and IAU to conduct this study.

Furthermore, the research aim, purposes and the process of the research were explained for all participants as all participants were given the Participant Information Sheet and were given an opportunity to discuss participation before being asked for their written consent. To explain the research aim in detail I conducted two meetings at the beginning of the research trying my best to explain the idea of reflection by comparing between the reflective teacher and the one who does not usually reflect. I emphasise that we as human beings should learn from our experience by stopping, thinking to analyse and deciding the future practice instead of repeating the same mistakes over and over. During these meetings, I tried to widen pre-service teachers' horizon to consider the other aspect of their learning to take advantage of their school placement to grow professionally rather than focusing all the time on gaining grades. This was a very important step to explain the reason and the necessity of their participation in this study, as facilitating the idea of reflection and clarifying the purpose of their participation was crucial to meet the ethical principle when conducting such research within the Saudi context.

During this study, all data provided by participants remained confidential and was used for the academic purpose of meeting the proposed research aim. When analysing data, pseudonyms were used to ensure anonymity and confidentiality. All data was stored in a secure personal computer that was only accessible by the researcher and on which all documents and logs

were password-protected, to ensure privacy for all participants. Furthermore, these data were destroyed after completing this project.

During this study some ethical issues have arisen in terms of my dual role as a researcher and a facilitator, managing the insider issues was considered during this study as I act as a researcher and as facilitator, thus, I tend to write my diary to reflect on my research (see Section 3.9.5 for more details).

The other issue was regarding the possible impact of supervisors' participation on the pre-service teachers to make their decision when they decide to withdraw from the study. I was aware that pre-service teachers may have concerns regarding their participation and their relationship with their supervisors, however, I have made that clear for them from the beginning of the study as I inform them that their engagement in the study is voluntary and they have the right to drop out of the study when they want and there will be no consequences in doing that. Indeed, as mentioned in section 3.8, the initial total number of participants was 28, then eight of them withdrew at a very early stage and another eight withdrew after completing the first part of their RJs and/or were being interviewed and thus 12 of the participants remained to the end of the study.

Furthermore, I was aware that the supervisors' participation could somehow affect the level of reflection within pre-service teachers when they hesitate to write about their incidents or mistakes, this is mainly because of the fact that Saudi students are concerned more about their grades and do not want to disclose their weakness during their teaching training in their school placement. However, this issue was overcome by offering the current participants a secure atmosphere to encourage them to reflect on their practice at a deeper level without concerning the impact of engaging in reflection on their grades. We (me as a researcher and facilitator and with their supervisors) encouraged the pre-service teachers to express their thoughts clearly and honestly and we emphasised that this will not affect their assessment at the end of the semester. Furthermore, we offered them some exemplars of other European students and how they wrote about their issues on their RJs to their supervisors, to enlighten their perspective and to reconsider their relationship with their supervisors in a different way. All of which resulted in what the findings of the current study highlighted, as it found that participants were very explicit when writing about their incidents which was not common with other previous Saudi students when they have been asked to reflect on their practice (see Section 4.5.3 for more details).

Another ethical issue was raised regarding collecting the online journals and the online comments, particularly concerning the privacy and confidentiality of the participants. Bryman (2012) stated the importance of giving careful consideration when dealing with anonymity, confidentiality, and the informed consent issues particularly when using websites which are accessible to members of the public. To address these issues, the research emphasised that participating in this study is voluntary and the data will be used to meet the research aim and there is no potential risk of involvement in such activity. To protect their privacy, they have not been asked to provide any personal or private information when writing their online blogs or comments.

Chapter4: Results and Analysis

This chapter presents the results of the Saudi pre-service teachers' experience and their supervisors' perspective when the former engaged with writing their online RJs as a method of learning during their school placement. The analysis of the research data resulted in five main themes corresponding to the five research questions. The first theme focused on the level of reflection reached by the pre-service teachers and the nature of the feedback received throughout the study, while the second concerned the trainee teachers' attitude and orientations towards teaching and reflection. The third and fourth themes were about the facilitating and impedimentary factors which emerged during the study that hindered or encouraged their reflection. Finally, the last theme concerned the supervisors' perspective about reflective thinking.

4.1 To what extent do Saudi pre-service teachers reflect on their practice in this context?

The first research question focused on determining participants' level of reflection before and after receiving feedback. It also highlighted participants' different needs of support when engaging in writing their RJs. To answer this research question, all participants' journals were coded before and after receiving feedback based on Bain, Ballantyne, et al.'s (2002) model. These categories and their abbreviations are described in Table 4.1. Each journal is coded according to the highest level achieved within the journal.

Data was collected from participants' online RJs, the interviews with pre-service teachers and the researcher's reflective diary.

The name of the components in Bain, Ballantyne, et al.'s (2002) model	The abbreviation
Reporting	P
Responding	S
Relating	L
Reasoning	O
Reconstructing	C

Table 4. 1: The abbreviation of Bain, Ballantyne, et al.'s (2002) model levels

Trainee teachers were asked to write RJs (RJ in the tables) about serious incidents in three areas: classroom management, teaching strategies/learning, and assessment. They were also asked to write other journals about any other incidents with no specific focus. Participants wrote in one

or two journals in each area. This meant that the number of written journals varied among them. For example, most participants wrote six journals while Reema wrote eight, and Rana uploaded just five journals.

Indeed, the majority of participants wrote their second journal of each area after responding to the online feedback, as they sometimes discussed more than one idea in their first journal of each area. Rana, however, who just managed to write five journals, had certain circumstances as she left for two weeks after writing the first part of her first journal for maternity leave. Reema, on the other hand, was very enthusiastic and able to identify many incidents during her teaching, and thus she wrote two journals in each area. In this regard, it was noticed that Reema had more ability than the other students to identify and address her problems, as she was eager to read many resources to tackle them. Her supervisor mentioned that Reema is amazing and has a natural born talent to be a good teacher; in this respect, Dewey believes “the attitudes that the individual brought to bear on the act of reflection could either open the way to learning or block it” (cited in Rodgers, 2002, p. 858), and this could explain the reason behind the withdrawn orientation among some participants at the beginning of the study. Their attitudes varied, and this affected their participation. Considering the various written journals in this study, and how these might have affected the emergent themes in this study, a member checking technique was used to improve the validity of the study. Many researchers stated that member checking can increase the validity in qualitative research (Pitney, 2004; Birt et al., 2016), by “providing the study’s participants with the data or interpretation of the results so that they can verify their accuracy based on their experience” (Pitney, 2004, p. 26). See Section 3.13 for more details.

All participants wrote RJs associated with the suggested topics, except Reema, whose first two journals were about teaching strategy because she could not find a serious issue in the area of classroom management. Kholoud also wrote about teaching strategy in her fifth journal, which was supposed to be on assessment issues. On the other hand, Rana and Kholoud’s first RJs focused on themselves not on students or the class. Furthermore, the current participants sometimes wrote about special needs issues and inclusion as it was considered a very serious incident that they faced during their field experience. For example, Hanan wrote in her second journal about “The student with ODD”, Asma and Nada wrote about special needs assessment in their fifth journals, and Aldana wrote in her fourth journal about the learning difficulties of students with special needs.

4.1.1 Explaining the reflection levels for the first reflective journal

The first RJs were written in two stages. The first stage aimed to cover the Reporting, Responding, and Relating levels and in the second stage they had to cover the Reasoning and Reconstructing levels. Thus, the first writing attempts can be seen in the first row of Table 4.2, which represents the analysis of the first journal (see Table 4.2 Analysis of first journals for all participants).

It appears from the table below that all participants, except Haifa and Nourhan, were able to write at the Relating level. Indeed, Hanan reached the Reasoning level from her first attempt. Nourhan wrote just on the Responding level while Haifa wrote on the Reporting level by just describing the incidents. Haifa and Nourhan reflected at a lower level compared to their peers with their first attempt, and apparently did not use Bain's model when writing their journal. However, after responding to the feedback and using the model, the level of their journals improved. With their first attempt to write a complete journal, and after responding to the feedback, engaging with the relevant books, and completing their journals, three participants were able to reflect in the Reconstructing component in their first journal and the others were able to write in the Reasoning component. Nada, on the other hand, could not go beyond the Relating level.

Moreover, after responding to the second round of feedback, four of the participants were able to deepen their reflection to tackle the Reconstructing component. Thus, it was noticed that all participants, apart from Nada, were able to write at the level of the highest two components of Bain's model when writing their complete first journal on classroom management issues.

This is probably because these pre-service teachers were eager to gain useful knowledge on how to manage their classroom effectively, as they rarely had the chance to learn or discuss these issues while studying at university. Indeed, here, they had the chance to read a variety of thought-provoking books largely based on practical knowledge, and to discuss these issues with their peers, which helped them both to understand the nature of childhood and to make wise decisions based on their new understanding. With this, during the second week, the majority of the participants managed to test the alternative suggested solutions and to make decisions based on their new understanding. It should be noted that one factor that encouraged the students to participate in this study is related to writing the RJs on classroom management and having the chance to read from the practical books available on the main blog. In fact, the trainee teachers certainly lacked basic knowledge of the topic and had many issues regarding the students'

behaviour at the beginning of their teaching experience. Furthermore, participants spent from two to three weeks writing their first RJs in the classroom management area, and this gave them more time to reconsider their issues deeply as they had a chance to read and interact with others to reach a new understanding regarding their incidents. For example, Marwa stated in her first journal:

At the beginning of my teaching experience, I felt nervous, but at the same time, I was happy when receiving my timetable... I thought at the beginning that I would be able to manage the classroom effectively if I rewarded the good behaviour by giving the students some gifts and sweets, which would encourage them and make them love my class.

So, I went to the class holding many gifts, showing them to the students to encourage them to commit to my class rules. When I started, after greeting them and telling them the class rules...chaos ensued in the class and I realised then that I was perhaps telling them too many rules and that I should adjust them and have only five rules at that time.

I realised later that managing the classroom is not just about setting rules and bringing gifts to the students. I should first establish a good relationship with them by, for example, memorising their names and calling them by name...discussing the rules with them. Providing and maintaining a positive environment is vital.

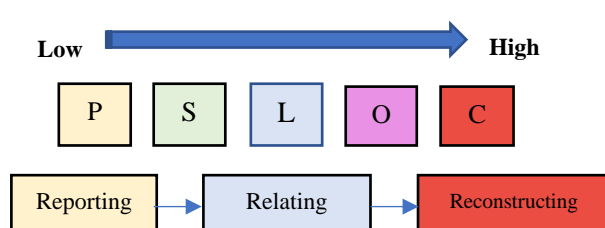
I also realised that I messed up when I encouraged competition among the student groups, which led to a wholly negative atmosphere. Furthermore, I noticed that my negative feelings (feeling down) when teaching were transferred to the students, meaning they become as bored as me! Thus, I should be aware of my feelings and attitude when teaching them and show my passion and enthusiasm for teaching them.

In the future, I will consider the class atmosphere and my attitude when teaching my students by respecting them, noticing and caring about their feelings, preparing my lessons in an appropriate way to catch their attention, considering my movement and maintaining eye contact with the students. All of this will help me and will increase student participation and their excitement in the class (a summary of Marwa, RJ: 1).

In Marwa's journal, the evidence from the data suggests that thinking and reflection developed from the surface level. At the beginning of her experience, she assumed that setting the rules and bringing some gifts would help her to manage her classroom behaviour. After some reading and thinking, and after discussing her issues with others, she recognised that setting a positive environment, building a good relationship and mirroring a positive attitude are vital to a healthy and democratic atmosphere, which obviously has an influence on the students' attitude and behaviour during the class.

Name	Reema	Marwa	Sultanah	Rana	Nourhan	Hanan	Asma	Aldana	Kholoud	Haifa	Mona	Nada
The level before the FB	L(1)	L(2)	L(2)	L(3)	S(3)	O(1)	L(2)	L(2)	L(1)	P(3)	L(2)	L(1)
After completing the journal and receiving first FB	C(1)	C(1)	C(1)	O(1)	O(2)	O(2)	O(2)	O(1)	O(1)	O(2)	O(2)	L(1)
After the second FB	C(1)	C(1)	C(1)	C(1)	C(1)	C(2)	C(1)	O(1)	O(2)	O(2)	O(2)	L(2)

Table 4.2: Analysis of first journals for all participants



4.1.2 Explaining the reflection levels for all online reflective journals

When considering the level of reflection, the findings were varied in general (see Table 4.3, Table 4.4, Table 4.5, Table 4.6, Table 4.7, Table 4.8, Table 4.9, Table 4.10, Table 4.11 Table 4.12, Table 4.13, Table 4.14). It is apparent from the tables below that some participants (Reema, Marwa, and Sultanah) were able to write on the highest two components (Reasoning and Reconstructing) in the majority of their journals before receiving any feedback. When receiving the online feedback, they were able to improve some of their journals to reach a deeper level of reflection. The other participants (Nourhan, Hanan, Haifa and Asma) were able in most of their journals to write on the Reasoning component, and when responding to the given online feedback, they were able to improve the reflection level of some of their journals. On the other hand, Rana, Aldana, Kholoud and Mona wrote many of their first attempts on the Relating component of reflection before receiving feedback, and were sometimes able to write at a deeper level of reflection after responding to the feedback. Finally, Nada often wrote on the Relating component and did not respond actively to the online feedback, but did manage to write her last journal at the Reasoning level. All participants, at some point, were able to improve parts of their journal level to reach a deeper level of reflection based on the Bain, Ballantyne, et al. (2002) model of reflection, as a result of responding to feedback, except for Nada, who seemed not to benefit from the feedback.

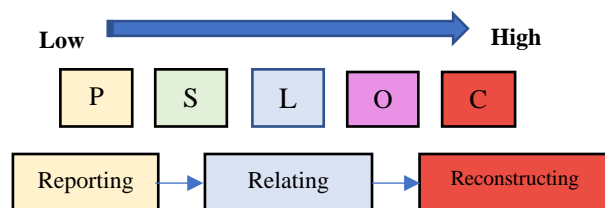
These results reveal that there were individual differences in the approach to learning to teach among the participants. This is consistent with the findings of Oosterheert and Vermunt (2001), who identified five orientations when students learn to teach: survival, closed preproduction, open reproduction, closed meaning, and open meaning. Students who think with a survival orientation tend to rely more on external information (ready solutions) to resolve their issues, and without careful consideration, define their issues as problems related to their students. In contrast, students who think with an open meaning orientation tend to use all available resources to improve their understanding of teaching, defining their issue as a matter of understanding and performance. This means that pre-service teachers have different abilities and learning habits when learning to teach (Oosterheert and Vermunt, 2001). Thus, teacher education institutions should provide them with appropriate support according to their thought framework to help them improve as teachers.

Writing on the Reasoning component was more common among the participants, as they were able to consider the main underlying factor of their incidents to reach a new understanding of their teaching practice; sometimes, they reached level two of the same component when considering other factors that could explain and resolve their incidents. However, it was challenging for most of the participants to write at the Reconstructing level and, when they did so, level one was the most common after responding to feedback.

The reasons behind not being able to reflect at a deeper level to reach the Reconstructing component and even the higher level of the Reconstructing component (2, 3, 4) can be explained due to the fact that engaging with reflective thinking needs a fresh mind and time to think, read and interact with others to reach a thoughtful decision. However, the participants were being overwhelmed with multiple duties during their school placement and were being exposed to new experiences of dealing with the complexity of teaching and reflecting on their practice (see Section 4.3.1 for more detail).

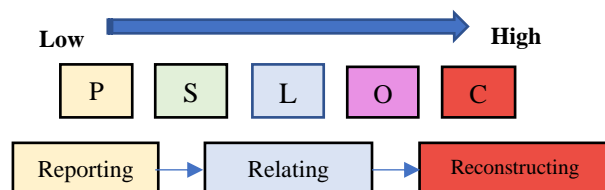
Analysis of Reema's journals								
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning		RJs about assessment		RJs about any topic	
The RJ level before the FB	C (1)	O (2)	O (1)	O (2)	O (1)	C (1)	L (1)	O(1)
The RJ after the FB	C (1)	O (2)	O (1)	C (1)	O (1)	C (1)	L (1)	O(1)

Table 4. 3: Analysis of Reema's journals



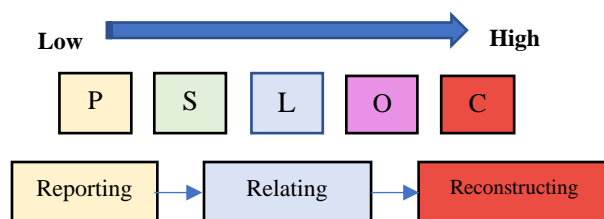
Analysis of Marwa's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning		RJs about assessment	
The RJ level before the FB	C (1)	L (1)	O (2)	O (2)	C(1)	O(1)
The RJ after the FB	C (1)	L (1)	C (1)	O (2)	C(1)	O(1)

Table 4. 4: Analysis of Marwa's journals



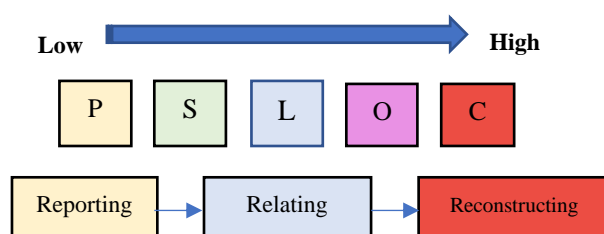
Analysis of Sultanah's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning	RJs about assessment	RJs about any topic	
The RJ level before the FB	C (1)	L (1)	O (1)	O(1)	O(1)	O (2)
The RJ after the FB	C (1)	L (1)	C (1)	O(1)	O(1)	C (2)

Table 4. 5: Analysis of Sultanah's journals



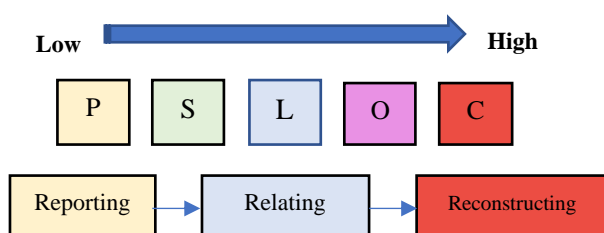
Analysis of Rana's journals					
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning	RJs about assessment	RJs about any topic
The RJ level before the FB	O (1)		L (1)	L (2)	O (1)
The RJ after the FB	C (1)		L (1)	O (2)	C (1)

Table 4. 6: Analysis of Rana's journals



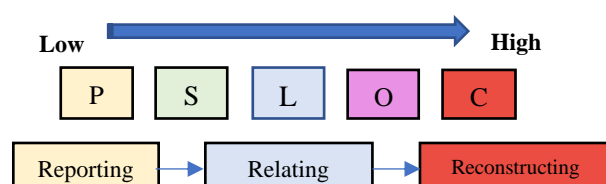
Analysis of Nourhan's journals						
The focus of the journal	RJs about classroom management	RJs about teaching strategies or learning		RJs about assessment	RJs about any topic	
The RJ level before the FB	O (2)	O (1)	L (1)	L (2)	O(1)	O(1)
The RJ after the FB	C (1)	O(2)	L (2)	C (2)	O (1)	O (1)

Table 4. 7: Analysis of Nourhan's journals



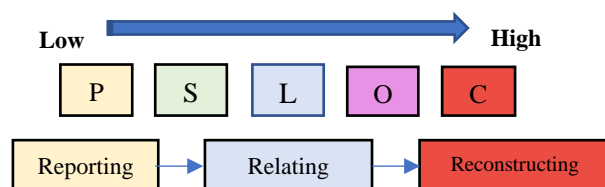
Analysis of Hanan's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning		RJs about assessment	RJs about any topic
The RJ level before the FB	O (2)	L (1)	O (2)	L (1)	O (2)	O (2)
The RJ after the FB	C (2)	L(2)	O (2)	O(1)	C (1)	O (2)

Table 4. 8: Analysis of Hanan's journals



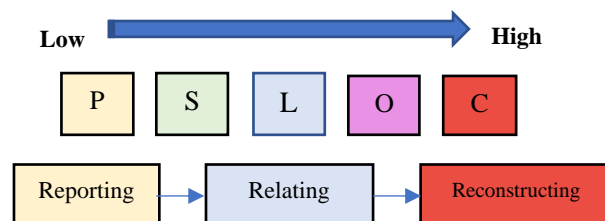
Analysis of Asma's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning	RJs about assessment		RJs about any topic
The RJ level before the FB	O (2)	L (1)	O(1)	O(1)	L (1)	O (1)
The RJ after the FB	C (1)	L (2)	O (1)	O(1)	L (1)	O (1)

Table 4. 9: Analysis of Asma's journals



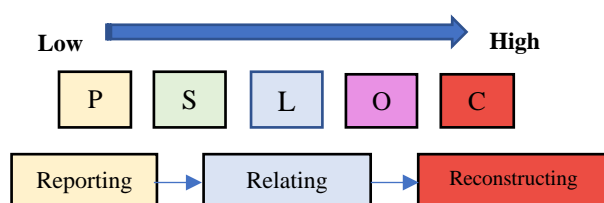
Analysis of Aldana's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning	RJs about assessment		RJs about any topic
The RJ level before the FB	O (1)	L (1)	L (2)	L (1)	O (1)	L (2)
The RJ after the FB	O(1)	L (1)	O (2)	L (2)	C (1)	O (1)

Table 4. 10: Analysis of Aldana's journals



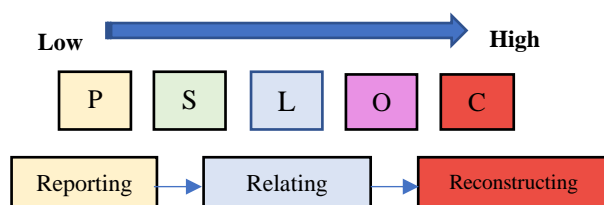
Analysis of Kholoud's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning		RJs about assessment	RJs about any topic
The RJ level before the FB	O (1)	S (3)	L (1)	L (1)	L(1)	O (1)
The RJ after the FB	O(2)	L (1)	O(2)	L (1)	C (1)	O (1)

Table 4. 11: Analysis of Kholoud's journals



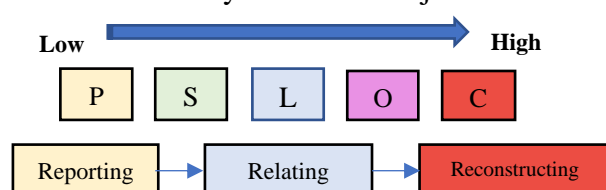
Analysis of Haifa's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning		RJs about assessment	RJs about any topic
The RJ level before the FB	O (2)		O(1)	L (1)	O(1)	L(1)
The RJ after the FB	O (2)		C (1)	L (2)	C (1)	O (1)

Table 4. 12: Analysis of Haifa's journals



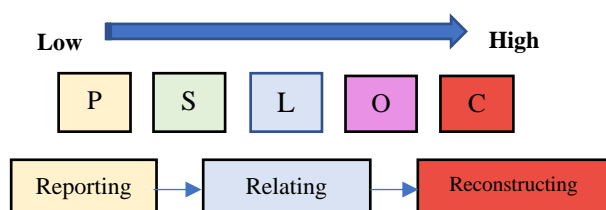
Analysis of Mona's journals						
The focus of the journal	RJs about classroom management		RJs about teaching strategies or learning		RJs about assessment	RJs about any topic
The RJ level before the FB	O (2)	O (1)	L (1)	S (2)	L (1)	L (2)
The RJ after the FB	O (2)	O (1)	L (1)	O (2)	L (2)	L (2)

Table 4. 13: Analysis of Mona's journals



Analysis of Nada’s journals						
The focus of the journal	RJs about classroom management	RJs about teaching strategies or learning		RJs about assessment		RJs about any topic
The RJ level before the FB	L (1)	L (1)	L (1)	L (1)	L (1)	O (2)
The RJ after the FB	L (2)	L (2)	L (2)	L (1)	L (1)	O (2)

Table 4. 14: Analysis of Nada's journals



4.1.3 The nature of feedback provided to the participants during the study to improve their online reflective journals

At the beginning of this study, many trainee teachers sent me their journals via email or WhatsApp wondering about their level of reflection. They said in their messages that they were not sure about their ability to reflect and write about their incidents and they wanted at the same time to decide whether they had the necessary ability to write at a good level (see Section 4.2.3 about the conflicted feelings of enthusiasm and hesitation), which explains participants' feelings at the beginning of this study. Indeed, during the third week, I was in an overwhelming situation as a facilitator, as I was responding to some of the participants' phone calls and messages and trying my best to explain how they could reflect on their practice even though almost all participants had attended two workshops about reflection. In particular, they were wondering about what kind of incidents they should write about and whether their choices were appropriate or not (researcher's diary).

This means that reaching a clear agreement on the meaning of reflection and how to reflect on their practice was not an easy task, especially for those learners who were not used to being involved with and challenged by metacognitive activities during their studies. For example, Rana stated the following regarding her confusion at the beginning of the study:

Things link together, and problems are linked together. It is hard to separate them from each other... so I was not sure what I should focus on...I drew a diagram of my problems trying to understand the causes of these incidents and how I could deal with each issue in a certain way. (Rana, 2)

However, I encouraged the students to access the main blog and read from the various resources to understand the meaning of reflection and how they could approach this activity. As a result, many of the participants developed a good understanding of reflection after engaging with these resources, and after receiving some online feedback on their journals.

The nature of the online feedback varied from encouraging the students to think at a deeper level about their issues, by prompting them to think about the reasons behind the incidents, to feedback asking them to clarify their meaning, or to make comments on how to improve their writing. For example, Haifa's writing was confusing; she could not, in her second journal, distinguish between the causes of incidents and the results of her actions. I asked her to reconsider this in order to explain her incident properly, which would help her to understand her incidents clearly.

However, some of the participants asked me for a discussion by phone when things became more complicated to understand or they were discussing their issues with me during their interviews. This occurred more frequently with some participants, like Mona, Kholoud, and Aldana, and sometimes Rana, who wished to have a discussion about some of their issues. During the discussion I challenged them by asking questions about their incidents, such as: Why do you think it is a real problem? What are the causes? What other aspects could you consider? Have you read about this issue? Have you checked other ways to try to understand your issue? I used their answers to prompt more questions, which eventually helped many of them to reflect at a higher level.

From the data (interviews, reflective journals, research diary), it was clear that participants' needs were different. All of them needed a facilitation at the beginning of the semester to understand the meaning of reflection, and the majority of them needed close professional support for the first two weeks to help them recognise their incidents (see the answer to the fourth research question for more detail about the facilitation factors that help participants to reflect on their practice). Haifa also wrote the following in one of her last journals:

Trainee teachers need professional colleagues monitoring them and providing them with a close support to realise their main incidents at least during the first two weeks, as theoretical knowledge is not enough to understand how children could be taught to learn. (Haifa, RJ: 6)

With the appropriate support and encouragement to engage with the relevant practical books, the majority of participants were able to reflect within the two highest levels of Bain's model, namely the Reasoning and Reconstructing components, when completing writing in their first journal on classroom management, except Nada, as she just wrote at a Relating level.

Reading relevant books seems to have improved participants' ability to widen their horizons to consider other aspects of their issues when dealing with classroom management incidents (see Section 5.3.3 Reading and reflection). However, this was not true all the time, as they could not tackle all of the incidents in classroom management when writing their second journal on the same area. This is because some of their incidents were challenging in terms of addressing them within their context. For example, addressing the incidents involving the special needs students often proved impossible, given that there was no clear system in the school related to how to support their learning, despite the implementation of the inclusion policy in Saudi schools (see

Section 4.3.5 for more information about the impedimentary factors that affected the participants' level of reflection).

However, at a later stage of this study when participants reflected on the other three areas, it appears from the tables above that some pre-service teachers were able to reflect on their practice and to write on the two highest levels (Reasoning and Reconstructing component) in most of their RJs with a little online feedback from professionals. For example, Marwa, Reema, and Sultanah were able to help themselves when reflecting on their practice as they wrote on Reasoning and Reconstructing components in all of their journals except one, without the need for any support.

The other participants, Nourhan, Hanan, Haifa, and Asma were able to write at the Reasoning component in the majority of their journals before receiving the feedback, but when responding to the continuous online feedback, they were able to improve their level of reflection in some of their journals. On the other hand, the participants, Kholoud, Aldana, Mona, and Rana often wrote many of their journals on the Relating component and benefited more from the online feedback to reflect at a deeper level, they seemed sometimes to need closer support to discuss some of their issues when writing their RJs. Finally, Nada did not respond actively or could not indeed widen her horizon to consider her issues critically even when she received feedback in all of her journals, but managed to write her last journal on the Reasoning component (see Figure 4.1 for more clarification).

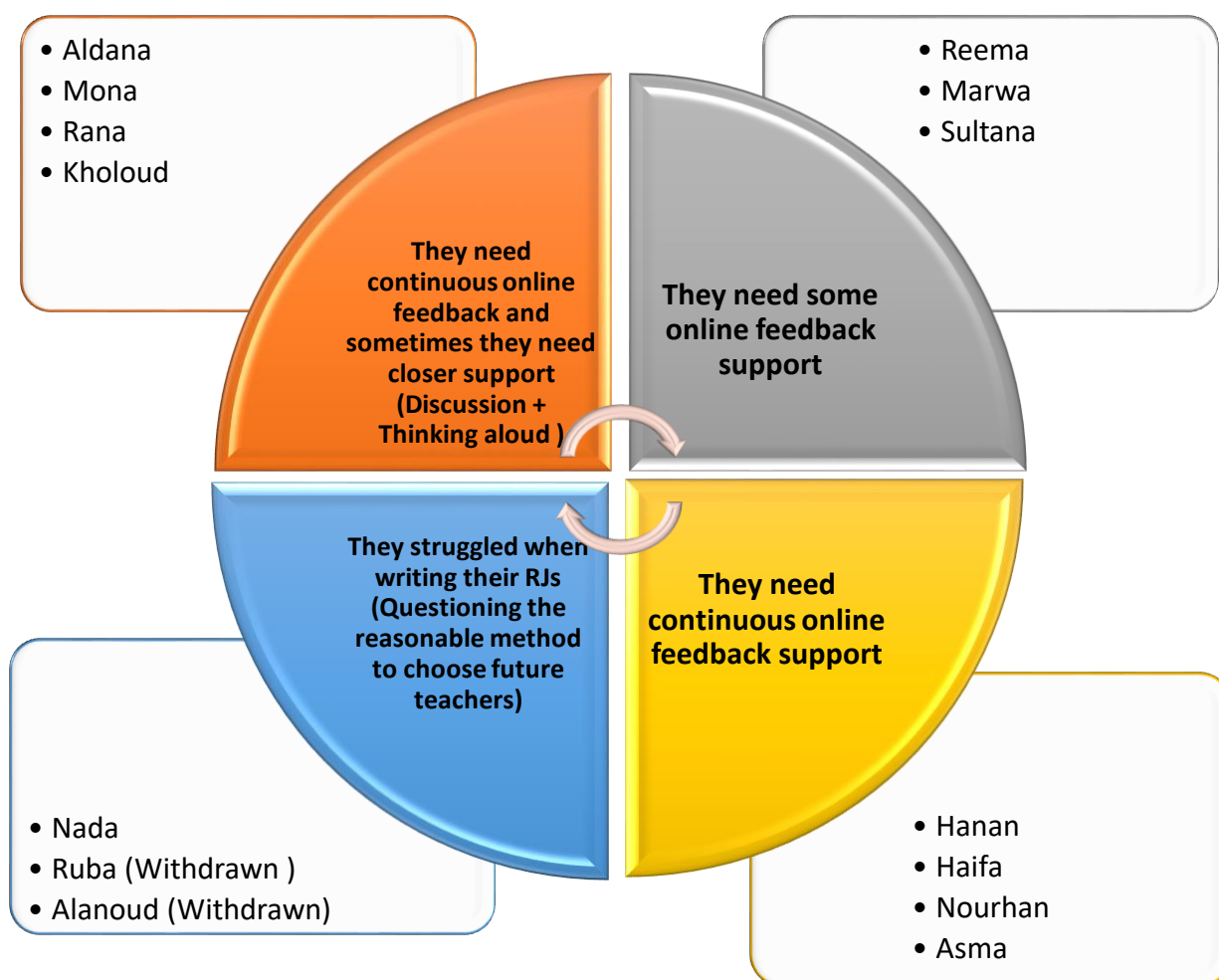


Figure 4.1: Participants' different level of reflection and their various needs to influence their reflective thinking

This means that the trainee teachers require different kinds of support to help them while reflecting on their practice. However, although the participants received some sort of online feedback (from me as a facilitator and from their supervisors) and were encouraged to think at a deeper level, the most commonly reached component was reasoning. This means that reaching the Reconstructing component was challenging for most of them. This orientation may occur, as mentioned before, not just as a result of being overwhelmed with so many duties during their school placement, but also due to the fact that they had been taught through rote learning, which involves memorising knowledge instead of constructing it (see 5.2.2). Promoting their method of learning when asking them for further thinking on understanding their practice was

challenging for some of them. While they were highly enthused to take part in this study, believing in the importance of reflecting on their practice, they could not deepen their thoughts all the time.

The other reason that could explain not being able to improve some of the trainee teachers' reflection is the fact that the current context was not supportive in helping them implement their solutions, and this hindered their ability to reflect at a deeper level of reflection (Reasoning and Reconstructing). For example, the student teachers struggled to address some of the inclusion issues when trying to deal with special needs students, as the education system at the school was not supportive in terms of dealing with and teaching this type of student (see Section 4.3.5). Thus, it was not surprising that when writing about these issues, the participants could not go beyond writing at the 'Relating' stage, since they were unable to implement appropriate solutions.

On the other hand, Nada's attitude towards teaching and learning to teach would appear to be the main reason for her low level of reflection, as she did not present a positive attitude towards teaching and did not make a real effort to address her incidents effectively. This affected her level of reflection as well as her level of teaching, as was noted by her supervisor in one of our meetings. In fact, many of the students who withdrew from the study had the same negative attitude towards teaching. For example, Ruba, who withdrew from the study after writing the first part of her first journal, explicitly stated, "I will not work as a teacher, I just want to graduate and have the certification". Indeed, both Ruba and Alanoud, who also withdrew from the study at a very early stage, appeared to care little and were not serious about learning and about taking the initiative in tackling their teaching incidents (researcher's diary).

In summary, all participants needed some sort of scaffolding at the beginning of this semester to understand how to reflect on their practice. Participants at an early stage of this study needed close professional monitoring and support to help them recognise their main incidents. They also needed to engage in reading the exemplars and the infographics to facilitate their reflection. When the participants received the appropriate amount of support, they were more likely to reflect on the two highest components of reflection based on the Bain model. Generally speaking, it appears that some of the participants were able to reflect at the two highest levels in the majority of their journals without any need for support, but the participants in the third group still needed continued support and feedback to be able to reflect at a high level. Finally, even while providing participants with feedback, not all were able to reflect at a high level in

all of their journals. Mona could not reflect at the two highest levels of reflection (Reasoning and Reconstructing) in half of her journals, while Nada could not reflect at the two highest levels of reflection in any of her journals except the last.

4.2 What are Saudi pre-service teachers' attitudes and orientations towards using reflective journals as a method of learning?

The second research question focuses on explaining participants' attitudes and orientations towards writing RJs. Thus, I thought it was important to consider their thoughts and feelings towards teaching, especially at the beginning of the semester. This is because teaching and reflecting on teaching are associated with each other, especially when most of the participants were motivated to take part in this study after being shocked by the realities of teaching.

I will answer this research question by focusing on four aspects, as shown in Figure 4.2 First, I will explain pre-service teachers' orientation towards teaching at the beginning of the semester (in the main study), which I will name 'Shocked by Reality'. Second, I will consider the attitude of the pre-service teachers towards reflection in the informal phase of the study, which took place before the main study (see Section 3.7.1), as well as consider pre-service teachers' opinions and understanding of reflection, before they were introduced to the concept in the main study. Third, I will consider pre-service teachers' attitudes towards reflection, after they were introduced to the concept in the main study. Finally, I will explain pre-service teachers' various purposes when engaging in reflective thinking within the theme of 'questioning the purpose of reflection' during the main study (see Figure 4.3).

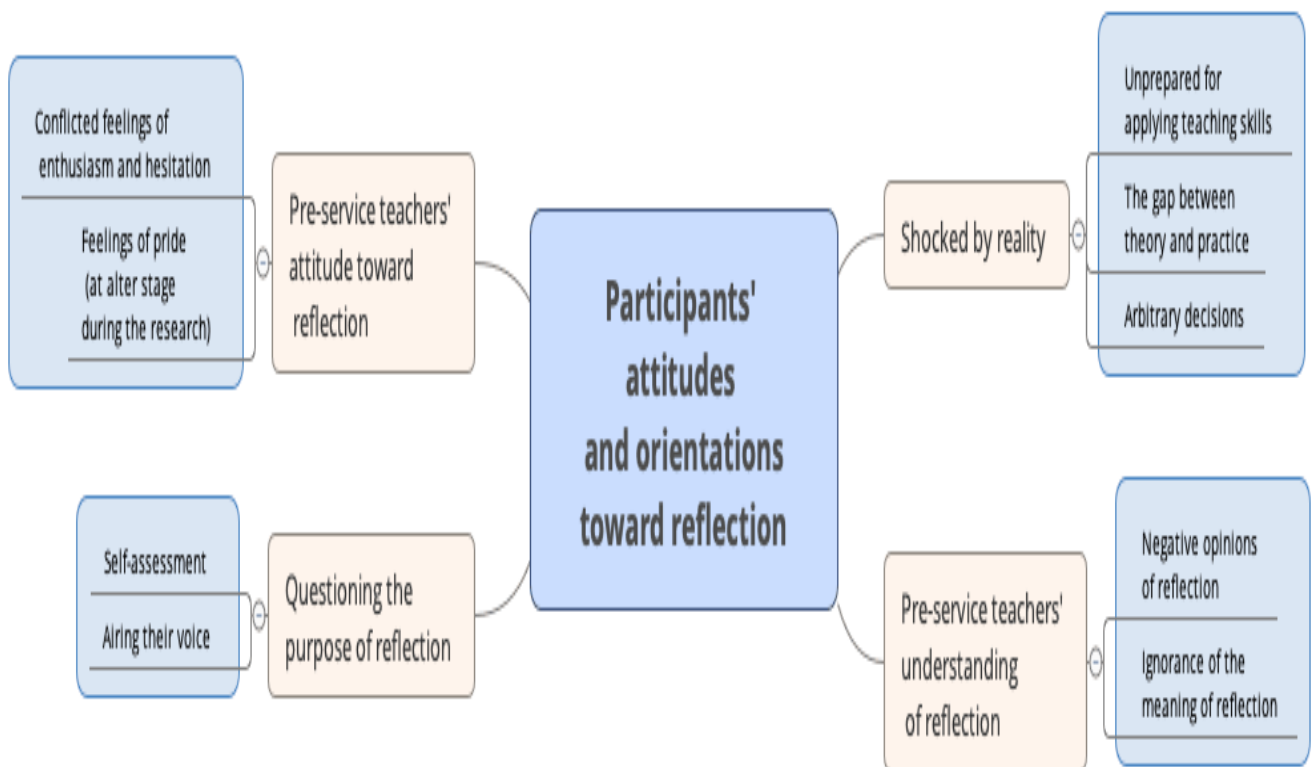


Figure 4. 2: Participants' attitudes and orientations towards reflection

Data was collected from interviews with pre-service teachers, their RJs, reflecting on the reflection requirement and the researcher's reflective diary.

4.2.1 *Shocked by reality*

Saudi pre-service teachers have the chance to observe classroom teachers for two weeks and they reported that they practice teaching for one or two lessons during the second week, then in their third week, they started practicing teaching in their assigned classroom for four full days. All participants articulated that they were shocked by the reality, as they had imagined that teaching was an easy and straightforward job. They realised that teaching is complicated and their theoretical study at college was not enough to prepare them for their job.

Nada, for example, was shocked by how she engaged in teaching and how she interacted with her students.

When I started teaching, I felt that was not how I imagined myself practicing teaching. I was talking more than the students. I did not give them a chance to respond, or to interact with me or with each other. Indeed, I felt that this was not me... I was not representing myself. I was surprised at myself and at my teaching practice. (Nada, I)

Similarly, Mona was shocked by the reality as it was much more challenging than she was expecting:

The reality was much harder than I was imagining... I imagined that the class will be managed easily but the reality was not ... Indeed, I felt frustrated when the class time was up and I could not complete the lesson ... This happened to me twice. (Mona, I)

Sultanah stated that although she was expecting teaching to be challenging, she realised that she was not prepared enough to deal effectively with her students:

When I decided to be a teacher I had a previous thought that teaching includes a sense of challenge in terms of the importance of having a balance of managing the classroom, teaching effectively and caring about the students... but I then realised, on my first day, that I am not prepared enough to deal with a huge number of the students who have individual and cultural differences that could be hard to deal with. (Sultanah's RJ, I)

Participants realised that they were unprepared for the application of their teaching skills, with gaps between their theoretical knowledge and their practical knowledge. They admitted that their intent was to make some arbitrary decisions when they faced daily teaching issues. I will explain in more detail in the following sections.

Unprepared for applying certain teaching skills

The majority of participants lacked understanding of some of the teaching skills that would enable them to deal with the complex nature of teaching. This means that having the desire to teach was not enough to be a good teacher. Pre-service teachers should identify their weaknesses and improve their teaching skills to improve ultimately as a teacher.

Rana, for example, expected that her love for educating students would be enough for her to manage her classroom and be respected by her students. She thought that she would know how to treat them effectively, as she used to teach a lot of children in her large family.

I liked to teach my brothers [and] I enjoyed doing that... I felt that I have the ability to be a good teacher... I had a board at my home to explain things to my brothers... I was very happy doing that, but when I started studying education at college, I had many concerns. Then, when I started teaching in the school placement, these fears came up more than before. Now I know that I have to change something; having the desire to do something is not enough to achieve success in it. I cannot be certain, although I have a desire to teach, that the students will love me and... that everything will run smoothly and in wonderful ways. I do understand that I have to change things in myself... I did not know that I should change until I was shocked by the mess in the class on my first teaching day... unfortunately, I did not deal with that effectively, especially as it was my first meeting with the students... I am really worried that they may use it against me. (Rana,1)

When Rana wrote her first reflective journal, she realised that changing internally and externally, by building her confidence and acting confidently in front of her students, was very important.

I did not expect that my desire and positive attitude towards teaching would not be enough to become an ideal teacher. From the first meeting with my students in the primary school, I was not able to manage my classroom... I believed that I [have] identified some of my problems. Moreover, the solutions that I proposed helped me to change internally and externally in my professional life, and affected me positively in my personal and social life. Building my self-confidence and recognising my mistakes and weaknesses are essential in my case to develop as a teacher. (Rana's Rj,1)

Others admitted that they lacked some professional knowledge, especially regarding classroom management. The majority of participants were never exposed to this essential knowledge, despite the fact that they had been studying education for four years at college. An example of this comes from Asma, below.

I think reflection is very important for teachers to resolve their problems, such as managing classrooms... It would be a good idea to start with this, because it is one of the crucial incidents we faced at the beginning of our teaching, and we had no idea how to deal with that... without reading relevant resources, writing reflective journals, reading each other's journals and reflecting with colleagues about that, it would be hard for us to reach good solutions. (Asma, 3)

The gap between theory and practice

Implementing theoretical knowledge into practice was not easy for the participants. One possible reason for this is the fact that pre-service teachers are used to memorising theoretical knowledge and never have the chance to think about how to effectively implement this knowledge with their target age group, or practice in real situations.

We studied teaching strategies theoretically. We just memorised the relevant information, without truly thinking about it. This was a disaster, because we did not understand these strategies. In our study at college, they focus more on how we should write our lesson plans. Even when we do some micro-teaching, the focus was not on how we could implement the strategies, it was on how to write our lesson plans. I realise now, for example, that when I have to use any teaching strategy, it should be clear for me and my students... which means that I should not just use the name of the strategy... students should know what the aim of undertaking that strategy is [and] how they are going to do it. It should be clear for them. (Reema, 2).

Haifa, on the other hand, articulated that, although she has theoretical knowledge about some issues, implementing them was a challenge.

Although I know the characteristics of children's growth, and I know that at their early age it is hard for them to understand abstract words, it was not easy for me to absorb this fact when I was in the classroom... maybe because I do not have young siblings at home, and I do not really know how to deal with children... [I can] forget a lot of this theoretical information when practicing teaching in the real classroom, but when someone reminds me, I will remember then. (Haifa, 3)

Furthermore, during the informal phase in this study, some of the pre-service teachers articulated that there was a disconnection between what they had learned at the university and what they implemented when they taught in school. For example, one of the participants articulated that she used to write thoughtful lesson plans with so many details and creative ideas about teaching strategies, but she realised then that what she had done during her university studies was far from reality. It was impossible for the targeted students to understand all the amount of knowledge in the lesson plan in one lesson, and also the actual class time was inappropriate to the planning (research diary from the informal phase).

Arbitrary decisions

Making decisions based on careful thinking was a challenge for the trainee teachers. Students were overwhelmed when undertaking many teaching issues during the school placement. At the beginning of the semester, they were trying to address their issues at a survival level by

undertaking the most common or easiest solutions without careful consideration of the reasons behind the incidents or alternative solutions that might resolve such problems.

Some of the pre-service teachers stated that they intended to address their incidents, before hearing about reflective thinking, by implementing solutions randomly, through trial and error. For example, Marwa indicated the following in her first interview.

I was thinking of trying to punish some of my students by making them stand up when they make a mistake... because my brother is the same age as my students, and his level of achievement is good, I asked him how his teacher treats them. He told me that his teacher asks them to stand up when they make mistakes... so, I was thinking what about trying that with my students? Would that be useful? My mum advised me not to do so. She said this is not an appropriate way to treat your students... my mum is a retired teacher, she used to teach lower and higher elementary classes. (Marwa, 1)

Hanan articulated that she never gave herself an opportunity to think about her problems and the reasons behind them. She usually rushed to undertake the nearest and easiest solutions, without careful consideration. She added that she usually derived her solutions from others, without scrutiny or review.

Before I knew about the reflection concept, I was not sitting down to think about the reasons behind my problems, I was directly looking for the solution. The nearest [and] the easiest solution... which often was by applying the suggested solutions from others straightaway, without even giving myself the chance to think about the problems [and] their causes, and making the appropriate decisions to resolve them. (Hanan, 1)

The pre-service teachers were shocked by the reality of the teaching world at the beginning of the semester. This is because they were unprepared for applying some teaching skills effectively, especially regarding managing the classroom. Furthermore, there was a gap between their theory and practice as they used to memorise theoretical knowledge with little chance to think about how they could implement it effectively with the target age. In addition, trainee teachers seemed to make decisions at a survival level by implementing solutions randomly and undertaking the nearest and easiest solutions.

4.2.2 Pre-service teachers' understanding of reflection (in the informal phase and their background about reflection in the main study)

The majority of trainee teachers who wrote paper-based RJs, during the informal phase, expressed negative feelings towards reflection and did not understand the meaning or the

purpose of reflection. On the other hand, when asking participants at the beginning of the main study about their background in reflection, and whether they previously understood the meaning of this concept, all of them stated that they never came across this concept in teaching. Some participants had a negative opinion of reflection, gained from the experiences of their graduated friends, who had been asked to write RJs.

Negative opinions of reflection

A strong negative feeling towards reflective thinking within pre-service teachers prevailed in the informal phase, which took place before the main study when they had been asked by their supervisor to write mandatory paper-based weekly journals. This feeling was mainly because of many reasons such as their lack of understanding of the meaning of reflection, as they did not receive enough information about the meaning and the purpose of reflection. Moreover, being assessed on their RJs level, as 10% of their final grade was allocated on completion of reflective assignments, created an unfriendly environment which hinders their ability to reflect on their practice. Furthermore, reminding some of the students about their mistakes over and over, created an untrusted atmosphere in which they would prefer to hide their weakness and express the positive aspects of their teaching practice (Researcher diary). This, of course, conflicted with the main aim of reflection of being open-minded and admitting one needs to change with the aim of learning and developing professionally.

Similarly, when asking participants about their background of reflection at the beginning of the main study, some of them replied that they heard from graduated students in other departments that writing a reflective journal is very demanding and time-consuming work. Haifa, for example, heard that writing RJs is time-consuming and very hard work.

I heard from my friends in other departments that they had to reflect on their practice, but they did not say what it was exactly... they said that it was very hard work and takes too long to be completed. They were uncomfortable with doing it. (Haifa, 1)

Aldana heard from other graduated students that writing RJs is boring, hard and useless.

When I was telling some of the graduated students in another department that we met with you and we will be writing reflective journals, they said to me, it is a very bad thing to do. I said to them that I did not feel that it is something bad... they [were] asked to reflect on a certain course before they graduated from the school. They did not like it [and] it was a bad experience for them. Maybe because they had to write from the beginning of their teaching day until the end. They had to write everything they encountered. It was not about

reflecting on certain incidents... they had to talk about everything. They did not understand the meaning of reflection, they were writing about everything in front of them. It was like describing things... not reflecting. I do not know, but they did not like it. For me, I do not have the same feelings. They said, we asked God not to live the same days!... I said to them, you have negative thoughts about it, please stop telling me that, I do not want to hear more. (Aldana, 1)

Aldana added that when she later explained to them the meaning of reflection and her way of reflecting, they articulated that it was different to their method of reflection.

When I later met the graduated students, I explained to them what I had done in my reflective journals, after I fully understand how to reflect on my practice. They said, ok, that means what we had done was wrong. They just explained what happened from 7:00am, until they left the school, they did not write in the same way as us. They said yours is better, even when we have negative feelings, we will write about them... I do agree with them, their way of writing is very boring. (Aldana, 2).

Ignorance of the meaning of reflection

When asking trainee teachers (both in the informal phase and at the beginning of the main study) about their opinions of reflective thinking in teaching, all of them replied that they did not know the actual meaning of reflective thinking. For example, Aldana thought that the meaning of reflection was summarising teaching actions.

At the beginning, I did not understand the meaning of reflection. I thought it meant that I had to summarise my teaching actions... I remember that the first time I heard the term reflection was when our lecturer asked us to write what we benefited from in her lecture, by summarising the most important aspects of it. This is what I remembered, so I thought that you may ask us to summarise what we have learned at the end of each teaching day. This is what came to my mind, but after our meeting, I understood the exact meaning of reflection. (Aldana, 1)

Marwa, too, had no idea about the meaning of reflective thinking in teaching at the beginning of this study.

I had no idea about the meaning of reflection. I know that reflection is about thinking in general, but reflective teaching... this my first time hearing about it... I asked one of my friends and she explained to me that I should figure out the positive and negative aspects of my classes... she did not inform me if she enjoyed doing that or not. (Marwa, 1)

Rana thought at the beginning that reflection was about diary writing, then she learned how to reflect on her practice.

I thought it [would be] like diary writing, and I would have to talk about my teaching practice. Then, I realised that I should follow certain steps to consider and reconsider my practice... while teaching I could not identify my issues, but when looking back at my practice, I may discover some of my teaching that needs to be improved... I felt that is useful for me and it could help me to improve my character as well. (Rana, 1)

When asking participants in the reflecting on the reflection requirement a question about whether their experience of reflective practice was similar or dissimilar to what they expected, Hanan articulated that she imagined writing RJs is about narrating the teaching and learning process:

I thought that writing RJs is about narrating the teaching and learning process without considering other aspects of self-learning, reading and searching to resolve the incidents to improve the current situation. (Hanan, RoR)

Similarly, Sultanah stated the following:

I thought it was about reporting everything during the classroom, to review what was happened for documenting purpose only. Then I realised that it is much deeper as it required thinking, an acquaintance for the relevant knowledge and making appropriate decisions. (Sultanah, RoR)

In short, the majority of pre-service had a negative opinion towards reflection in the informal phase and, similarly, some participants of the main study had a negative opinion of reflection (at the beginning of the study) derived from other students who had a negative experience when reflecting on their practice. Furthermore, all participants, of both the informal phase and at the beginning of the main study, had no clear idea about the actual meaning of reflective teaching and how they could reflect on their practice.

4.2.3 Saudi pre-service teachers' attitudes towards reflection (after being introduced to the reflection concept in the main study)

The majority of pre-service teachers had conflicted feelings of both enthusiasm and hesitation at the beginning of this study. At a later stage, they expressed feeling proud of themselves.

Conflicted feelings of enthusiasm and hesitation

The majority of the participants were not sure about their feelings at the beginning of this study. Indeed, more than half of the total number of participants withdrew from this study in the first

three weeks, which is a very large number. Many participants were hesitant to participate due to various reasons, such as doubting their ability to think about and write their RJs, and concerns about the time required to accomplish these tasks. On the other hand, although not all of the remaining participants clearly understood how to reflect on their practice at that time, the majority of them were enthusiastic about participating in the study, due to their belief in the importance of reflection. This belief seems to come as a result of being shocked by reality when they had to practice teaching in an actual classroom (see Section 4.2.1). Many pre-service teachers were hesitant to take part in this study, especially as they knew that no credit would be given for their participation. I will explain some of the reasons that could be behind their hesitant feelings in the following sections.

Doubting one's ability to write and think was revealed in the narratives, as many of the pre-service teachers had a sense of fear and uncertainty about their ability to regularly reflect on their practice, even after they attended the workshops and had seen some examples of RJs. Indeed, many of the participants withdrew from the study because they felt they could not write thoughtful journals.

Ruba, for example, withdrew from the study after writing the first part of her journal before struggling to write the second part of it. When contacting her to ascertain why she had stopped, she replied that she had tried her best, but could not find useful solutions for her classroom incidents. Indeed, she clearly stated that teaching is demanding work and that she just wants to graduate from the education college but will never work as a teacher! (Researcher's diary)

Alanoud also did not know how to reflect on her practice at a deep level, and indeed during her first and only interview she stated that she struggled to understand some of the content related to basic Arabic grammar when teaching the students, and she felt embarrassed to teach something incorrectly in front of her supervisor (researcher's diary). Alanoud was occupied more with knowing the subject matter and she was very busy with her own life, all of which stopped her from being able to reflect on her practice as it was not a compulsory task.

Nada, for instance, was thinking of withdrawing from the study because she was not confident in her ability to write good RJs.

I was excited to participate when I was in the hall, and then I started thinking about my writing ability... as I said to you, I am not a good writer. I imagined that it would be something strange to me and would be difficult... [I thought], how am I going to express my thoughts, or describe situations, or even my

feelings... I was thinking of withdrawing from the study, but my dad encouraged me to be involved in this project. He said that it would be a challenge through which I may be able to improve some aspects of my teaching. I thought twice about his advice, then I decided to complete the project. God willing, let me understand reflection and know how to reflect in a good way. (Nada, 1)

Some participants wondered whether they would be able to write their journals at a satisfactory level.

I was questioning myself. Can I really do that? Can I give it what it deserves? When you asked us to write our first journal, I thought that I might not give it what it deserved, that I cannot write at a critical level, [that I] do not know how to frame the incident or identify the real problem. My main concern was, do I have to focus on the problems within the classroom or outside of the classroom, or do I have to consider the problems that I have in common with my colleagues... I was confused. Then, when I had to write about classroom management, I felt that it was a very huge problem that includes many other problems, and I know that addressing them means resolving many problems in my classroom. (Aldana, 1)

Mona, for example, was puzzled about how to start, what to write and how to end her RJs.

I remember at the beginning, when I had to write my first journal, I felt uncomfortable, as I was not sure what to write and how to write it. After that, my feelings changed gradually, as I then knew how to express my ideas by considering the first two levels of the Bain module, and how to rearrange my thoughts and how to end the journal. (Mona, 2)

To provide some context, Mona found writing her RJs difficult to accomplish by herself, especially when writing her first journals. She asked for some help from her close friend, Nourhan, in choosing how to express herself clearly (Researcher's diary).

Many participants sent me the first part of their first journal through email or WhatsApp, as they were not confident about their writing (see Section 4.1.3). There was also a sense of concern about the time commitment; participants wondered whether writing their RJs would be time-consuming, especially as they had many other teaching requirements that needed to be accomplished as part of their work. Haifa, for example, was worried about the time it would take to write her RJs.

I do not know yet, exactly how to reflect, so I am worried that it may take me a long time. Maybe because I have not organised my time yet. Also, I usually

feel panic when starting new things in my life, but I hope I will overcome all of these feelings. (Haifa, 1)

Despite the factors above that affected the pre-service teachers' feelings, and made some of them withdraw from the study, many of the remaining participants (even those who doubted their ability to reflect) stated that they were enthusiastic about taking part in this project. Indeed, participants advocated for the importance of reflection after being shocked by the reality of teaching.

All the remaining participants believed in the importance of reflection. These feelings emerged after attending the project workshops and, more clearly, after completing their first journal, as they thought that reflective thinking could help them overcome their teaching incidents. Although Mona had concerns about how to start writing her first journal, and needed support from her close friend, she expected that it would be a new, wonderful and useful experience for her.

My first impression when I attend the workshops was positive. I feel like reflection helps to express your feelings... talking about your incidents in detail, in order to reach a solution... It is wonderful when you arrange your thoughts in a very systematic and enjoyable way, not in a formal and boring way, but in a way that helps you to resolve the incident. (Mona, 1)

A similar opinion was stated by Marwa.

I was excited to reflect on my practice, but I was worried that my thinking could be limited. (Marwa, 1)

Marwa articulated, in her second interview, that writing RJs influenced her practice, which she stated was an unexpected consequence. Marwa realised this later, when she started writing her RJs.

In fact, I was sure that I would benefit, because anyone who never thinks and reflects will be in trouble...but I was expecting to benefit theoretically, not in practice. I said to myself, okay, I will reflect, read [and] implement the solution, but I did not expect that this could really influence my teaching practice...I was saying, so what? What will happen when I have to think about that? Now, when I have to implement a solution, I keep thinking of my practice...is it appropriate? Is it a good solution? Why and why not, and what about trying something else...which means that it affected my actions as a teacher. (Marwa, 2)

This means that Marwa did not understand, at the beginning of the study, the real meaning of reflection. This was also the case with many of the other trainees, as after completing my first workshop they began asking questions such as “how can we deal with bullying issues?”, and “how can we manage classroom behaviour?” Here, I simply replied that this is what you will figure out by yourselves through reading, interacting with each other and with the experienced teachers and through thinking deeply about your practice (research diary). Thus, their attitude towards reflection developed when writing their RJs and understanding how they could improve their practice in the classroom.

Indeed, many participants, including Sultanah, stated clearly that one of their motivating factors was basically the use of technology when reflecting on their practice. Sultanah explained the reasons behind this when she stated the following:

Using the technology encouraged me to participate in this study, as without the use of technology it would be boring and I would not have the chance to share my thoughts, to air my voice and to receive some feedback from others. (Sultanah, 1)

Aldana was excited to participate as she was expected to benefit from writing RJs, especially with the support of the supervisor and the researcher.

I am sure that doing this does make a difference. When you think about and feel what is going on and write that down, this encourages you to think all the time about your practice and methods. [This] means you would not implement things without thinking about them, evaluating solutions, thinking of the reasons behind the success of certain methods... I think I will benefit, because I will not be alone. I will get the support from my supervisor and from the researcher when writing these journals, so I think I will benefit from this experience and benefit others as well. (Aldana, 1)

On the other hand, Reema expressed that, although it would take her some time and effort, different experiences will be gained through reading and discussing solutions with others, when involved in writing the RJs.

When we heard about it, we knew that doing it will take time and effort, but we will benefit. I was optimistic that this would encourage me to read, which I like to do... it would broaden our horizons... I mean, me and my colleagues, when we discuss our incidents together, this could help us... especially as we used to learn in theoretical ways. Now, it is different. We have to deal with our practical issues. (Reema, 1)

Feelings of pride (at a later stage during the research project)

At a later stage during this study, many participants reported that when they started writing and publishing their journals, they felt proud of themselves. Sultanah, for example, felt that writing online RJs gave her a chance to express herself. She emphasised that writing her name on the blog gave her a sense of pride, which would not be the same case if it was paper-based.

I like to write my name on my reflective journals. I feel I am proud of myself. Reflection gave me more space to express myself than before. This would not be the same case if we had been asked to write on paper... writing online reflective journals benefits the writer personally and also benefits others. Writing on paper would not be seen by others and cannot be shared... I tried to read and benefit from my colleagues' posts as well. (Sultanah, 2)

Sultanah added that sharing her journals motivated her to continue writing RJs, because it gave her a positive feeling.

I did not expect that I would write like that... when I shared my journals with my mum, dad and siblings, they were surprised, as they never thought that I could write like that. They were impressed by my writing and expression. This motivated me to write more reflective journals and share more journals with them. (Sultanah, 2)

When asking Rana about her feelings at the end of the research project, she replied that she felt proud and satisfied with herself, as her level of teaching, compared to her teaching at the beginning of the semester, had improved. She articulated, though, that she had been depressed at the beginning of the semester, as she felt she could not be a good teacher.

I feel fulfilled and satisfied, thank God. My supervisor was also satisfied with my teaching, as it improved as I overcame many difficulties... although I was nervous when my supervisor attended my class, I managed to overcome my fears. The students were wonderful, as I built a positive relationship with them. I was teaching with confidence. I believe now, that every problem has a solution and, although I could not overcome all the problems, I managed to control some of them.... I remember my situation at the beginning of this semester. I felt despair and I thought I would not continue teaching. After reflecting on my practice and addressing some of my main issues, my view changed. In fact, reflective thinking become my new way of thinking. (Rana, 3)

When Rana started reflecting on her practice, she noticed that she had to identify her problems and address them carefully, one by one. This helped her to improve and have a positive attitude towards teaching. On the other hand, Nourhan emphasised that her sense of pride and achievement was because of her clear influence on the school, as she managed to address some

of the classroom incidents effectively, when the regular classroom teacher could not overcome them (Researcher's diary). Here Nourhan stated the following:

[It is] a nice feeling when you go back to your blog posts. I feel pride and a sense of accomplishment, because I identified some of my problems and was able to reach some appropriate solutions, which made me feel confident... that my solution was good for solving the problem. (Nourhan, 3)

When asking Nourhan at the end of the semester to respond to one of the reflection on reflection questions, "what did this experience of being involved with teaching reflection add to you?", she stated:

In fact, it added a lot ... It was a motivating factor to think about my incident and believe that it could be solved ... feeling pride of self when looking back to my blog and reading my journals and the solutions that I have decided. (Nourhan, RoR)

Participants had conflicting feelings of hesitation and enthusiasm at the beginning of this study. The hesitation feelings were due, first, to the fact that there was no direct benefit from participating in such a study by gaining some credits. Second, participants doubted their ability to think and write at a thoughtful level. Finally, they had a concern about the time they would spend writing such journals. On the other hand, the participants' enthusiastic feelings emerged after attending the workshop. They were shocked by the reality of teaching and understood the real meaning of reflection. The use of technology as a means to reflect on their practice was also a motivating factor for many of them. At a later stage of this study, many participants reported a sense of pride as a result of being involved in writing RJs.

4.2.4 Questioning the purposes of reflection

Participants had various purposes when they reflected on their practice. The majority considered reflection as self-assessment, which helped them to improve their teaching skills. On the other hand, a few found reflection to be a good opportunity for them to air their voice.

Self-assessment

Writing RJs was considered by the majority of participants as an opportunity to assess themselves, especially after they were shocked by the reality of teaching. They assessed their teaching practice by considering their teaching incidents carefully and addressing them systematically. By doing this, they could improve their teaching practice.

When asking the pre-service teachers about their purposes when writing their RJs, some stated that their aim was self-development, so that when they become aware of their incidents, they will not repeat them. Haifa recalled the following:

My purpose in reflection is to develop as a teacher, because I can concentrate on my incidents to address them. Otherwise, I will keep repeating them again and again. Before this, I thought that I was already a reflective practitioner, as I thought it was obvious that you have to reflect on your practice... [Now] I realise that I was noticing some of my problems, but I did nothing about them. I did not carry out any solution. (Haifa, 2)

At the beginning of this study, Haifa believed that reflective thinking was something normal and something we all do as human beings. However, she later realised that, while she may have recognised her incidents, when she did not write them down, she just ignored them. As a result, she kept repeating them over and over. In the middle of the study, Haifa appreciated that writing RJs helped her commitment to suggesting solutions, which would ensure she did not repeat the same mistakes (Researcher's diary).

Some of the participants stated that their aim when writing their reflective journal was to help them make wise decisions when managing their teaching incidents. Aldana stated the following:

I felt that writing the reflective journals helped me to improve my teaching skills. For example, in assessment journals, I had a problem with crowded classes and also having to assess students on so many different aspects of their learning. I am now looking for some programmes and methods that could help me to do this. This problem needed a deep consideration to find good solutions. (Aldana, 2)

Nourhan added that her purpose when reflecting on her practice was to help her to feel confident about her teaching decisions, especially when she read from relevant resources.

When I found a solution for my teaching incidents, I felt confident in myself and my professional practice, because when I reflect, I usually read from relevant resources, which helps me to reach the appropriate decisions. Now, my evaluation of my practice is based on my knowledge of relevant resources, because when I argued with others about my thoughts they did not understand me...now, I am able to reflect, read and discover whether my practice is appropriate or not. For example, I told [my peers] that my decision to have certain rules in the class and stick to them was right according to the book I had read, while my friends were criticising me for having that attitude in my classroom. (Nourhan, 2)

Some trainee teachers mentioned that their purpose for writing RJs was to have a better experience during their school placement.

I may invest my time during the school placement. I may acquire a deeper experience that could not be achieved by other trainee teachers who did not participate in this study... For example, instead of having to teach for two years at a private school, I may acquire this in one term as I carefully address each problem I encounter... this gives me intensive experience. (Reema, 2)

Airing their voice

Some of the participants aimed to improve their practice when writing their RJs and to have a space for their opinions, to air their voice to benefit other trainees, or to contribute to making improvements in the current Saudi educational system. Reema, for example, aims to show other trainee teachers her experiences, which will benefit them when they face similar incidents.

If my reflective journals are read by some new trainee teachers, they will know some of the incidents [I faced] and how I overcame them, especially as they were written in a simple way... I gave them to my brother. His field is education as well. He said that they are wonderful, because they are not written in a formal way, which encourages the reader to know the end of each story. He liked them and he said that you will never forget each of your solutions, because you solved them by yourself... He added, when you face the same or similar incidents, you will remember the solution, which can help you to deepen your experience in a short time. (Reema, 3)

Nourhan, on the other hand, hopes that her voice will be heard to make real-world changes:

I hope it will reach many people. I want to leave some positive effect that could benefit others. I mean, when I reflect on something, I hope to change a certain situation. I hope that I have the voice to change and to improve things. (Nourhan, 1)

Sultanah had a higher ambition, as one of her aims was to be heard by the authorities, to address issues that cannot be solved by the teachers' efforts alone and need to be improved by the MOE in Saudi Arabia.

I hope that my voice will be heard by the educational authorities, to address some problems with solutions out of my reach. For example, two science classes during the week are not enough to cover the long and complex science curriculum, and I cannot solve this problem by myself. I cannot change this, so I need someone responsible to hear my opinion and to contribute to the solution. (Sultanah, 2)

In short, participants highlighted various purposes of writing RJs during this study. Many considered reflection as self-assessment of their practice to address their teaching incidents. Others aimed to air their voice to benefit others when addressing their current issues or to try to contribute to improving the current Saudi educational system when highlighting the main teaching issues within the Saudi context.

4.3 What do Saudi pre-service teachers see as impedimentary and disincentive factors which limit the use of electronic reflective journals as a method of learning within their field experience?

The informal research phase in this study revealed that reflective thinking was a challenging task cognitively and emotionally. This is because during the informal research phase the pre-service teachers did not understand the meaning of reflection and how to reflect on their practice, and moreover they were worried about the consequences of admitting their mistakes when writing their RJs. Thus, assuring a secure environment and facilitating reflection are essential aspects of this action research. In this research, facilitating reflection aims to provide the trainee teachers with several modules, exemplars and other relevant resources alongside continuous online feedback from their supervisor, the researcher and experienced teachers, to help them reflect at a thoughtful level based on Bain's model of reflection. However, according to the participants, completing the RJs was still a challenging task – especially at the beginning of the first formal action research phase – and although many of the participants were able to deepen their thinking during this research, the majority of them were rarely writing in the Reconstructing component of the 5Rs framework (Bain, Ballantyne, et al., 2002). This was due to various reasons such as time constraints, lack of thinking and writing skills, and other contextual factors.

The third research question aimed to understand the participants' experience of the impedimentary and disincentive factors. The impediment factors were concerned with theoretical and philosophical barriers and how they overcame them when reflecting on and completing their online RJs, whereas the disincentive factors focused on practical barriers that could stop them from reflection, such as the reported contextual factors (see Section 4.3.5). We aim to answer this research question by focusing on five aspects of the impedimentary factors, which are the time constraints, the lack of writing ability, the lack of thinking ability, their resistance to using blogs as a means of interaction with peers, and other contextual factors (Figure 4.3).

The data were collected from the pre-service teachers' interviews, the pre-service teachers' RJs, the observation of the individual blogs and the researcher's reflective diary.

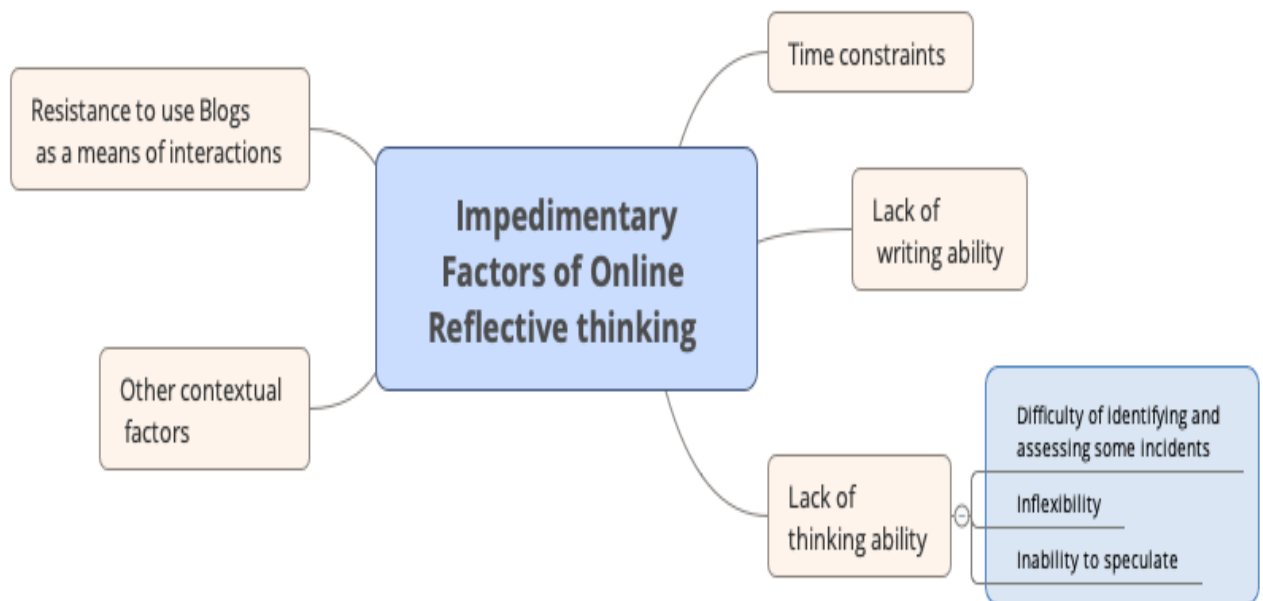


Figure 4. 3: Impedimentary and disincentive factors of online reflective thinking

4.3.1 Time constraints

The majority of the participants had some concern about the time constraints at the beginning of this study. In short, they were concerned about whether they would have enough time to complete their RJs. This is because they knew that they would be exposed to new teaching experiences while having to complete the RJs, which was an uncommon task for them. Here, Marwa stated the following:

To be honest, the project attracted me from the beginning, but I was thinking about the time...because in our field work, we have to accomplish so many tasks...we have to prepare our lessons carefully. Students are very clever and they will figure out if you are knowledgeable enough or not [and] if they feel that you are incapable of explaining things, you will lose their trust in you as a teacher. I have some especially talented students in my class and they keep asking me about many things...so I have to be ready (Marwa,1).

Sultanah also had a similar view, as she mentioned that finding the time to think about, write and revise the RJs could be a challenge, especially at the beginning of the semester. This was because the required teaching tasks in the field work were a new experience and demanded more time to think about them carefully:

I teach three subjects, which are the Quran, religion and science and I have to prepare eight lesson plans...and their teaching materials. Currently, we experience time constraints because all of these tasks are something new for us. As soon as we settle and get used to doing all of the tasks...I guess my situation will be better during the coming days. (Sultanah,1)

To provide some context here, Sultanah was very enthusiastic about participating in this study as she believed it would provide an opportunity to express herself clearly and to air her views to others. In fact, she dedicated a great deal of time to writing her thoughtful journals as she engaged in reading many relevant resources in order to write meaningful RJs.

Indeed, the majority of the participants found that it took a very long time to figure out how to write their first journal:

The first journal took me a long time. I spent the whole day thinking about how to write the first part...it was a challenge for me to know how to start writing...because I am used to writing for myself not for others. We are not used to reflecting on and writing about our thoughts...it was something new to us. (Marwa,3)

During the study, many participants stated that they occasionally experienced certain time constraints, especially when they were asked to submit their teaching plans, their extracurricular activities and their RJs at the same time:

Sometimes, the time is tight and I cannot find the time to think and write...because sometimes I have to handle my teaching plans and the extracurricular activities as well as the reflective journal. With this, I feel that I am under pressure in terms of time. (Aldana, 3)

Aldana and some other participants added that it would be more appropriate if they had the chance to learn about reflection and deal with the complexity of teaching at an early stage from their university study:

If we had the chance to learn about reflection and to deal with the complexity of the real classroom from an early stage during our university study ... I think our situation would be better. (Aldana, 3)

Thus, it seems that having to learn so many skills and deal with the complexity of teaching in one semester was quite overwhelming and sometimes discentivised pre-service teachers' writing of their online journals at a deeper level. However, by the mid-stage of this study many participants were suggesting that the RJs were not consuming so much of their time, compared

to when they were completing their first journals. Nonetheless, they did highlight that writing the RJs required being organised to have a clear vision to accomplish each required task, rather than being overwhelmed when having to deal with so many issues with no focus. This was sometimes difficult to achieve, especially under the pressure of fulfilling other teaching requirements. Here, Marwa stated the following:

I realised later that writing reflective journals does not consume so much time in itself... but requires a fresh mind...and this is what I lack sometimes as my mind is busy thinking about accomplishing other teaching tasks...at the time when I should be concentrating on the issues that I should be reflecting on to make good decisions. (Marwa, 2)

However, many participants stated that they had been occupied with so many irrelevant teaching tasks that should be covered by regular school teachers. In this vein, Reema reported that:

Sometimes, at the school we do not have a chance to attend to each other's classes as we are so busy...One day, I was asked to cover four 'waiting class' at the same time (a class needing supervision in the normal teacher's absence). When this happened, we helped each other or just put all the students in a huge room so we could control them...and, of course, when my friends ask me for help, I will help them...So while in the schedule, it appears like I covered, 'one waiting class', this is not the reality...I do not want to ruin my good relationship with them...so I just accept that.(Reema, 2)

Nonetheless, although the participants were overwhelmed by many duties, many realised that reflection had an influence on the other aspects of their teaching. For example, Sultanah mentioned that reflective thinking impacted her teaching plans by being proactive when dealing with some issues to avoid their consequences:

My plans have become much better than before... Because I now realise some of my incidents ... Thus my plans become better because I tend to think about different issues when planning my lessons ... This helped me to avoid some mistakes or issues and to use the time effectively to accomplish the lesson's aim. (Sultanah, 3)

As was noted above, at a very early stage of this study, many participants were concerned about the time constraints and about whether they would be able to accomplish their teaching practice duties and complete their RJs. When writing the first journal on the first topic (classroom management), many participants noted that it consumed more time compared to the other journals. This was mainly because it was a new experience for them, one for which they needed more time to figure out how they could write them successfully. However, many participants

related that writing the RJs did not take such a long time, except for the first journals, while it was important to have a fresh mind when writing the journals, which often proved difficult, especially when having to deal with some of their teaching requirements in the same week. Indeed, they were wishing they could have had the opportunity to learn about the concept of reflection and to deal with the complexity of teaching at an early stage of their university study. Some participants, on the other hand, realised that reflection helped them when accomplishing their other teaching duties such as when planning their lessons.

4.3.2 Lack of writing ability

Many of the participants found that writing their first journals was a challenging task. However, writing difficulties were noticed more by some of the participants, such as Kholoud and Mona, during this study. Kholoud, for example, described her struggle when writing her first journal as she could not express her ideas clearly:

It was hard for me to link my ideas to each other...I do not know how to sequence my ideas...I think to overcome this problem I need to read more and to have a look at the examples on the main blog and to see my peers' journals...I also need to revise my journals after writing them. (Kholoud, 1)

To provide some context, certain parts of Kholoud's first journal were unclear and impossible to understand. Indeed, I remember that at the time I got a headache when trying my best to figure out her point of view. Kholoud could not express her ideas as she was jumping from one idea to another thought without explaining each thought clearly which made reading her journal very confusing and makes no sense. I later explained to her the importance of being clear about what she is trying to write. Having a main sentence with a certain idea in each paragraph, explaining that very well then moving to the next idea are crucial to compiling a good piece of writing. Fortunately, Kholoud was very committed and was highly motivated to do her best. Indeed, later, she compiled many of her journals at very good levels (researcher's diary).

In fact, at her third interview, Kholoud stated the following:

I feel like my writing is better now...because, as you said to me, I have to write each idea with a clear focus and explain it in detail before jumping to the next idea. Your comments have been taken into account...and I keep them in mind when I write my journals. Now I have revised my journals many times to make sure that each idea has been written clearly...and yes, this works for me. I also used to write in noisy places, which affected the quality of my journals. Now, once I have finished work, I sit alone in a quiet place to write my reflective journals. (Kholoud, 3)

Here, also Kholoud stated in her reflecting on reflection requirement at the end of the semester:

I discovered that my ability to express and write and how to formulate the problem was very weak at first and I found it difficult to do so, and the experience of reflection has worked to accustom myself to write at a good level and I also think that I improved in terms of the ability to discover the problems by myself. (RoR, Kholoud)

Here, Kholoud was clearly surprised when she discovered that she could not write in an appropriate way, but she responded actively to all my feedback, which helped her to improve her writing. In fact, at one point she said that she would not give up and would keep improving her writing until she reached the required level. However, Kholoud used to send me her journals via WhatsApp before uploading her journals on her blog, and thus I assume that she preferred to receive feedback privately and did not want to be criticised in public. This indicates that some participants found receiving the feedback privately more comfortable and less embarrassing (researcher's diary).

Mona also found that writing the RJs and expressing her thoughts was often difficult, especially at the beginning of this study:

I remember at the beginning, when I had to write my first journal, I felt uncomfortable, as I was not sure what to write and how to write it. After that, my feelings changed gradually, as I learned how to express my ideas by considering the first two levels of the Bain module, which helped me to understand how to rearrange my thoughts and how to end the journal. (Mona, 2)

Interacting with her peers (especially Nourhan) and reading the online module and materials helped Mona to overcome her writing difficulties and to understand how to write her journal, while she was unable to reach the two highest levels of reflection based on Bain's model in many of her reflective journals (Researcher's diary).

Meanwhile, certain participants intimated that the main reason for their lack of writing ability related to the fact that they had not been exposed to similar experiences, as they had never been encouraged to think and write thoughtfully while studying at school or university:

The first journal took me a long time. I spent the whole day thinking about how to tackle the first part...it was a challenge for me to know how to start writing...because I am used to writing for myself not for others. We are not

used to thinking about and articulating our thoughts...it was something new to us. I remember that while we studied one subject called 'Thinking skills', we did not practice either thinking or writing. Indeed, it was more about memorising information on psychology, paying attention and the various degrees of thinking. I was assisted by the formal test, which basically focused on memorising and recalling the information without having a chance to express our ideas or articulate our thoughts on this subject. (Marwa, 3)

On the other hand, many participants found that practicing writing the RJs helped them to improve their ability to write, especially after engaging with certain relevant resources, which helped them to choose their words more carefully:

I was not sure how to explain my thoughts or how to formulate my ideas clearly. However, practicing doing just that helped me to improve my skills in writing the journals...because I have not practiced writing for a long time. Reading the relevant resources also helped me to formulate the issues in more intelligible ways. (Aldana, 2)

I have to mention here that reading the first attempt of some students' journals (Haifa, Kholoud and the withdrawn participants) was quite disappointing, as I had expected that with the provided online materials participants would be able to write at a good level. However, the ideas in some parts of their first journals were not linked, and some thoughts were not clear. Thus, the online feedback (from me and their supervisors) mainly aimed to prompt some questions to help them consider their ideas and write clearly about their incidents (researcher's diary). For example, Haifa's writing was confusing, as she could not distinguish between the causes of incidents and the results of her actions. I asked her to reconsider this in order to explain her incident properly, which would help her to understand her incidents clearly.

Many participants found that expressing their thoughts was challenging especially when writing their first journals because they had never been challenged at school or at university to write down their thoughts and to engage in critical thinking. Looking at the narratives, and the participants' RJs, it would appear that the participants overcame much of their weakness in writing by discussing their difficulties and thoughts with their peers and by helping each other, reading relevant resources, practicing writing and responding to the received feedback, all of which seems to have helped them to improve their level of writing during this study.

4.3.3 Lack of thinking skills

A lack of thinking skills relates to the difficulties faced by the participants in terms of their thinking process when writing the RJs. Thinking skills are related to thinking activities, which in turn lead to learning outcomes. These are referred to in this study as the participants' ability to understand their current issues by identifying their incidence clearly, having flexible thoughts in how to address them effectively, and finally having the ability to speculate about the future by considering other related circumstances.

The first aspect of these difficulties relates to the difficulty in identifying and assessing certain issues, while the second relates to a certain inflexibility when thinking about the incidents. Finally, an inability to speculate about the future and knowing how to deal with the same incident within different circumstances were also part of the difficulties faced. These aspects are all analysed in more detail below.

Difficulty in identifying and assessing certain incidents

All the participants highlighted that they occasionally found that clearly identifying the teaching incidents they had experienced was one of the most challenging parts of the reflection process. This challenge involved the difficulty in discriminating between normal incidents and the problematic incidents that had to be addressed and the difficulty in clearly identifying the problem or discovering the reasons behind the incidents. These two aspects are explained in more detail.

Distinguishing between the normal incidents and the problematic ones was a challenge for some of the participants:

I get confused sometimes when I try to reflect on my practice. Sometimes, I feel like I am not sure how to deal with certain matters. For example, with regard to the mess in the class...when it can be considered as normal and when not. I mean it is hard to control them [the pupils] one hundred percent. They are children and sometimes they tend to move in the class, especially in the activity classes...they are not high-school students! I do not think that this is a problem! I mean I am not sure about the meaning of the concept 'managing a classroom'. I get confused sometimes, although I often allow them to move around. (Haifa, 2)

Identifying these incidents was difficult to achieve – especially at the beginning of the study – without receiving some support from others. Here, Kholoud highlighted her experience when

contacting a supportive classroom teacher who is passionate about supporting pre-service teachers to help them to improve their practice:

At the beginning of this semester, it was hard for me to identify my problems, as while I felt that something was wrong, I was not sure exactly what. Therefore, I asked one of the experts – a very supportive teacher in my school [not the classroom teacher] – to attend my class to help me to figure out my problems. She told me that my teaching is very good but that I have a problem with my body language. In fact, I was telling the students an interesting story using some 3D teaching materials and was moving left and right, and while the students were very happy and I got their attention, I did not realise that I was giving the students my back the majority of the time! (Kholoud, 1)

Meanwhile, the majority of the participants found that discovering the reasons behind certain issues was often challenging. Taking Reema as an example, while she was able to reach the highest two levels of the Bain model in the majority of her journals, she intimated that understanding her incidents clearly and figuring out the reasons behind them was the most challenging part of reflecting on her practice:

Identifying the problems is confusing sometimes, even though it has become easier recently. In fact, the first step is to feel that there is something wrong...so as long as I feel that, it means that a problem exists...then I must identify it. Here, I need to ask questions and discuss the issues with others. (Reema, 3)

Reading each other's blogs helped some participants to recognise some of their issues, for example, Kholoud:

I realise some of my issues when reading my peers' blogs... For example, I knew that I was not implementing the collaborative strategy effectively when reading Asma's blog, as I made similar mistakes. (Kholoud, 3)

Discovering the reasons behind certain issues requires time and effort in terms of interacting with others and questioning oneself continuously in order to weigh up the current situation, which could help to identify the appropriate solution. Here, Reema related her experience when trying to figure out the reasons behind one of her teaching issues:

I examined my students on Chapter 7, which was about rearranging the events of certain stories. They already had this skill as I had examined them before and they had achieved good results for Chapter 6. However, I choked when I saw their results: just ten out of the 30 had passed the exam! What about the other 20 students? Why did they not do it correctly? I went to the classroom teacher, explained my issue to her and showed her my question

for the students. She said that while my question was clear, the story was a little bit hard for the students because certain words were repeated on each line, which makes it confusing for the students when they try to arrange the story. I then realised why the students had got confused. However, I also worked with the students to help them understand the meaning of punctuation as I noted that this would help them to arrange the story correctly. (Reema, 3)

While Reema benefited from having a discussion with the classroom teacher regarding her issue, she also recognised following some reflection that another part of the problem related to the students' lack of knowledge on punctuation, which would likely hinder them from arranging the story logically.

Meanwhile, Nourhan suggested that identifying the reasons behind certain teaching issues often required more time:

When you know the reasons behind the issue, things become easier but if not...it may take me time to think about the reasons why something happened...it is not hard...but it may take time for you to figure it out. (Nourhan, 3)

Others found that questioning oneself alone could lead to more confusion. Thus, the majority of the participants prefer to speak up and share their thoughts with peers in order to accurately identify their issues:

Sometimes, when I ask myself many questions I feel like I am lost, with so many answers...thus, when I get confused...I like to speak up and talk about my issues with my friends. This makes the reflection easier for me. (Aldana, 3)

Inflexibility

Inflexibility in terms of addressing certain teaching incidents was a problem for some of the participants since they were unable to consider other aspects of their incidents or were reluctant to take the responsibility for certain learning aspects.

For example, Haifa was very disappointed when she realised that she has to assess the students in terms of many aspects of their learning in the subject of literacy. Here, she was frustrated because she could not ascertain how to comprehensively assess her students through consulting the teachers' guide book:

We were asked to assess the students in terms of certain skills such as their ability to communicate and their proficiency in diction. However, they never explained this to us, neither in the curriculum nor in the teachers' guide book...So how can we do this? (Haifa, 2)

In general, pre-service teachers were taught traditionally in the past, and now expect to be trained traditionally and told exactly what to do, which means that thinking outside of the box and knowing how to deal with certain teaching incidents was more challenging for them. For example, Haifa wants to have instructions for every aspect in terms of a summary of knowledge map that will make her teaching practice easier.

Meanwhile, Nada was also unable to find appropriate solutions as she was attempting to address her incidents by remembering how her own primary school teachers acted in a similar situation:

When Nada tried to address one of her teaching issues, which related to assessing the students in the Quran classes, this took a long time and resulted in some disorder. Here, Nada assessed the students by following the classroom teacher's method, which involved having the students in a queue and assessing them one by one while leaving the rest of the students doing nothing, which, of course, resulted in some chaos. She partially addressed the problem by copying the methods of her own primary school teacher and arranging the students in groups before hearing first from the higher-level students, which gave the other students a chance to revise the content. Unfortunately, Nada could not go beyond this even when I asked her to think deeply about the matter and to consider the other aspects that could help her to address her problem more effectively. (Researcher's diary based on a summary of Nada's assessment journal)

However, Hanan faced the same problem and came up with numerous ideas to mitigate it:

Hanan noticed the importance of explaining the meaning of the challenging words, repeating them many times and writing them down on the board such that the students could see them during the lesson. She also trained the students in intensive reading because reading the holy Quran is not easy and practice is very important, while she also encouraged the students to help each other in groups and rewarded the highest achieving group. All of these solutions made assessing the students go smoother than previously and saved on class time. (Researcher's diary based on a summary of Hanan's assessment journal)

This means that Nada could not see that taking student learning into account is important when addressing some of the assessment issues. She never considers the students' weaknesses and how she could support their learning to improve their achievements, which would make the assessment process easier. While I attempted to encourage her to consider the alternative

reasons behind her incidents, she could not think beyond what she already knew. Indeed, Nada finds it hard to think outside the box; she cannot go beyond her own previous experience, remembering her own teachers' practice methods or copying what she is seeing. Moreover, I noted that Nada was somewhat frustrated. In fact, in one of our phone calls, she admitted that she was unsure whether she would be able to work as a teacher in the future.

In fact, while Haifa and Nada remained to the end of this study, their attitude was not very positive compared to the other participants. Indeed, I was expecting them to withdraw from the study at any time.

Ruba was one participant who did withdraw from the study. She withdrew after writing the first part of her journal before she struggled to write the second part. When she was contacted in order to ascertain why she had decided not to continue, she replied that she had tried her best, but could not find useful solutions for her classroom incidents. Indeed, she stated that teaching is demanding work and that she just wants to graduate from the education college but will never work as a teacher (Researcher's diary).

Fortunately, this was not the case for all the participants. Indeed, many of them were very open-minded and were happy to consider their incidents from different perspectives.

Inability to speculate

Thinking and writing at Level 2, Level 3 and Level 4 of the reconstructing component of the 5Rs framework (Bain, Ballantyne, et al., 2002) was a challenge for all the participants. Speculating on the future and thinking about different circumstances appeared to be beyond their ability. Indeed, they actually questioned the benefit of speculating about any future incidents. Here, they argued that the current situation was complex and that they must focus on the present. In short, thinking about the future within various contexts is simply too complicated and often involves speculating about unknown situations. The majority of the participants thus stated that speculating about future solutions after identifying the appropriate solution for any current incident is arduous work:

Being asked for more thinking after implementing and assessing certain solutions was often hard for me, especially when I had found very good solutions. I feel that it is hard to think about alternative solutions...because I found the solutions that work for me after thinking carefully...and then I have to think about other situations. I feel like I got stuck with this kind of question. Perhaps I need to read more and research more about it. (Aldana, 3)

Some participants stated that this level of the reflecting process – which was based on the 5Rs framework (Bain, Ballantyne, et al., 2002) – was so challenging because the circumstances of the future are unknown. For example, Reema in her narrative places more emphasis on the importance of understanding the reasons behind the current incidents when thinking about future incidents, which, of course, are also unknown to her at present:

When you asked us to write about how we will deal with our issues in the future... I believe that I may indeed change my way of dealing with these future issues. However, this will depend on the environment or the context. At that time, I will have to search for the reasons behind the incidents that I will have to deal with by conducting the necessary research. With this, I will be able to address any problems in the future. (Reema, 3)

During this study, participants seem not to have considered the importance of speculating on the future and thinking about other circumstances when writing their RJs, to help them address their issues. Speculating on the future needs time and thoughtful consideration, and perhaps time concerns could explain their resistance to consider this level of thinking when writing their journals (see Section 4.3.1).

All the participants found that identifying the incidents and assessing them was often very demanding work, especially at the beginning of the study. In order to overcome these difficulties, they thought out loud in groups, read thoughtfully and continuously questioned themselves and their practices. In fact, some of the participants sought direct help through asking expert teachers to attend their class, benefitting from their feedback on their main teaching issues. All of this helped the majority of the participants to find appropriate solutions to their problems. This was not easy to accomplish but led them towards gaining some satisfaction and a certain amount of pride in the later stages of this study (see Section 4.2.3), where they were able to address their teaching issues more intellectually.

Having assessed the narratives, it would also appear that some participants displayed a certain level of inflexibility when dealing with some of their teaching incidents as they were reluctant to take full responsibility, while others found it hard to think beyond their personal experiences. Meanwhile, all participants found that speculating about future solutions was very difficult. Indeed, many questioned the point of writing above Level 2 of the reconstruction component of the 5Rs framework (Bain, Ballantyne, et al., 2002) as they argued that the current situation was complicated enough and that the future circumstances were entirely unknowable.

4.3.4 Resistance to interactions with peers via technology

During this research, technology was used to give participants access to relevant resources regarding reflection, and to receive feedback from professionals and peers to deepen their understanding. However, from my observation, the pre-service teachers' individual blogs and the official WhatsApp groups, I noticed that they were resistant to interacting actively with each other by writing comments on journals. When they did, their comments were not at a critical level, as they were more in the form of praising, which obviously was not beneficial in terms of influencing each other's reflection (researcher's diary).

When asking Kholoud about the reason for their resistance to commenting on each other's blogs, she stated that she did not consider it necessary and they had their own WhatsApp group to have their own discussion:

We do not think it's necessary to comment on one another's blogs ... I don't know but even in the WhatsApp group we do not like to bother you with our discussion, indeed we have our own WhatsApp group and we tend to discuss our issues there. (Kholoud, 3)

Hanan stated that challenging each other's thoughts can be hard especially in public:

It is hard for us to criticise each other in front of the others ... you know ... in fact I could say my opinion straight away to my friend ... so there is no need to write it to be seen by others. (Hanan, 3)

Asma stated that writing critical comments on their colleagues could affect their relationship:

Writing critical comments could cause some clashes as some could take it personally. (Asma, 2)

Nada added that even when they shared their journals in their WhatsApp group (a huge group for all the students in their last semester), they did not receive a critical or thoughtful comment:

My friends shared their journals in the online group for all students in the last semester of their study ... but they did not receive any critical comments... They just tell them that your journals are beautiful we liked them and we liked your solutions. (Nada, 3)

From the above, it was noticed that these Saudi individuals were resistant to challenging each other's thoughts, especially in front of others, when using open access technology. It appears that the students did not want to hurt each other's feelings by writing critical comments. However, from the narrative, I noticed that they preferred face-to-face interaction with each other and sometimes interacted through their own online groups to understand their incidents and to decide how to address them. This means that when students interacted face-to-face, as they were placed in different elementary schools in groups of 4–6, this possibly affected their motivation to socially interact in these online blogs. Furthermore, these results indicate that these pre-service teachers preferred to have their own online space to interact with each other and did not like to challenge one another in public.

The resistance to blogs as a means of interaction with peers was noticed among participants throughout this research. The resistance attitude was probably due to various reasons, including: already having face-to-face interaction, which could have affected their motivation to interact socially in their blogs; and their concern about their appearance in front of others, which could be related to the nature of Saudi culture of avoiding criticism of one another, especially in public.

4.3.5 Other contextual factors

The other contextual factors relate to any aspect that could make the situation more complicated and problematic, or potentially too problematic, to deal with. These contextual factors include the following: the school's infrastructure, factors related to special needs students, problems with the students' previous learning, reluctant classroom teachers and the negative atmosphere within some classroom settings. In fact, all of these often affected the participants when making decisions on how to address any issues and disincentivise them sometimes from writing their online RJs at a high level. As such, the contextual factors are outlined in more detail below.

In certain schools, the infrastructure is not adequate enough for the effective provision of certain lessons:

In my school, they do not allow us to use the science lab because they think that the students in the lower elementary classes may destroy things! There is also no outdoor area in my school where I can have a wide enough space to teach certain lessons such as position and direction. In fact, I do not know how I am going to proceed with these lessons! (Hanan, 2)

Meanwhile, the environment is often unsuitable for implementing even the simplest solutions for special needs students:

I noticed that one of my students has ADHD...and as you know it is hard to deal with them. I talked to her after the class and she promised to behave better...then she told me later that this is her best and that she cannot be quiet all the time. I had no idea how to deal with her as I remember that while we studied this area, the focus was on the symptoms more than on how we, as teachers, can deal with such students. In fact, I researched on how to deal with them but realised that the current environment is not supportive enough to treat them fairly. I have an overcrowded classroom, so how can I alone manage to deal with all of them. Even when I want to implement some simple solutions such as offering them quiet spaces or providing them with certain type of 'cheers' that can get the student's attention, unfortunately, the class is not suitable for treating them fairly. Moreover, we do not have a social worker at the school who could help me to deal with these students. (Marwa, 3)

Hanan has a similar view in terms of dealing with special needs students:

Although I tried my best with an ODD student...I tried my best to build a good relationship with her...I tried to indirectly tell her what to do in order to stop her from feeling angry...I gave her many responsibilities in class to improve her self-esteem...this worked for me, sometimes, but I knew that I had to do more! However, the environment is not supportive enough. For example, I could not even provide the ODD student with a quiet area when she wanted to have a break and I could not reach her family to talk to them about her condition and to work together to support her learning needs. (Hanan, 3)

In fact, a lack of cooperation with special education teachers is one of the contextual factors that hinders the ability of the pre-service teachers to address their incidents effectively:

In each class, you will find a couple of special needs students...and there is usually one special education teacher in the whole school who can support these students' learning needs...but I do not know what exactly she is doing...there is no connection between us... and there is no clear plan. I feel like the special education teacher is totally disconnected from us...there is no connection between us. I also think that one special education teacher is not enough for all the special needs students in the school. (Marwa, 2)

Meanwhile, the participants also faced certain complicated issues related to student learning issues. These issues require more time and effort to be addressed effectively because they occur as a result of the students' previous learning experiences:

I observed the writing and reading of text by the students for a very long time...their handwriting is very bad...they know how to write but they are very slow. I feel like there is some problem with the way that they have been taught. I am not sure if this is an issue in this school alone or if you can see that in other schools too! (Nada, 2)

Elsewhere, Reema found that some students do not know how to place punctuation marks correctly:

I feel like our generation, when we were at the same age, were more capable, and even now I can remember certain skills and knowledge from my primary study. For example, I knew how to place punctuations marks when I was their age but I was surprised when I noticed that the students were placing them randomly without knowing the purpose of each of them. I mean, for example, they place colons anywhere...but they should be placed in a specific position, before an explanation. (Reema, 3)

Meanwhile, several participants noted that some of the classroom teachers are not helpful when asked for certain information about teaching. Indeed, they often appeared reluctant to accomplish their own work effectively:

When I asked the classroom teacher about the criteria sheet for assessing the students' holy Quran reading...she said, 'just do it...you do not have to be so accurate'...then she said, 'I am not accurate with them'...I know that the students at the mid-level in terms of their reading have to practice reading more...but their teacher gave them a pass result! They certainly need more practice to pass. Even if the class time is not enough, she can use the activities class time. If she wants to find a solution she can find time. (Hanan, 2)

Participants were overwhelmed with multilevel duties, and indeed it seems that the senior management was using their authority to use the trainee teachers to cover some of the regular teachers' duties:

Sometimes, at the school we do not have a chance to attend to each other's classes as we are so busy...One day, I was asked to cover four 'waiting class' at the same time (a class needing supervision in the normal teacher's absence). When this happened, we helped each other or just put all the students in a huge room so we could control them...and, of course, when my friends ask me for help, I will help them...So while in the schedule, it appears like I covered, 'one waiting class', this is not the reality...I do not want to ruin my good relationship with them...so I just accept that. (Reema, 2)

In partial sum, the contextual factors are the other obstacles that often affect the efficacy of the participants' decisions when dealing with certain incidents. An inadequate or inappropriate school infrastructure can make the current teaching environment ineffective and challenging to deal with. In fact, many of the contextual factors can make the current situation very complicated and often require more time for resolution, such as problems with students' previous learning. Meanwhile, other factors could make addressing certain issues beyond the capacity of the pre-service teachers, such as dealing with special needs students when there is not sufficient support from the school or from the MOE itself. Finally, being overwhelmed with multilabel duties, the reluctant classroom teachers and the negative atmosphere within some classroom settings are other contextual factors that may have affected the participants' reflection.

4.4 What do Saudi pre-service teachers believe to be the affordances and facilitatory factors for using electronic reflective journals as a method of learning within their field experience?

The fourth research question focuses on two aspects of participants' experience which are: first, understanding the participants' experience of how they developed during their engagement in the process of writing online RJs; and, second understanding the participants' experience of the facilitating factors that they largely benefited from during this action research in terms of overcoming their difficulties and improving their reflection.

4.4.1 The affordances of using electronic reflective journals for pre-service teachers as a method of learning

With regard to the first part of the research question (affordance), all the participants highlighted different aspects of how they changed when engaging in reflection and learning the profession of teaching in terms of, for example, being active learners rather than passively seeking solutions directly from others and being aware of students' needs and feelings.

In order to address the first part of this research question, I look at two aspects of the potential benefits noted by the participants when engaging in reflective thinking, as shown in Figure 4.4: being active learners and being considerate to the students. The data were collected from the interviews with the pre-service teachers, their RJs and the researcher's reflective diary.

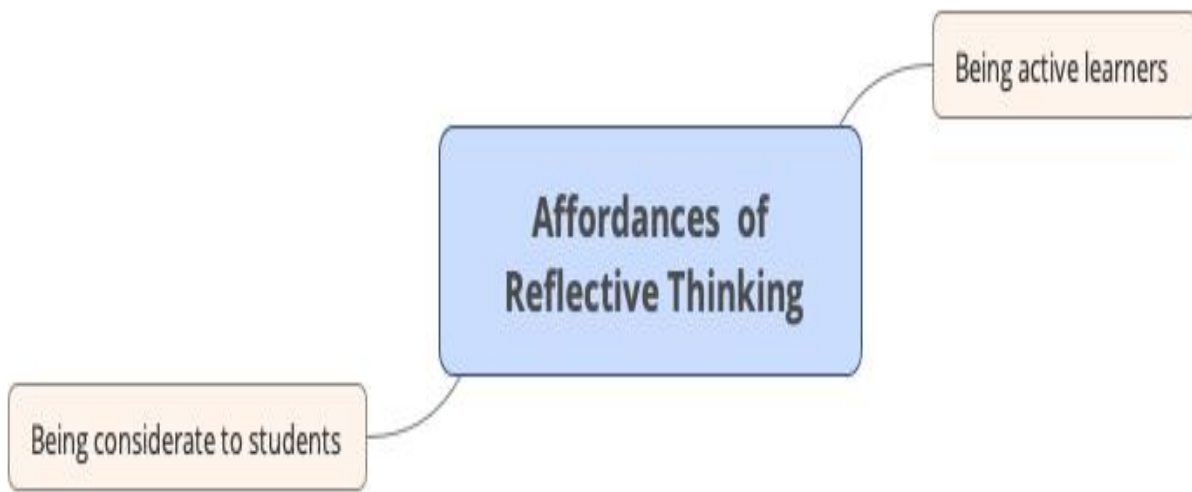


Figure 4. 4: Affordances of reflective thinking

Being active learners

Being active learners means taking responsibility for self-learning during the school placement and for thinking and learning actively in order to develop professionally. Reflection encouraged most of the participants to be self-reliant when dealing with some of their teaching issues and to reach a new understanding of them:

Reflection indeed is a self-learning process...thinking and reflecting on the situation...reading some relevant resources to reach a new understanding of the situation. (Hanan, 3)

At the beginning of the field work, Hanan thought that she must, as a trainee teacher, ask for direct help or a solution from the classroom teachers when facing any teaching issues (see arbitrary decisions in section 4.2.1). She did not realise, at that time, that thinking about the current situation is her responsibility as a teacher:

I thought that when I face any problem, I should ask the classroom teacher for the solutions and I would follow her methods...But now I try to address the problems on my own. I write down the positive and negative aspects of my teaching...I then think and decide whether it should be considered as a problem or not...By doing that I expect to be continuously developing as a teacher...and this will keep me aware of my incidents because being in the teaching profession requires from each one of us that we improve by ourselves, not just by reading...but also by thinking thoughtfully about the reasons for the problems and the ways to address them. (Hanan, 1)

It can be noted from the narrative above that Hanan's approach to how to deal with her teaching incidents are being transformed through reflection, from passively asking other people's opinions to thinking actively about her issues in order to reach a thoughtful decision. This means that she became more careful in terms of considering any other aspects of the whole incident rather than naively following others' thoughts.

Many participants mentioned that they became more active in terms of increasing their self-awareness by considering different aspects of their daily teaching. For example, Aldana stated that she now tends to question herself and to focus on many aspects of her daily teaching:

My focus changed. I am not the [kind of] teacher who just gives the lesson to the students and then goes back home. I focus more on the students...whether they interact with me or not, and why. I became more aware of what was happening around me. I tend now to question and challenge myself. Reflection activated me mentally to think about any information and to consider whether it would be helpful for me or not...so I tend to evaluate everything. (Aldana, 2)

Aldana also added at her third interview that she had gained many skills, which encouraged her to learn actively during the school placement:

From reflection, I learned many skills. How to write any issues clearly...how to search for more than one solution and how to choose the effective solution, not the easy one...before that I was just complaining. (Aldana, 3)

Increasing their self-awareness was also notable from the narratives from some of the participants in terms of considering the importance of continuously evaluating the current situation in order to reach a thoughtful decision. Here, Haifa stated that she had reconsidered her strategy of reinforcing an individual's confidence after realising the negative influence of this approach on the atmosphere in her classroom:

One of the comments from an experienced teacher advised me to avoid using the board to praise individuals in the classroom. I felt that when I had used the board in this way that the atmosphere in the class itself became negative – when I gave a prize to the winning students, the rest of the class felt dejected. Thus, I decided to praise the group as a whole and I cancel the individual competition. (Haifa, 3)

On the other hand, some of the participants, such as Mona, were less able to reflect at the two highest levels of reflection, as half simply covered the related levels (see Section 4.1.2) to obtain

more information about the participants' level of reflection, even though she was responding actively to the feedback and trying improve the level of her RJs.

However, reflection occasionally changed Mona's view on how to deal with her teaching issues, from thinking at a superficial level to thinking deeply by considering various other alternative views. For example, Mona realised that communicating with the students and encouraging them to take responsibility for their actions would contribute to managing the classroom effectively. This signalled a transformation in her thinking in that she had previously imagined, at the beginning of this semester, that teachers should use their power to force students to change their behaviour:

My view changed. I used to deal with things at a very superficial level. I never considered and focused carefully on my incidents or tried to address them intellectually. Now with reflection...thank God...my view of the incidents has changed. I focus carefully on my issues...I could not imagine that some incidents could have such an influence on my teaching practice. For example, I did not imagine that the problem of having misbehaving students could affect my teaching practice. I used to either ignore their negative behaviour or get very angry and yell at them sometimes, as I thought that I could force them to change! Then, I read that communicating with them positively and encouraging them to take the responsibility for their actions is the key to helping them change for the better. For example, instead of blaming them by saying 'how many times should I remind you to follow the class rules?' I said, Ceba could you please think about your behaviour for two minutes then tell me whether it is right or wrong. This kind of respectful conversation made them think about their actions and attitudes. By doing that, things changed gradually, and I noticed that they became quieter than before and this reflected on me and my teaching as well. (Mona, 2)

Reflecting encouraged most of the participants to take responsibility for their practice rather than to blame the students. Here, Reema intimated that when she reflected on her practice she learned to do just that by looking at the reasons behind any issue.

I learned that when there is a problem, there is a solution. So, there is no need to forget that and act as if things were not my responsibility and that everything happened because of the students. Now, I do understand that when there is a problem...I should think about the reasons behind it and look for the appropriate solutions instead of blaming the students...as we often tend to blame the students and accuse them....saying that they cannot understand us! (Reema, 3)

Here is an example of one of Reema's reflections on the issue of late or missing homework:

My main approach to addressing any teaching issues is reading about the relevant topic carefully until reaching the appropriate solutions. For example, I noticed that there was a problem with my students' homework...not all of them hand in their homework on time! So I read about 'how to address homework issues', and realised that the time between assigning the homework and the assigned deadline of the homework for the students was very long...about one week...and that it should not be too long and not too short. Also, I noticed that I have to remind them of their duty from time to time, telling them that the deadline to receive the homework is on Wednesday. When doing that, the number of students who did not do their homework indeed decreased. Not just that, but I also realised that I should not create assignments without any purpose! You know, we tend to close our lesson by giving students some homework. But why do I have to give them homework without any real purpose! So I decreased the number of homework assignments like this. Now, I can close the lessons by asking them for some collaborative work on the subject or by asking them to give me the main ideas of the lesson and how they benefited from them...I assign them homework when I have a meaningful purpose...If I do not have a certain purpose, I do not give them any homework. (Reema, 2)

Here, it is clear that Reema was actively searching for the reasons that were causing this problem rather than blaming the students for being late or behind with their homework. This was not Reema's orientation at the beginning of this semester as she tended to blame the students when things went wrong, as she mentioned in her first journal (Researcher's diary).

Haifa clearly had similar thoughts when she stated the following:

I became more aware of what was happening around me...knowing what was required from me...or...for me. Noticing my faults...it is irrational to blame the students all the time without taking responsibility for the issue. (Haifa, 3)

Taking responsibility for one's action was not the case with all the participants. Nada, for example, especially at the beginning of the study, complained about the school system and about the students' proficiency and she was very confident that her way of teaching was effective and that there was nothing wrong with her practice. Even when she was criticised by her peers, she did not take their advice into account:

My friends attended my class and they said that I was very quiet...I do not get the students excited about their learning. This made me think about my practice...but I felt the opposite...my voice was clear...I was moving in the class to be aware about everything in the class. They said that I did not motivate the students...maybe because I was nervous because of them! My friends I mean. (Nada, 3)

Most participants articulated that reflection promoted them to purposefully think about their teaching issues and to seriously implement the proposed solutions. For example, Sultanah stated the following:

Reflection urged me to identify the incidents and the need to accelerate the implementation of the proposed solutions, and the need to evaluate these solutions more objectively. I mean we have become more serious in dealing with the teaching and learning problems. (Sultanah, 2)

Haifa also clearly appreciated her experience of writing the RJs as she mentioned that this helped her to reconsider her incidents in order to address them, while, at the beginning of this study, she thought that reflection occurred normally and naturally in any human being's life:

My purpose in reflection is to develop as a teacher, because I can concentrate on my incidents to address them. Otherwise, I will keep repeating them again and again. Before this, I thought that I was already a reflective practitioner, as I thought it was obvious that you have to reflect on your practice... [Now] I realise that I was noticing some of my problems, but I did nothing about them. I did not carry out any solution. (Haifa, 2)

In her third interview, Haifa then clarified that one of the main benefits of writing the RJs lies in the fact that she became committed to her written solutions:

I can say that currently I am committed to all of my written solutions...because I figured them out by myself, I have to abide by them, which means that reflection helped me to commit to my written plan in terms of the solutions in my reflective journals. Before that I used to say that 'I will do this' and 'I will do that' without writing it down. Of course, what happened was indeed that I forgot to do it. (Haifa, 3)

A similar thought was offered by Marwa when she emphasised how she had become more serious about undertaking her proposed solutions:

Now when deciding on certain solutions, I truly incorporate them within my practice. Before that, I simply thought about the solutions, but I never implemented them. (Marwa, 2)

In fact, engaging with reflective thinking can foster a commitment to autonomous lifelong learning, which I noticed among a number of participants. For example, Reema contacted me six months after completing the study and informed me that she is adopting reflection as a way to address her issues. Indeed, she asked me for more materials about reflection to conduct a

workshop in her school. In this regard, Reema stated that she believes reflection is crucial and has had an impact on her learning and teaching practice, as it improved her awareness about her thoughts and actions as a teacher. She wanted to spread the idea of reflection in her school environment by conducting a workshop to explain the idea of reflection and encourage teachers to learn and link the theoretical and practical aspects of their teaching, to read from a thoughtful book, and to discuss their issues in groups to tackle them thoughtfully (researcher's diary).

The overall theme was that reflection helped most of the participants to take responsibility for their teaching rather than ask for solutions directly from others. Playing an active role during the field experience was noticeable among the participants except Nada, who generally speaking did not engage actively with her learning and thus could not reflect at a thoughtful level in all of her journals except the last one (see Table 4.14).

It is also notable from the narratives that reflective thinking helped the participants to increase their self-awareness in terms of the importance of considering various aspects of their teaching and any alternative views when addressing some of their issues. For some (including Haifa, Reema and Aldana) it increased their self-awareness regarding the importance of the continual evaluation of their current situation in terms of making thoughtful decisions. Most of the participants (including Haifa, Reema, Aldana, Marwa, Rana, Sultanah, Asma, Hanan and Nourhan) also articulated that reflection encouraged them to take responsibility for their actions instead of blaming the students. It was also found that reflection promoted many of the participants to think intentionally about their teaching issues and to seriously commit to their written solutions. Furthermore, engaging with reflection has fostered self-learning and a commitment to autonomous lifelong learning to continue learning to develop personally and professionally.

Being considerate to the students

Being considerate to the students relates to taking their various needs and feelings into account during the daily teaching routine or when making teaching decisions. These two aspects are explained below in more detail.

The majority of the participants developed this orientation as a result of the continuance of their reflective thinking. Indeed, many of the participants articulated in their second and third interviews that they had become more considerate of the students' needs by recognising their weaknesses and supporting their needs in order to help them overcome their difficulties and

reach their potential. For example, when asking Haifa whether there was any change in her professional practice as a result of engaging in reflective practice, she replied that she had become more caring of the students in terms of considering and supporting their individual learning needs. Here, Haifa recognised one student's weakness in the Arabic language (the student's mother tongue was English not Arabic), which affected her achievement in other subjects:

I became more caring about the students. Now, I search for how to improve their ability and their growth. I focus more on the methods and approaches that would make them better. For example, a student in grade two was moved suddenly from an international school to our school and could not read or write in Arabic. She could not even recognise the Arabic alphabet. When I asked her to read any letter, she took some time to remember it. Thus, it was problematic for me in terms of how to assess this student, because her mother tongue was English not Arabic. I have now started to give her more support by giving her [in the activity class] some activities to encourage her to learn the Arabic alphabet. I brought her an alphabet book and let her practice pronouncing the sound of these letters while writing them. Thus, recently I feel she is improving, although she still needs more time. Indeed, the student's cognitive ability is perfect...but her inability to read and write hinders her progress, even in other subjects. She cannot answer the questions in other subjects because she cannot understand the Arabic language. It is like giving an Arabic student a test written in English. (Haifa, 2)

Meanwhile, Sultanah articulated her experience of being considerate towards the students' needs and feelings when evaluating each applied solution while reflecting on her practice. Sultanah tends to put herself in the students' shoes in order to understand the impact of her solution on them, which ultimately made her more aware of her students' feelings and needs:

Evaluating my solutions made me more sympathetic towards the students. I now tend to put myself in their position...because, if I do not do that, this will reflect on my class and I may have more problems....so, I tend to consider and think about my solutions. For example, one of the students in my class was bullied by other students because of my inappropriate solution. I noticed that when they complained about her behaviour, I would move her and put her with another group. This encouraged the other students to complain all the time about her behaviour. So, what I did later was to ask them as a group to solve their problems while I remained with them, but without any direct intervention, and I then talked to the student alone about her inappropriate behaviour. I assumed this helped to reduce the bullying. (Sultanah, 3)

Many participants stated that they became more understandable of the students' needs and stopped blaming them for their reactions in the classroom. For instance, Marwa highlighted her experience of the students feeling bored during the lesson and how, as a result of reflection, she

became calmer and more understandable, and tried her best to capture the students' attention by providing them with some activities aimed at meeting their needs:

Now, I feel like I can adapt to the situation. I mean I may feel confused, but I can then control my feelings quickly. For example, sometimes when I explained something difficult in the maths lesson, which would take a long time, the students would sometimes feel bored and do things that may annoy me. I later understood that I have to change my way of teaching [the complicated lesson in maths] to capture their attention and that I should also provide some breaks during the lesson by telling them a short story or by providing them with some interesting maths-related activities. Previously, I used to get angry and frustrated by their behaviour...now, I tend to think about the situation from different perspectives to fully understand it. (Marwa, 3)

Elsewhere, while Nada initially resisted thinking deeply about her teaching issues (see Inflexibility in Section 4.3.3), she realised at a later stage of this study the importance of considering the students' differing circumstances, where some may need more containment than others at some point in their lives:

I have noticed recently that in order to manage the classroom effectively, I should build a good relationship with the students...and I also noticed that some of the students require more containment than others. I used to treat them all as if they were the same...but this was not right. I came to this understanding after complaining about the behaviour of one of the students and one of the teachers told me that this student had problems at home as her parents were divorced recently. I then realised that the students have diverse circumstances and that we should consider this...and that we should compensate them for any deficiency in the home. (Nada, 3)

Meanwhile, Nourhan called for the importance of practicing reflection among all the professional members in order that it encourages them to consider other aspects of teaching and learn how to improve the students, both personally and academically:

Teaching is not just about giving certain information to the students... Teaching involves improving the students from different perspectives. If each teacher practices some reflection and searches for thoughtful solutions to their issues...I think we may contribute to creating a different generation. (Nourhan, 2)

In short, the majority of them seemed to develop this sense after carefully reflecting on their practice. In fact, the participants articulated that they had recently tended to focus more on the students' feelings and needs and that this had led them to be more aware of the students' weaknesses and to be more supportive towards them. When pre-service teachers make certain

decisions or evaluate certain solutions, caring about the students' needs and feelings was notable. This caring orientation was recognisable in the participants' RJs and narratives, where the trainee teachers would put themselves in the students' position and consider the fact that students are all different and have different circumstances in their lives.

4.4.2 *The facilitatory factors for the facilitation of reflective practice*

We answer the second part of the fourth research question, which relates to the facilitatory factors, by focusing on four aspects: face-to-face interaction, online human interaction, the use of individual blogs, guidance from the literature and reading from the relevant teaching books (Figure 4.5).

The data were collected from the pre-service teachers' interviews, the pre-service teachers' RJs and the researcher's reflective diary.

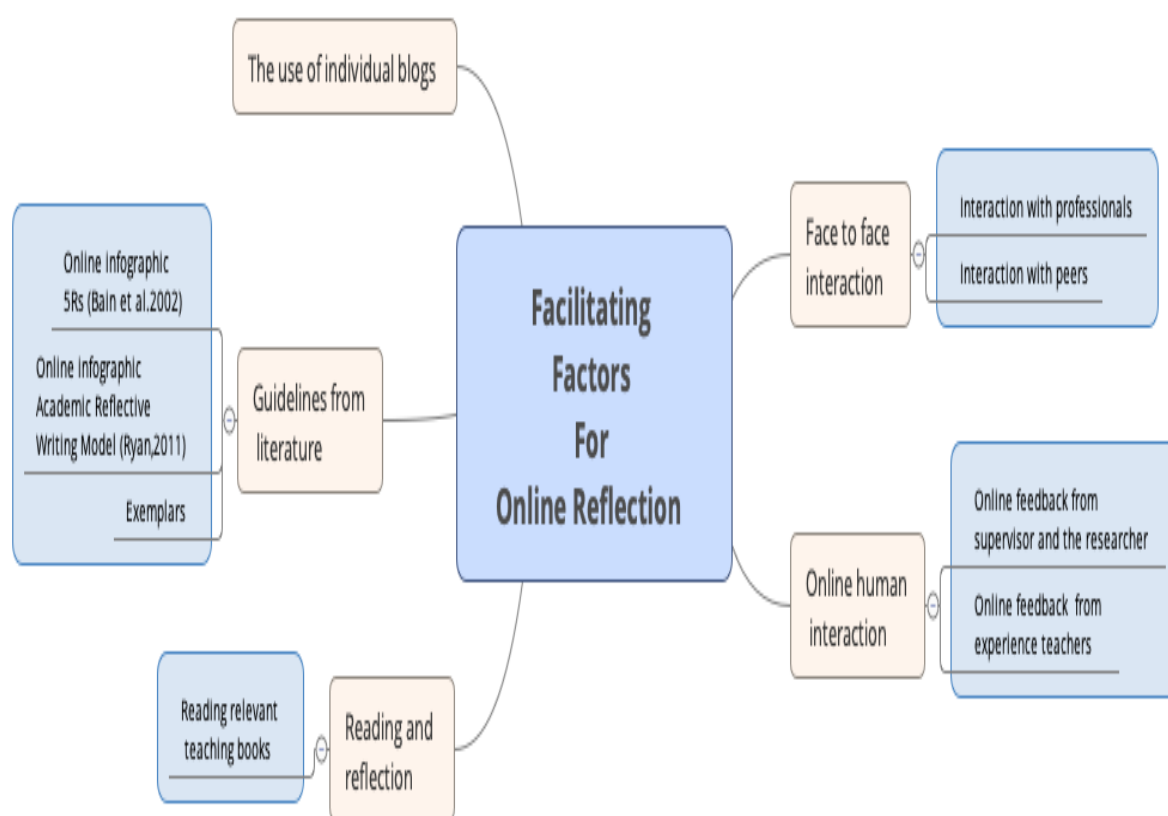


Figure 4. 5: Facilitating factors for online reflection

Face-to-face interaction

Face-to-face interaction was one of the facilitatory factors that emerged from the interviews. This refers to the types of interactions and discussions that occur between the participants and others that relate to understanding reflective practice and their work as teachers. The

participants used the terms 'discussion', 'help' or 'sharing' to explain how they interact with others to understand their reflective practice or their teaching incidents that occur on a daily basis. The first category of face-to-face interaction identified was interaction with professionals, which include the supervisor, the school teachers and the school social worker, while the second was interaction with peers.

Interaction with professionals

Interaction with professionals refers to the discussions that occurred between the participants and the supervisor, the school teachers and the social workers in relation to particular teaching incidents, and which encouraged the participants to reflect on them at a deeper level. Several of these interactions were arranged after the participants had been observed by the aforementioned professionals, while others took place when the pre-service teachers engaged actively in these discussions without any such observation.

Many participants articulated that engaging in face-to-face discussions with their supervisors after the latter had attended their classes certainly influenced their reflection. These discussions enlightened their thinking in terms of recognising some of their teaching incidents. For example, Sultanah stated the following:

I remember my supervisor's comment when she attended one of my classes, as she said that I had a problem with managing the groups' work. I then realised that I was giving the students the worksheets before clarifying what they have to do. What happened was that the students became very busy with these sheets, which means trying to gain their attention again was too hard. Moreover, I did not give them feedback on their work, I just returned their worksheets after correcting them. To articulate this problem and to save time...I tend now to explain the worksheet using a very large screen to all the students instead of moving between them to explain it to each group. I also now review the worksheet answers with the students by having a discussion about them so they can gain a deeper understanding of them. I also work on encouraging the students to work collaboratively...and, to be honest, I did not feel that this was a problem until my supervisor mentioned it to me.
(Sultanah, 2)

Reema had a similar experience as she was very grateful to her supervisor when she helped the pre-service teachers at the beginning of their teaching experience to reconsider their approach to collaborative learning as a learning strategy in the classroom:

My problem started on the fourth day of our placement when I implemented a collaborative learning strategy for the students. There was a big disagreement within one of the six groups about the tasks and who should be

the leader in each group. Their voices were loud, and they were very angry with each other. I was very angry about what happened. I told them to stay calm and cooperate with each other and complete the task.

Fortunately, my supervisor told all of us in our meeting that we did not create real collaborative learning. She told us that we all used just the name of the strategy without adopting the strategy appropriately.

In the future, I must be more knowledgeable about every strategy I plan to use. I have to be aware of the right way of implementing any strategy and its pros and cons.

When creating collaborative learning, I need to be clearer when defining the tasks and clear about what I expect from the students as a group. Also, when using collaborative learning, I will explain the role of each student clearly and, of course, I will explain the importance of each role to achieve success as a group, as this will help them to develop a positive attitude towards all the roles in collaborative learning. (parts from Reema RJ)

Moreover, not all participants sought support from supervisors, as I noticed that students avoided having a face-to-face discussion with Dr. Samira. This could be explained due to the fact that the majority of Dr. Samira's participants did not feel comfortable having a discussion with her. Rana (supervised by Dr. Samira), for example, mentioned that our supervisor is busy and we do not want to appear unable to address our issues by ourselves.

I usually do not seek support from my supervisor because I do not want her to think that I am unable to tackle my problem by myself. (Rana, 1)

Dr. Samira concentrated more on evaluating the students' level of teaching rather than on engaging with them through reflective discussions that could help them to analyse and address their issues. While she visited the trainee teachers at school three times with the aim of assessing their teaching practice, in the official Practical Education document, it is noted that the pre-service teachers should be visited at least four times, two in terms of guidance and two in terms of assessment (Researcher's diary).

Another supervisor, who did not participate in this study, generally had a weekly supervision meeting with the students at the university, one of which I attended. Here, she appeared to be trying to 'spoon-feed' the pre-service teachers in exactly what they should do and how they should face their problems, while, ironically, the lecture was one-directional, with none of the students asking any questions or trying to engage in any discussion with the supervisor (Researcher's diary).

Indeed, all of the students supervised by Dr. Samira (except Nada) sought some support from experts and trusted school teachers by asking the latter to attend their class and discuss their practice to help them identify their teaching incidents. For instance, Kholoud articulated the following:

At the beginning of this semester, it was hard for me to identify my problems. As I felt that something was wrong but I am not sure what is it exactly. Therefore, I asked one of the experts and very supportive teacher in my school (not the class teacher) to attend my class to help me to figure out my problems. She told me your teaching practices are very good but you have a problem with your body language. As I was telling the students an interesting story using some 3D teaching materials and I was moving left and right to move the characters of the story. The students were very happy, and I got their attention, but I did not realise that I am giving the students my back the majority of the time! (Kholoud, 1)

I then read about the teacher's body language and I understood the importance of body language, which as you know includes gestures, eye movement and the importance of moving between the students. So, now I consider all of that when teaching my students in the classroom. (Kholoud, 2)

Several participants also sought some support from expert teachers by discussing their issues with them to discover the reasons behind certain incidents:

I examined my students in Chapter 7 which was about rearranging the story events. They already know this skill as I examined them before and they had a good result in Chapter 6. However, I choked when I saw their results just ten out of 30 passed the exam! But what about the other 20 students? Why could they not do it correctly? I went to the classroom teacher, explained to her my issue and showed her my question to the students. She said: your question is clear, but this story is a little bit hard for the students because in this story they keep repeating certain words in each line which makes that confusing for the students when they try to arrange the story. I then realised why the students got confused. However, I also worked with students to let them understand the meaning of punctuation as I noticed that understanding that will help them to arrange the story correctly. (Reema, 3)

In this instance, an experienced teacher helped the pre-service teacher to understand one of the reasons why the students could not accomplish the task correctly. However, after Reema reconsidered this issue, she realised by herself that the students did not have enough knowledge of punctuation and as a result, she decided to teach them in this area to help them arrange any other stories based on their knowledge of punctuation and how to use it correctly.

However, not all the class teachers were supportive, and indeed many were reluctant to help the student teachers, even with providing them some basic information about teaching. Moreover, some of them did not set a good role model of teaching. On this point, Hanan articulated the following:

When I asked the classroom teacher about the criteria sheet for assessing the students' holy Quran reading...she said, 'just do it...you do not have to be so accurate'...then she said, 'I am not accurate with them'...I know that the students at the mid-level in terms of their reading have to practise reading more...but their teacher gave them a pass result! They certainly need more practice to pass. Even if the class time is not enough, she can use the activities class time. If she wants to find a solution she can find time. (Hanan, 2)

Luckily, the majority of participants (except Nada) who were assigned to unsupportive class teachers actively sought support from other school teachers to recognise their main issues to write their RJs.

When Kholoud, for example, wanted to start writing her first journal, she was aware that there were some issues with her teaching but she could not recognise her real incidents, so she sought support from experienced teachers to help her, especially at the beginning of the semester (researcher's diary).

Moreover, one of the participants mentioned that she preferred to have a discussion with the school social worker when she struggled to understand a certain aspect of her teaching practice. This is because she was aware that the school social worker had a great deal of teaching experience and knew the majority of the students at the school and their individual characters:

I remember undertaking [the 'search for your consort'] activity by asking students to match some questions with their answers. The students got confused as they did not understand the activity, and this took me a long time. The students did not read the whole sentences on the cards carefully before matching them with their answers! I was not sure why this happened? When I talked to the school social worker...she said that this activity was not appropriate for their age. It is hard for them to read and understand such long sentences and match them. I then realised the reasons for the confusion. (Haifa, 3)

However, interacting with the school social worker was not common among the participants, sometimes because of being unavailable in all school work placements. For example, Dr. Samira's trainee teachers were placed in a school where there was no available social worker. Several have their own preferences in terms of who they discuss their issues with,

which is largely based on their feelings of trust and on being comfortable with reflecting on and discussing their issues.

According to the narratives, it would appear that engaging in certain discussions with professionals helped the participants to identify some of their problems, which made them think on a deeper level when compiling their RJs in terms of considering other aspects of their issues. These interactions were especially crucial at the beginning of the pre-service teachers' teaching experience as the participants tended to struggle with their new role as trainee teacher in the school. Not all of the participants were fully supported even by the supervisor or the class teachers, but the majority found ways by interacting with other trustful school teachers or social workers. These interactions acted as proxy interactions for flexible and possibility thinking which are needed in teacher training.

Interaction with peers (collegial interaction)

Most participants identified that they interact and reflect with peers on a regular basis. The feeling of belonging to a group where the members have to accomplish the same tasks was a motivating factor for the majority of the participants in terms of continuing the task of reflecting on their practice. This encouraged them to discuss their common problems and, in turn, to encourage each other to complete the journals:

Being in a group that has to accomplish the same tasks motivated me. Without them I think the work would be hard for me. We tend to ask each other questions like...have you started writing your reflective journals? I may tell them that I am in the middle of my journal...and that we have to complete it and upload it in a couple of days. By doing that we indeed encouraged each other to complete the journal...or we tend to discuss our incidents...one, for example, said they were facing a certain problem and could not deal with it, so we suggested some solutions for her and discussed them together...this kind of conversation helped me to think...and to continue participating in this project. If I were alone...this would be hard for me. (Aldana, 3)

With this in mind, I noted that some of the pre-service teachers who withdrew from this study after writing their first journal (Rouda and Raneem) had contacted me more than once, promising to participate again in this project. However, they struggled to return (Rouda had some family issues that took up her time, meaning she could not participate more in this study). Here, I began to consider the possibility that their ability to participate in this project was hindered by the fact that they were not part of a support group and that they were alone in groups that had no interest in taking part in this study (Researcher's diary).

Meanwhile, understanding Bain's model was challenging for many participants, especially at the beginning of this study. Therefore, they tended to interact through active discussions to understand how they were going to write their journals:

It was hard for me at the beginning even to understand Bain's model. I did not know how to formulate the appropriate answers for the questions. I then interacted with my peers to help me to understand them. (Marwa, 2)

Reflecting alone when dealing with one's own practice could lead to more confusion. Therefore, the majority of the participants preferred to speak up and to share their thoughts with peers in order to identify their issues more comprehensively:

Sometimes when I asked myself many questions ... I feel like I am lost with so many answers ... thus when I got confused ... I like to speak up and talk about my issues with my friends ... This makes the reflection easier for me. (Aldana,3)

Having a discussion with peers after attending each other's classes was often helpful in terms of evaluating each other's practice. This can be achieved by identifying each other's issues as some of the incidents were not so clear cut, particularly for the new trainee teachers:

When my friend attended my class, she noticed that I look like I cannot bear the behaviour of one of my students...when she told me, I immediately felt somewhat guilty...I then started to think how I could deal with this student. Indeed, some students, you know...you may not prefer them...this does not mean that you hate them! But their behaviour disturbs you, which is annoying sometimes! Now I try my best to treat this student like the others...I encourage her to behave in the class...and recently, I gave her some responsibilities in the class like collecting the students' books. So, yes, I have to treat them fairly. (Nourhan, 2)

Nada, on the other hand, did not take the feedback of her friends into account:

My friends attended my class and they said that I was very quiet...I do not get the students excited about their learning. This made me think about my practice...but I felt the opposite...my voice was clear...I was moving in the class to be aware about everything in the class. They said that I did not motivate the students...maybe because I was nervous because of them! My friends I mean. (Nada, 3)

As I noted earlier, it was hard for Nada to think in a flexible way. She tends to resist the criticism regarding her practice when receiving comments from her supervisor, the current researcher or

her friends. This attitude makes it hard for her to move forward in terms of her thinking and practice.

As was noted above, the face-to-face interaction with professionals such as supervisors, school teachers, and the social worker was mostly positive. These interactions helped the participants to reconsider some aspects of their teaching practice and stimulated their reflection. The feedback often appeared to be a kind of seed for some of the RJs, which made the participants think deeper about their practice in order to understand their work as a teacher. Meanwhile, feeling like they belong to a group that has to accomplish the same task was a motivating factor for the participants in terms of participating in this study. Furthermore, interacting with each other was considered as a valuable asset for many of them with regard to understanding reflection and several of their teaching practice issues. However, not all the participants welcomed comments from their peers or from others. Nada, for example, underestimated her peers' comments and also resisted responding to her supervisor's feedback and criticism.

The use of individual blogs

Although some participants preferred to express their ideas with pen and paper, such as Reema and Nada, they were aware that technology would be more beneficial for them than writing RJs on paper. Here, Reema articulated the following:

I love using pen and paper when writing my thoughts ... indeed I like to draw my ideas first on paper ... but I know that using blogs in our reflection would be better because I can share it with others and see others' comments ... but on paper, no one will know about it ... Even though I do not like technology very much but I have to do that with the use of technology. (Reema, 1)

Writing and sharing online journals encouraged some participants to write at an intellectual level, because they considered the presence of the audience who will read their journals:

When writing my electronic reflective journals, I make more effort to deepen my thoughts and write at an intellectual level because I know that others will read them not just me. (Haifa, 2)

Many participants also preferred to use the blog as it helped them to keep these journals as a reference for them and for others as well. It allowed them to read their journals any time anywhere:

For me writing the online RJs gave me a chance to read my issues again and again ... I may face the same or similar issues in the future... So keeping them in one place is good for my learning. (Marwa, 3)

Some of the participants articulated that reading their online journals helped them to recognise how far their learning and progress had come during their field experience:

I like to read my online journals over and over because it helps me to recognise how much I have learned... For example, with regard to managing the classroom, I realised that I was exaggerating the situation and that things have now become much better... I was a new person for them so they may need time ...Some may accept me and some of them may misbehave trying to test my reaction. (Aldana, 3)

Keeping online RJs allowed the majority to share, read and benefit from each other's RJs:

I benefited from reading my peers' blogs ... For example, I read and benefited from Asma's blog especially on understanding how to write on the reconstructing component... because I could not grasp how to write on that component. (Kholoud, 2)

However, all participants mentioned that they faced difficulties when accessing the internet in their school work placement because of the poor internet connection, but they managed to read the blogs when using their smartphone.

We cannot read from the main blog or write our online journals during our free time in the school work placement when using our laptop, because the internet is very slow; however, we manage to read from our smart phones. (Kholoud, 2)

The use of technology also supported their sense of accomplishment, and was mentioned by some, for example, Nourhan:

I love keeping online reflective journals ... it gives me a very good feeling of pride and accomplishment. (Nourhan, 2)

This feeling of pride and accomplishment came when they shared online RJs with others and showed them their thoughts and knowledge. Here Asma stated:

I have shared my journal with my peers ... and felt a sense of accomplishment because I was able to overcome my incidents and was also able to write about them. (Asma, 3)

Participants acknowledged and appreciated the technology features such as the ability to share, read and keep online journals as a record of their progress throughout the school placement. Furthermore, the use of individual blogs motivated the participants to engage with reflection, since considering the presence of an audience made them think more carefully about their issues. Finally, a sense of accomplishment and pride also arose as a result of being able to express and share their thoughts with others.

Online human interaction

Providing the participants with online feedback from the researcher, supervisor and experienced teachers was planned within this action research study with the aim of stimulating the participants' thinking and reflection at a deeper level. The participants highlighted their experiences of receiving these online comments as follows:

Online feedback from the supervisor and the researcher

Receiving online feedback from both the supervisor and the researcher motivated the majority of the participants to compile and improve their RJs:

Your online feedback indeed motivated me to continue writing. Otherwise we may ignore it...without feedback I won't be eager to make it better. I mean sometimes I wrote things incorrectly, but I did not realise that it was not accurate...if you just leave it to me I would assume that it is ok and that nothing is wrong with it. (Haifa, 3)

The online feedback also helped many participants to improve the level of their RJs when prompted to clarify certain meanings and encouraged to think more deeply about their issues:

I noticed from the online feedback that I did not consider some of my issues critically or that I did not focus on the issue clearly...so, when I received the feedback I always went back to my journals and thought about the issue, rewriting my journal such that it had a clearer meaning. (Aldana, 3)

Hanan also adopted a similar stance:

It is hard for me sometimes to think deeply about some issues without receiving feedback. I read the online feedback carefully and I considered them even when writing my next journal. (Hanan, 3)

Sultanah also highlighted her experiences when receiving the online feedback from the researcher and her supervisor during this study:

I benefited from the online feedback. For example, when you asked me what I meant by the principal skills. Here, I realised that some of my statements were not clear enough to grasp the meaning...and needed to be clarified. I also noticed that I should be more specific when writing about my teaching incidents instead of talking about the problem, in general...I have to identify my issues more precisely. (Sultanah, 2)

An improvement in writing style was noted by some participants, which was achieved as a result of responding to the online feedback:

I feel like my writing has become better now ... because as you said to me that I have to write each idea with a clear focus, explain it in detail before jumping to another idea ... Your comments have been taken into account ... and I keep remembering that when I write my journals ... Now I revised my journals many times to make sure that each idea has been written clearly ... and yes it works for me ... Also I used to write in noisy places which affected the quality of my journals ... Now I sit alone in a quiet place after finishing my work to write my reflective journals. (Kholoud, 3)

Here, Kholoud had responded actively to all the online feedback, which helped her to improve her writing. At one point, she said that she would not give up and would keep improving her writing until she reached the required level (Researcher's diary).

In fact, the participants largely responded actively and modified their journals according to the received feedback. However, some participants, including Mona, Rana, Nada, Kholoud and Aldana, stated that they needed more than online feedback, and asked if they could receive more support by having face-to-face discussions where they could discuss their issues (Researcher's diary).

In addition, I noted that even with feedback and other facilitating factors, reaching the Reconstructing level of reflection was challenging for most participants, particularly when focusing on solving individual issues. This could be due to the fact that certain problems require more time to be addressed and that others were difficult to address due to certain external contextual factors.

Here, I also have to clarify that I was occupying the role of facilitator in this action research, where I tended to send feedback to the participants to stimulate their thinking in order to

encourage them to write at a higher level. These comments were usually completed with their supervisors during a weekly meeting. However, sometimes I wrote them alone as I could not manage to meet them on a weekly basis due to their business and their multiple roles in the university.

Online feedback from other experienced teachers

Most participants stated that while the online feedback from experienced teachers did not influence their thinking, it had a positive emotional effect on them:

The online teachers' comments were not helping me to reflect at a critical level, they were more like a compliment. There were no comments on the reflective journals' content...but I liked it...it gave me a good feeling. (Aldana, 3)

This was mainly because the reflection concept was new for all of them except Nadia, who works as a teachers' supervisor, and thus for most of them engaging in thoughtful feedback was challenging. With regard to Nadia, who also sent feedback to the trainee teachers as a list of devices or suggestions, I think she misunderstood her role and thought she should give them some direct solution to help them during their field experience.

However, certain participants did articulate that they sometimes benefited from the experienced teachers' feedback in terms of reconsidering aspects of their teaching practice:

One of the comments from an experienced teacher advised me to avoid using the board to praise individuals in the classroom. I felt that when I had used the board in this way that the atmosphere in the class itself became negative – when I gave a prize to the winning students, the rest of the class felt dejected. Thus, I decided to praise the group as a whole and I cancelled the individual competition. (Haifa, 3)

The overall theme indicated that most participants benefited from receiving online feedback from both the researcher and their supervisors in that it helped them to think at a deeper level. The comments also encouraged them to improve their RJs by clarifying some of the meanings of their statements, identifying the issues more precisely and considering other aspects of their issues more carefully. It also helped some participants to improve their writing style when they considered and responded actively to the researcher's feedback. In terms of the online comments from the experienced teachers, most participants articulated that these comments did not influence their reflective thinking or writing. In fact, these comments were seen as a list of advisory aspects, while some of the participants did appear to benefit from this direct advice in

terms of reconsidering aspects of their teaching practice. Nonetheless, the teachers' comments had a positive emotional impact on the participants as they were happy to receive them.

Online guidance from the literature

Online guidance from the relevant literature refers to the predefined online guidance, which was embedded in the main blog by the researcher with the aim of facilitating the participants' reflection. This predefined online guidance included infographics of the 5Rs framework from Bain, Ballantyne, et al. (2002), infographics of the academic reflective writing model from Ryan (2011) and examples and other materials that were involved in the main blog, (see Appendix I).

Online infographics of the 5Rs framework (Bain, Ballantyne, et al., 2002)

The online infographic of Bain's model consisted of a summary of the main ideas of each component of the model as well as some prompting questions that aimed to influence the pre-service teachers' ability when thinking about and compiling their journals (see Figure 3.6).

All the participants stated that the use of the 5Rs framework was essential for them at the beginning of this action study in the sense that it facilitated their learning process in terms of how to write their RJs:

I remember at the beginning, when I had to write my first journal, I felt uncomfortable, as I was not sure what to write and how to write it. After that, my feelings changed gradually, as I then knew how to express my ideas by considering the first two levels of the Bain module, and how to rearrange my thoughts and how to end the journal. (Mona, 2)

In fact, a number of participants were not sure whether they could really benefit from the 5Rs framework infographic when they saw it during the first workshop. However, they realised the value of such a model when they had to start writing their first journal:

When I saw the 5Rs framework infographic, I was not sure how one could benefit from such a model. However, I realised that I benefited from many materials on the main blog...I started to question myself and to answer the questions, which really helped me in writing my journals. (Aldana, 1)

Here, Aldana explained her approach when using the Bain infographic to write her reflective journal:

After reading my own notes...I questioned myself by using Bain's prompting questions...I keep the Bain model infographic with me all the time when I have to write about my incidents, answering the promoting questions to formulate my reflective journal. (Aldana, 2)

Sultanah also indicated that the 5Rs framework (Bain, Ballantyne, et al., 2002) facilitated the writing of her RJs:

To be honest I was not sure what to write and how to write it...but then when I saw the questions in Bain's model...the levels and the components of Bain's model...All of that made it much clearer for me and helped me when writing my journals. (Sultanah, 1)

Sultanah then explained how she used the 5Rs framework from Bain, Ballantyne, et al. (2002) when writing the RJs:

Before I start writing my journals...I usually think carefully about my practice...then I decide which incidents I should write about...I write them in points...What is the problem? And what are the other things related to the problem that I should talk about? When I decide to write my journal...I use Bain's model to answer the prompting questions in points before I arrange them into paragraphs. Doing all of that makes writing the reflective journals much easier. (Sultanah, 3)

All participants preferred to read from the infographic on the 5Rs model, instead of reading the original Bain model embedded with the other materials in the main blog. Hanan articulated:

I benefited from reading the infographic... I saw the original Bain model, it was so complicated for me to understand it ... it was very hard in comparison to the infographic... So I just read and engaged with the Bain infographic and when I had my initial ideas I just followed the Bain model and wrote down my thoughts ... it helped me to sequence my thoughts. (Hanan, 3)

However, at a later stage of this action research, most participants indicated that they had become familiar with the reflective process and did not need to refer to Bain's model before writing their RJs:

To be honest, I used the Bain model infographic at the beginning of this study...After that, it became more obvious to me how to reflect and write my reflective journals. (Marwa, 3)

Nada added that she had become familiar with the model and could almost remember all the components of it:

The Bain model helped me to understand the reflection process and how to reflect...Because writing reflective journals was not easy for me...they must be written in a certain way. By considering the reasons...the results...explaining things clearly...Bain's model clarifies the levels of thinking and the steps that help to give the reflection structure...now I have become familiar with it and can almost remember it. This is why I do not need to keep it in front of me now...but when I feel that I have forgotten certain steps of the Bain model, I check the infographic to make sure that I have covered all the model's components...but, you know, I do not have to answer all the promoting questions anymore. (Nada, 3)

On the other hand, others may use the Bain model as a revising tool to improve their journals in terms of considering some important aspects of reflection:

Up until now, I have read the Bain model infographic to make sure that I cover all the components of the model. For example, in one of my journals, I forgot to note why writing about a certain incident was important. I then went back to my journal and noted the reasons that prompted me to write about this problem. (Reema, 2)

Online infographics of the academic reflective writing model (Ryan, 2011)

The infographic of the academic reflective writing model explains the differences between descriptive writing and critical reflective writing. It also provides the participants with some linguistic resources related to each component of the 5Rs framework (see Figure 3.7). The aim of including this online infographic on the main blog was to improve the participants' writing style as well as their level of reflection.

Several participants highlighted that they used the online infographics of the academic reflective writing model occasionally when they were struggling to express their thoughts:

Sometimes, I felt like I wanted to express my thoughts...but I was not sure how to write about them. This model helped me to choose the appropriate words and often helped me with expressing my ideas. (Nourhan, 2)

In fact, Mona, who has difficulties with her writing ability, kept the reflective writing model in front of her when writing the RJs in order to help her find the appropriate expression with which to present her thoughts:

The online infographic of the academic reflective writing model was very beneficial...when I have a certain idea and do not know how to formulate it...or when I struggle to find the appropriate words or expression that could represent my thoughts, I go back to the writing model. I keep this model in front of me when writing my reflective journals. (Mona, 2)

Sultanah also had a similar opinion, stating that using this model helped her to improve her writing level:

I benefited from the writing infographic when using the relevant words and expressions...as I tend to write...then check my writing to make sure that I am using the appropriate words, which helped me to improve my writing style. (Sultanah, 2)

Exemplars

Online exemplars refer to certain examples of RJs that were used to help the participants compile their own. The researcher uploaded two relevant exemplars for each topic, all extracted from Bain, Ballantyne, et al.'s (2002) book.

All the participants articulated that reading the exemplars helped them to conceive how to write their RJs, particularly at the beginning of this study:

At the beginning of this study...I did not know how to start writing my first journal. The exemplars were very beneficial...now it has become easier for me. I thought that I had to write it in a formal way...but when I read the exemplars, I understood that it is like expressing certain issues...and that I have to explain my feelings and identify the incidents clearly. I had no idea how to write it? I knew that reflective thinking in teaching practice is about identifying problems and addressing them intellectually...but how do we express that? When I read the exemplars...things became easier...I read them many, many times...and when I had to move onto the other components of the Bain model...you know, it required more careful thinking because it was getting more complicated. So, I usually went back again and reread the exemplars carefully. (Sultanah, 2)

In fact, several participants found that reading the exemplars before writing their RJs made things clearer and was more beneficial than referring to the Bain model as the former provided them with a model journal, which stimulated them to think on the same level:

The existing exemplars...were very nice. They clarified how to reflect...they were clearer than Bain's model...and I benefited when reading these exemplars more than from reading Bain's model...because, you know, Bain's model explains reflection through a more scientific approach...but these exemplars helped me to comprehend how to write, what kind of thoughts I

should write down and how to think intellectually. This is why I tend to read the relevant exemplars before writing my own journal as this stimulates me to think in a similar fashion. (Haifa, 2)

In partial sum, all the participants found that many of the online guidance resources, which were embedded within the main blog, positively influenced their reflective thinking when writing their RJs, especially at the beginning of this study. The online infographic of the 5Rs framework from Bain, Ballantyne, et al. (2002) was generally used more at the beginning of the main action research. However, the majority of the participants revealed that at a later stage of this study, they had become more familiar with the reflective process and could reflect without referring back to this model. Similarly, all the participants stated that reading the exemplars was crucial for them, especially in the early stages of this research, because this helped to stimulate their thinking and to write at a similar level. On the other hand, the online infographic of the academic writing model from Ryan was only used occasionally by some of the participants, where it helped them to improve their expressive writing, especially those who have some difficulty with their writing ability.

Reading and reflection

As a part of the scaffolding of the pre-service teachers' reflection process, online resources related to some common teaching problems in the Saudi context, which were determined at the end of the first informal phase of this action research (see Section 3.7.2), were uploaded to the main blog. The participants were advised to read these relevant teaching resources (either the embedded online books or other books) to help them think further on their issues (see Appendix D).

The majority of participants stated that reading the suggested online books was valuable, especially when writing the RJs related to classroom management. Asma, for example, expressed her experience when she had to write her classroom management reflective journal:

Reading online books helped me a great deal with my first reflective journal regarding classroom management. Although I know many people who I can consult when having teaching issues, they had no idea about this aspect. Therefore, I kept reading about it until I found some solutions. So yes, I benefited from reading these books. Although we studied a module about behaviour modification...it was an optional subject...I imagined that I would benefit from such a subject but it was more about memorising facts such as the definitions, the name of the scholars and the enumeration of some theoretical information. So, I never benefited from that...memorising facts and recalling them again and again! (Asma, 2)

Although Asma studied a module about behaviour modification, she did not benefit from it in terms of her teaching practice because the majority of the university curriculum books largely focus on more general theoretical knowledge than on practical issues.

Indeed, many participants found that reading the uploaded books was more interesting, practical and beneficial than the curriculum books in that it encouraged them to adopt the reading approach when dealing with their various teaching issues:

The reflection project encouraged me to read from relevant books and to use this information in our practice. Our curriculum books, in general, were boring...the suggested classroom management books were very interesting because they included certain practical knowledge and suggested solutions that I could adopt the next day. (Hanan, 2)

Meanwhile, Hanan also highlighted that her experience of engaging with the reading resources when thinking about and writing her RJs changed her reading approach from one of focusing on memorising knowledge to a more meaningful one that involved understanding the issue in more depth in order to address her practice incidents:

My way of reading indeed changed. Instead of reading to memorise information so as to write it down at the exam...I now tend to read more carefully...to stop and think when reading on certain topics. I also now tend to reread some information again and again...and to read with the aim of understanding...I link the ideas together. Up to this point I have read more than five books...I read them to find some appropriate solutions for my teaching incidents. (Hanan, 3)

Reema also voiced her experience of reading when facing some teaching issues, and how she changed her teaching practice as a result of reading some relevant teaching books:

My main approach to addressing any teaching issues is reading about the relevant topic carefully until reaching the appropriate solutions. For example, I noticed that there was a problem with my students' homework...not all of them hand in their homework on time! So I read about 'how to address homework issues', and realised that the time between assigning the homework and the assigned deadline of the homework for the students was very long...about one week...and that it should not be too long and not too short. Also, I noticed that I have to remind them of their duty from time to time, telling them that the deadline to receive the homework is on Wednesday. When doing that, the number of students who did not do their homework indeed decreased. Not just that, but I also realised that I should not create assignments without any purpose! You know, we tend to close our lesson by giving students some homework. But why do I have to give them

homework without any real purpose! So I decreased the number of homework assignments like this. Now, I can close the lessons by asking them for some collaborative work on the subject or by asking them to give me the main ideas of the lesson and how they benefited from them...I assign them homework when I have a meaningful purpose...If I do not have a certain purpose, I do not give them any homework. (Reema, 2)

Elsewhere, several participants stated that reading helped them to correct the misconception of certain concepts related to their teaching practice:

I realised that I had misunderstood the real meaning of decisiveness...I thought that it means to shout and to treat students in a tough manner. When I read about decisiveness however...I realised that it is something totally different...the real meaning of decisiveness is not being tough with students but believing in oneself and being determined and clear to the students. (Rana, 1)

Meanwhile, others articulated that reading illuminated their thinking by making them consider other aspects of their issues:

Reading provides me with some new ideas to consider other aspects of the problem...or provides me with some solutions that I may neglect either because I have the feeling that they are not effective or that they are something totally new and that I had never thought about or tried them before. (Sultanah, 1)

Indeed, Nourhan felt more confident about her teaching decisions after reading the relevant resources.

When I found a solution for my teaching incidents, I felt confident in myself and my professional practice, because when I reflect, I usually read from relevant resources, which helps me to reach the appropriate decisions. Now, my evaluation of my practice is based on my knowledge of relevant resources, because when I argued with others about my thoughts they did not understand me...now, I am able to reflect, read and discover whether my practice is appropriate or not. For example, I told [my peers] that my decision to have certain rules in the class and stick to them was right according to the book I had read, while my friends were criticising me for having that attitude in my classroom. (Nourhan, 2)

Certain participants also mentioned that reading the relevant books helped them to improve their writing. Aldana, for example, stated that practicing writing the RJs as well as engaging with some relevant resources influenced her ability to write at a deeper level of reflection:

I was not sure how to explain my thoughts? How to formulate my incidents clearly? Practising doing that helped me to improve my skill of writing these journals ... because I did not practice writing from a long time ago... Also reading the relevant resources helped me to formulate the issues in more intelligible ways. (Aldana,2)

However, not all the participants have a positive attitude towards reading. For example, Haifa explained her own view of reading as follows:

I do not like to read...I feel it is boring. Although I do notice the differences between people who read and those who do not...they have more professional terms, more sophisticated and organised thoughts and more openness. I wish I could read like them, but I cannot...I feel bored after reading one or two pages...I like to watch movies...I do not mind to watch two, three or four movies one after another...but reading is very difficult for me. So, when I have to read something...I read it very fast...this is why I made some mistakes in my exams...I am aware that in order to be a good teacher I have to read on new things but sometimes laziness stops me!(Haifa, 1)

Furthermore, participants did not merge into reading at the same level when writing their RJs, as some of them engaged with reading more than the rest, such as Reema, Sultanah, Marwa, Hanan, and Kholoud. Some referred to the literature sometimes, such as Nourhan, Rana, Asma, Aldana, and some rarely read or linked to the relevant literature, such as Haifa, Nada, Mona (researcher's diary).

In short, reading relevant teaching books was a valuable resource for the majority of participants, especially when having to deal with their classroom management issues. This is partly because the university curriculum related to managing classrooms or managing behaviour included optional subjects that were taught through a rote learning style, which involved memorising certain facts and recalling them in the formal exam. The second reason is related to the fact that even experienced teachers in the Saudi context have a lack of knowledge in terms of managing a classroom effectively. Thus, reading the suggested uploaded books was beneficial, especially the books that were based on practical knowledge. Furthermore, reading the other relevant books influenced some of the participants' teaching practice when searching for the appropriate solutions for their teaching issues. This also helped others to correct some of their misconceptions regarding certain teaching concepts. On the other hand, several found that reading the relevant resources helped to build their confidence in terms of making teaching decisions, as they found these books to be trustworthy resources that could be relied on when they became confused by others' personal opinions. Finally, reading teaching books helped to

improve some of the participants' writing abilities by helping them to become familiar with certain professional expressions and teaching terms. However, not all the participants showed a positive attitude towards reading, although they did believe that reading would help them to improve, both personally and professionally.

4.5 What are educational supervisors' perspectives on the use of electronic reflective journals as a method of learning?

The aim of this research question is to understand the supervisors' perspectives on using online RJs as a method of learning for trainee teachers. The narratives obtained from the supervisors highlighted three main aspects as shown in Figure 4.6. The first relates to the important factors that one should think about when implementing reflection as a method of learning, while the second relates to determining the factors that positively contributed to encouraging the participants to reflect during this project. Meanwhile, the final aspect relates to the positive engagement of the trainee teachers in this reflective study from the supervisors' point of view.

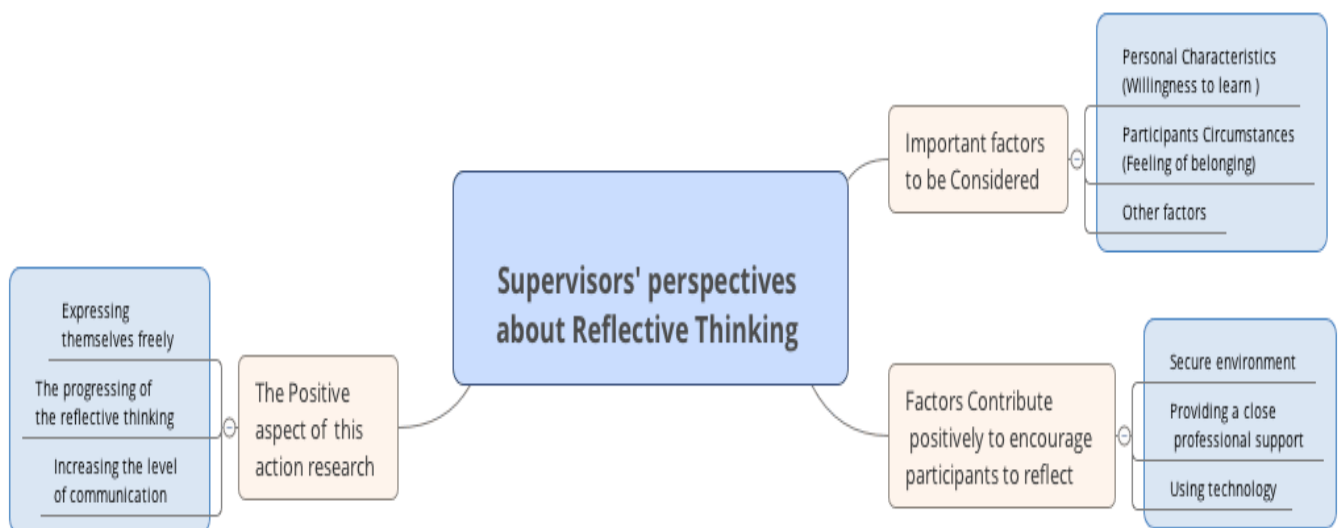


Figure 4. 6: Supervisors' perspectives about reflective thinking

4.5.1 Important factors that should be considered when implementing reflection as a method of learning

The supervisors highlighted certain factors that should be considered when implementing reflection as a method of learning. Some related to the personal characteristics of the participants and their willingness to learn, while others related to the participants' feeling of belonging within their respective groups when reflecting on their practice. Moreover, they also mentioned other factors that may be considered when aiming to implement reflection as a method of learning with the students.

Personal characteristics of the participants (willingness to learn)

Finding students who were willing to participate in this study in order to learn and improve their skills without earning extra grades was challenging at the beginning of this study:

The first challenge in this project was the students' acceptance of doing all that. This was a big challenge, especially when knowing that there are no credits. So of course, you will find a certain reluctance. The second challenge relates to the fact that some students had a generally negative view of reflective thinking, imagining that it is complex...takes up much time, requires some effort to think about the thoughts themselves. All of that requires so much energy and time. (Dr. Noor)

Meanwhile, Dr. Noor mentioned that, in general, the students were reluctant to engage in extra reading (in other modules). This is because they used to be taught traditionally, focusing more on memorising certain knowledge and recalling it during the exam:

The students used to study a certain module with a certain resource and they will be tested on that. If a student has been asked to read from other extra resources, they consider it a burden...and never read extra resources. The students have a certain ideation and do not want to divert from this ideation. They want to study from a certain book and to acquire the grades without any extra effort. (Dr. Noor)

One should not blame the students alone for their attitude since it appears to me that students used to be taught in terms of memorisation, and there was a lack of support for critical thinking and writing skills in many of their modules during their study at both school and university (but of course, not in all of their modules; see Section 4.3.3 Lack of Thinking Skills).

Dr. Afnan has a similar thought, as she noticed that many of the students are generally more concerned about their grades than their learning. However, the narrative revealed that some care about their learning and were interested in participating in the study:

I feel like this project is beautiful and good for the students, but the problem is with the students' willingness. Students rarely take on something unless there are credits involved...they want grades for any required tasks...and this is a problem...but some of them, when they engage in such a project...they realise that it is important and has an influence in their life. So, you will find students who continue, while some just leave as they do not want to continue in the project. (Dr. Afnan)

The other reason that led to the trainee teachers' unwillingness to participate in this study relates to their weak writing ability, as Dr. Afnan noted:

I guess the major problem is with their writing...they lack writing skills. So, anything that requires writing would be hard for them. We certainly have a problem in our learning system...in terms of the lack of support for critical writing. For example, even the exams in the schools tend to be objective tests, which means that this generation writes less. In the university, we have a similar situation where the exam is based more on objective questions because the number of students is huge compared to the number of lecturers...which means correcting objective tests is easier. The students in general have not practiced enough writing and it is obvious that they would struggle to write their journals and when they struggle with things, they do not like to do them. (Dr. Afnan)

Dr. Afnan had a previous experience of students' reflection when asking them to reflect on their practice on paper, but the result was disappointing. She believes that the main reason here relates to the fact that they do not know how to write because they rarely practice writing at school or even at university (see Section 4.3.2 Lack of Writing Ability). Indeed, two of her students withdrew from the study because they could not write at a good level. However, I think that the problem was more than just their poor writing ability since they also could not figure out the main problems or contribute to finding critical solutions, which means they also lack thinking skills (see Section 4.3.3 Lack of Thinking Skills). Their first and only journal was compiled at a very superficial level (Researcher's diary).

This means that not all students have the same level of willingness to learn actively in order to improve as teachers. Here Dr. Samira stated the following:

I guess the students who participated in this study were very self-motivated to learn. I mean they participated because they want to learn and improve...but not all the students have the same attitude. So, you have to keep that in mind. Those students are interested in learning something new and, of course, this affected their practice. (Dr. Samira)

As mentioned earlier, the students participated voluntarily in this study, suggesting that they are in general interested in writing RJs and are convinced and believe to some extent in the benefit of writing them, although they did not show the same enthusiasm. For example, Nada and Haifa were less enthusiastic than others. However, the students who did not participate right from the outset or withdrew from the study at some stage did not have a good attitude to reflecting on their practice. This suggests that, if the reflection was compulsory, we could expect a lower level of reflection as not all the students would be willing to learn how to reflect and would not engage seriously or freely with their journals. In this regard, it is believed within

Dewey's theory of reflection that some initial attitudes are crucial to engaging with reflection (see Table 2.1). Bain et al. (1999) articulated that although reflection can develop over time, an “initial reflective ability and willingness to devote effort to the task are the best predictors of final performance” (p. 70).

The participants’ circumstances (feeling of belonging)

Another factor found to be crucial in this study relates to the feeling of belonging when reflecting on their practice by being in a supportive group. These groups tend to believe in the importance of reflection and interacted with each other actively to understand their issues and to help solve them. Dr. Noor noted that when the participants were in a supportive group, they continued to participate and reflect during this study, while it was hard for Raneem (who was the only trainee teacher from another school who agreed to participate) to commit to this study:

I guess a very important factor in this study is that being in an unsupportive group would be a reason for any reluctance to continue participating...like with Raneem, who did not find a supportive environment in which to discuss her issues or to help her to reflect, or maybe she found a negative environment. Discussion was found to be a very important factor in enriching the reflection. I remember at one of our sessions, Mona said that the reflective thinking was enriched by the group discussion. (Dr. Noor)

Indeed, reflection was found to encourage the participants to actively interact with each other and to support each other when facing the incidents. Dr. Samira also noted that the participants had become more active in terms of discussing their issues when visiting them at their school:

I feel that the reflection prepared the ground for productive discussions within the trainee teachers...I noticed that the participants interacted with each other actively regarding their work when visiting them in their school. They were also happy to have the online feedback from the experienced teachers. (Dr. Samira)

In this regard, it has been reported that one of the main criteria that characterises Dewey’s concept of reflection is the importance of being in a community to interact with others while reflecting (Rodgers, 2002), as reflection does not occur in isolation. Reflection does not involve only internal dialogue but also the importance of interacting with others (Zeichner and Liston, 1996; Bain, Ballantyne, Packer, and Mill, 1999; Freese, 1999; Ryan, 2013).

Other suggested factors for consideration

Several other factors were found to be crucial from the supervisors' perspective when implementing reflection as a method of learning. The first relates to the importance of introducing the concepts at an early stage to save the participants' time, as some mentioned at an early stage of this study that they often experience time constraints during the semester (see Section 4.3.1). Here, a suggestion was raised by two of the supervisors in terms of the importance of introducing the concepts earlier when studying other modules at the university:

I feel that the students who engaged in the reflection took more time, as they told me, to learn how to reflect and to organise their thoughts. The trainee teachers argued that this time could be used to design their lessons or to prepare the student tests. Therefore, introducing the concept prior to the school placement experience by encouraging them to reflect within many modules would help them to practice. I remember Nourhan told me in our last session that if she had had a chance to study it beforehand, writing the reflective journals would not have taken such a long time. So, I think if there is some prior training, I do not think that time would be an obstacle to practicing reflective thinking during the school placement. As you know, the students had no idea how to formulate their thoughts, even when they studied critical thinking – within some modules, they focused on memorising facts. (Dr. Noor)

Dr. Afnan clearly has a similar thought as she stated the following:

I think reflective thinking should be encouraged within other modules. I mean, we should think about implementing this in other modules as a type of training for the students...where the students could get used to how to write, how to identify their problems and how to address them. I guess this would be beneficial for them in the long run. (Dr. Afnan)

This means that the participants need to understand the real meaning of reflection and how they might reflect on their practice at an early stage of their studies. Understanding the concept (of reflection) can be learned when reflecting on their learning in other modules. Moreover, students can also learn how to reflect on their practice by being provided with a chance to visit schools at an early stage of their university studies. This could also include providing them with various materials and engaging them in thoughtful discussion on how one could reflect on practice by thinking aloud and/or by setting an example to them of how to reflect on their practice. This could be achieved when supervisors and lecturers reflect and share their RJs with the students to ensure that they genuinely understand the meaning of reflection before reaching the final semester (i.e. their school placement) of their studies.

This factor was noticed by many scholars such as Yost, Sentner, and Forlenza-Bailey (2000), who emphasised the importance of establishing and supporting the concept of reflection over time within the teacher education curriculum. This would give trainee teachers many opportunities to engage with reflective activities and to broaden their horizons, which would help them over time to reflect at a more thoughtful level.

Moreover, the second suggestion related to the importance of considering the workload of the supervisors (i.e. the number of students with each supervisor). Dr. Samira was particularly concerned about the number of students each supervisor was responsible for when engaging in the supervision of reflective thinking:

I think if we want to generalise the reflective supervision model for all students, there should be some consideration of the number of students with each supervisor...to find time to read [their work] and provide them with feedback. (Dr. Samira)

In fact, while Dr. Samira supervises 28 students (at bachelor and diploma level), only six participated in this study, which means reading their work and providing them with feedback was possible. However, Dr. Samira was concerned about the other students in terms of generalising such a study, and thus all the students were required to reflect on their practice, instead of it being an optional task. She wondered about the workload for each supervisor, and whether they would be able to support all of the students when they were asked to reflect on their practice.

The importance of considering the workload of the supervisors was found to be crucial in this study because the workload of the supervisors in the present study was quite big, for example, Dr. Samira supervises 28 students. Thus, if we want to generalise this study in the College of Education in IAU to influence all trainee teachers' levels of reflection, the workload of the supervisors should be considered and reduced.

In partial sum, there are a number of factors that should be considered from the supervisors' perspective when implementing reflection as a method of learning for trainee teachers. The most basic relates to the importance of considering the personal characters of the pre-service teachers and their level of willingness to reflect on their practice. Additionally, the importance of considering their respective circumstances and whether they were in supportive groups and had a feeling of belonging – which would help them while reflecting on their practice – is

crucial. The other suggested factors mainly related to the importance of introducing the concept of reflection beforehand within the students' modules to save their time during the school placement. Finally, the importance of considering the workload of the supervisors when aiming to generalise such a study is crucial.

4.5.2 Factors contributing positively to encouraging the participants to reflect on their practice

There are some other factors that contribute positively to the participants reflecting on their practice. These factors include providing the participants with a secure environment, considering their needs at the early stage of the school placement in terms of close professional support and the use of technology as a motivating and supportive factor.

Secure environment

Creating a secure environment is an essential factor that can help participants when reflecting on their practice, by encouraging them to acknowledge their incidents in order to address them effectively, in an open and democratic environment, in which they are guaranteed that there will be no adverse consequences:

It is very important to provide the students with a secure atmosphere and a sense of encouragement ...when they engage in the reflection process. Even when their level of reflection was not good...we may say that this is a good attempt and that they could try to think about it again at a deeper level.
(Dr. Noor)

Dr. Afnan clearly had a similar view when she said the following:

The students should feel that it is normal to commit some mistakes and to try to resolve them. (Dr. Afnan)

Providing students with a secure environment is especially crucial given that within the Arab culture, as Dr. Afnan mentioned, it is hard to admit your mistakes. This is due to the fact that Arab societies usually blame and humiliate any individual who admits their mistakes:

In our culture, unfortunately, ...it is hard to admit your mistakes...because, even within the society, if you admit your mistakes, this would count against you. So, it is more about the person who received that...I mean even when you are the kind of person who does not like to admit your problems, when you go to a different environment where admitting one's mistakes is respected...you would admit them because they would consider that as normal behaviour...but within an Arabic society, when you commit any

mistakes and acknowledge them, others will blame you for your mistake and humiliate you...and would remind you all the time about it...Hhhhhh.
(Dr. Afnan)

The importance of providing the participants with a ‘secure environment’ was noticed by the supervisors and by me as a researcher. Providing the participants with a secure environment is crucial to encourage them to take the first steps of reflection by acknowledging their main incidents. Being afraid and unsure of the consequences of writing RJs hindered the students from reflecting. Thus, providing them with a secure environment is crucial when asking them to write RJs. Indeed many authors (e.g. Francis, 1995; Roberts, 1998; Hobbs, 2007) stated the importance of creating a supportive and secure environment to help the participants to engage with reflection.

In the present study, we guaranteed to the participants that their grades will not be affected as a result of engaging with reflection and that it is normal to face challenges and their role was to clarify them and to reflect on them. As a result, they expressed themselves freely during this study, which was not a common behaviour among college students as the supervisors articulated (see section 4.5.3 for more information). This was not the case during the informal phase as the trainee teachers tended to conceal their real issues and they did not discuss their incidents. One of the trainee teachers in the informal phase articulated that she preferred to not mention her issues in her journals after being criticised by her supervisor over and over when she admitted one of her weaknesses (researcher’s diary).

Providing close professional support

The close support at a very early stage of the study in terms of having face-to-face discussions with the trainee teachers to help them understand their work and to help them to identify their incidents is also crucial, especially at the beginning of the semester (see Section Interaction with professionals). Here, Dr. Afnan clarified this when she articulated the following:

Basically, during my supervision, I encourage the trainee teachers to admit their issues...because with this...half of the work is done...but when they resist...sometimes they do not notice they have a problem. So, while they may describe what happened, they never notice the depth of the problem. For example, when the trainees implemented a teaching strategy...they found that the problem related to the students, while they never noticed that the implementation of the strategy was inappropriate. When telling them that they did not implement the teaching strategy appropriately, they were

surprised and said 'Aha...so this was the problem!' So, by engaging with them in some discussion, they notice their problems. (Dr. Afnan)

Dr. Noor also has a similar view since she articulated her experience with one of the trainee teachers in helping them to identify their incidents:

When supervising Sultanah for example...I told her that she has a problem with managing the group work. When reading her journal, I noticed that she realised by herself how to overcome this issue. She never asked me for help in what to do exactly...when attending her class...I recognised that her teaching practice had improved and that she could manage the group work effectively. (Dr. Noor)

The importance of close professional support was mentioned by the supervisors and by the trainee teachers as well, especially at the beginning of the study. This factor was noticed when analysing the trainee teachers' RJs, as it was clear that their face-to-face interaction with their supervisors and with professional members, in general, facilitated their reflective thinking. These discussions helped when identifying their main incidents while reflecting on their practice. Ryan articulated that even when writing within the first two components of reflection, based on the Bain model, the educator has to facilitate participants' reflection by, for example, engaging with them in discussion regarding their practice to help them focus on their issues rather than re-telling them (Ryan, 2013).

Using technology

Using technology was found to be beneficial and a motivating factor during this study. Here, Dr. Noor mentioned that the existence of both the main and the embedded materials encourages the students to reflect and helps them to understand the meaning of reflection:

The existence of the main blog and the individual blogs was very helpful for the students when reflecting on their practice, as they provide them with exemplars of others' experiences in different environments...which trained them on how to formulate their ideas. This helped them to understand and conceive how they could think and write their journals and also encouraged them to participate in this study. Also, the Bain module was very clear and easy to follow and the students were capable of undertaking this module when reflecting on their practice. (Dr. Noor)

Dr. Afnan was also satisfied with the Bain model in terms of it clarifying the idea of reflection for the students:

I feel like the Bain model facilitates the students' understanding of the meaning of reflection...and they engaged with it very quickly. (Dr. Afnan)

Furthermore, technology was found to be beneficial in terms of providing the trainee teachers with continuous feedback to improve the level of their RJs, here Dr.Noor stated the following:

Trainee teachers sometimes need some feedback to help them with reflecting on their practice. For example, some may not write on a specific issue...I mean they may write about a very general issue...so when giving them feedback, their reflection improved. (Dr. Noor)

Dr. Samira had a similar thought when she stated the following:

I noticed that some participants were able to figure out their incidents...while others need more support. So, providing them with feedback was helpful. (Dr. Samira)

In short, a number of factors were found to be essential, from the supervisors' point of view, to encouraging the participants while reflecting on their practice. The first relates to the importance of providing the students with a secure environment in order to encourage them to express themselves freely, while the second factor relates to the trainee teachers' needs in terms of close support in the form of face-to-face discussions with professionals, especially at the beginning of the school placement, to help them to recognise any significant issues. Finally, the use of technology was found to be a motivational and beneficial factor in terms of clarifying the meaning of reflection and providing the participants with continuous feedback to help them improve their RJs during this study.

4.5.3 The positive aspects of reflective thinking seen from the supervisors' perspectives

There are some positive aspects of the engagement of trainee teachers in writing the online RJs from the supervisors' perspectives. These include that the participants were able to express themselves freely, the progression of their reflective thinking and their being able to actively communicate with each other when reflecting on their practice.

Expressing themselves freely

One of the advantages here relates to how the participants were able to express themselves freely by admitting their incidents and weaknesses, which is not common behaviour among

college students. Dr. Afnan was impressed with their level of openness when talking about their teaching issues:

I noticed that they were very explicit, and this was the advantage of openly talking about themselves. Usually, when you ask students to write...they write about the positive aspects and they do not mention the negative aspects of their teaching. I mean, as Ruba said explicitly, she hates teaching. For me, it was good to see this level of honesty among the students. (Dr. Afnan)

As the researcher, I believe that this was a result of two factors: using the Bain model, which focused on the importance of admitting one's problems; and offering a secure environment that encourages the students to acknowledge their problems. However, some participants seemed to avoid articulating their incidents clearly to avoid taking responsibility for some of their inappropriate decisions, but when they received feedback on this, they usually took responsibility for their actions and wrote their issues up clearly.

The progression of participants' reflective thinking

A massive improvement in the RJs was found by Dr. Noor, compared with the RJs of the diploma students of the previous year:

There is a huge difference between the current online reflective journals and the journals written by the diploma students last year. The reflection module of the diploma was like a theoretical framework that asked the students to write down the lesson objectives that had not been achieved and the reasons for this. The aim of that task was not achieved because they usually write at a very superficial level, saying, for example, in one sentence, that this is because there was not enough time...or because the projector did not work...which means that it was at a very, very superficial level. (Dr. Noor)

The supervisors also recognised that the participants tend to rely on themselves rather than passively ask for direct solutions:

I noticed that the participants tend to rely on themselves when learning during the school placement. Some were able to discover their incidents and address them. Moreover, the participants were active in terms of considering other external resources rather than asking me for solutions. Like for example Sultanah, when I told her that she has a problem when dealing with students working in groups, she recognised her problem, and when I attended her class the next time, I noticed that her teaching in terms of organising the group work for the students had improved. (Dr. Noor)

Dr. Samira also noticed that the participants in this study were more determined to resolve their issues than the students of last year, as the latter avoided mentioning the negative aspects of their teaching:

I feel like the participants focused more on their incidents in order to address them. They did that systematically by identifying their problems and following a specific plan. When we asked the students of last year to reflect, they did not follow a certain approach. Indeed, they avoided mentioning the negative aspects of their teaching. (Dr. Samira)

However, the supervisors noticed that not all the participants were able to reach the high level of reflection on all of their journals:

I found that Reema wrote her journals at a critical level, but with Haifa, I was expecting a better level of thinking. Indeed, I was surprised when reading her journals, especially the first ones...I noticed later that her writing had improved. (Dr. Afnan)

Thus, providing the trainees with continuous feedback was crucial in helping them to improve their RJs:

Trainee teachers sometimes need some feedback to help them while reflecting on their practice. For example, some may not write on a specific issue. I mean, they may write about a very general issue...so, when giving them feedback, their reflection improved. (Dr. Noor)

Increasing the level of communication

The third aspect that was noticed by the supervisors related to increasing the level of engagement and communication among the participants as a result of being involved in writing the RJs. Here, Dr. Noor was surprised when hearing the participants engage in some discussions about certain teaching issues when visiting their school to supervise them:

I was surprised when I found the students engaging in a very serious discussion about a certain teaching issue...where everyone was sharing their opinions and trying to convince others with their thoughts... Throughout my supervisory experience with my previous students I had not seen such engagement in a discussion with that level of excitement...which means that reflection helped and encouraged the students to interact with one another effectively to discuss and overcome their common issues. (Dr. Noor)

Dr. Samira clearly has a similar opinion since she stated the following:

I feel that the reflection prepared the ground for productive discussions among the trainee teachers. I noticed that the participants interacted with each other actively regarding their work when visiting them in their schools. They were also happy to receive the online feedback from the experienced teachers. (Dr. Samira)

To summarise, during this action research the supervisors highlighted many positive aspects including the fact that participants expressed themselves freely. Furthermore, there was some progress in terms of the level of reflection in comparison with that of the trainee teachers' journals from the previous year. Finally, there was an increasing level of discussion and communication among the participants in terms of discussing their issues while writing their RJs.

Overarching higher order themes

Figure 4.7 visualises the overarching higher order themes to represent the link between the main themes and codes in this study to clarify the findings.

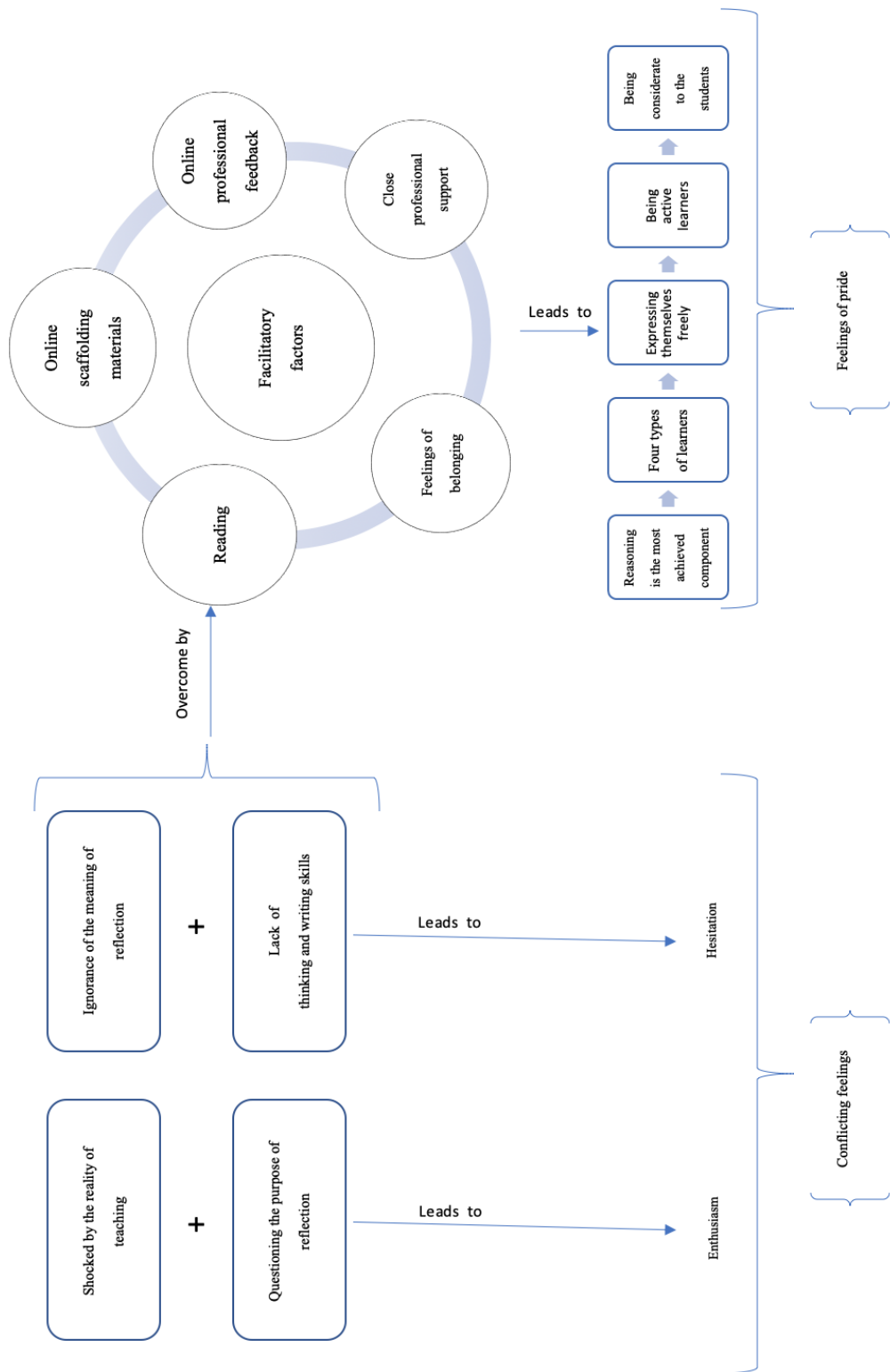


Figure 4. 7: Overarching higher order themes

From the above diagram, it clear that at the beginning of the study, pre-service teachers revealed conflicting feelings of hesitation and enthusiasm towards the reflection. Feelings of hesitation appeared because of their ignorance of the meaning of reflection and because of participants' self-doubt regarding their ability to think and write. This feeling was associated with enthusiasm when they were shocked by the reality of teaching and realised that they should consider their issues differently. The feelings of enthusiasm were also found as a result of recognising that the purpose of engaging with reflection is for self-assessment and to air their views. The conflict feelings that were identified among the participants in the present study have not been noticed among pre-service teachers in the relevant literature, which is because of the unique circumstances of the study's participants.

Engaging with reflection was found to be challenging among trainee teachers in general. This is because of their limited epistemological views in terms of focusing on discrete information and believing that there are right answers when learning during their field experience (Yost, Sentner and Forlenza-Bailey, 2000). Reflection may also conflict with the nature of assessment (Roberts, 1998), and this could also make engaging with reflection not an appealing experience for trainee teachers. Indeed, reflection is more challenging within the Saudi context given the lack of metacognitive skills highlighted in the relevant literature (Alnasib, 2017).

Ignorance of the meaning of reflection in the informal phase and at the beginning of the main study was not surprising within the results chapter, as this is because of the absence of reflection within the Saudi context (Almazrawi, 2014). Ignorance of the meaning of reflection and reflecting at a superficial level in the informal phase was due to not reaching a clear agreement about the meaning of reflection and how to reflect among the participants and their supervisors, which concurs with the results of several studies (e.g. Divitini, Haugaløkken, and Morken, 2005; Granberg, 2010).

The lack of thinking and writing skills were overcome to some extent when engaging with a combination of support such as online scaffolding materials. Similar results were found in Lai and Calandra (2010), where the researchers found that providing the participants with scaffolding tools as guidance for their reflection helped to influence their level of reflection. Visualising some of these materials was found to be vital to help the participants understand the meaning and purpose of reflection. This contributes to the existing knowledge as there was no attempt to visualise any reflection model by designing infographics to influence participants' reflective thinking in the relevant literature.

This research found that the use of technology motivated the participants to engage with reflection. The research found some consistency between the main factors that motivated bloggers in general to blog and the main orientation expressed by the participants in the present study, including airing their voice to influence and benefit others and seeking some support and feedback from the audience (Nardi, Schiano and Gumbrecht, 2004). Reading the practical books also helped to broaden their horizons about how to tackle their issues. Many authors have found reading to be a vital factor that enhances pre-service teachers' reflective thinking (e.g. Kaasila and Lauriala, 2012; Buschor and Kamm, 2015; Smith and Lev-Ari, 2005).

Furthermore, the participants' supervisors found that feelings of belonging, by being in a supportive group that believes in the importance of reflection within their school placement, were an encouraging and supportive factor. Moreover, the close professional support provided was found to be a crucial factor, especially at the beginning of the study, to help the participants identify their main issues and reflect on them. Reflective thinking was supported by both receiving the online professional feedback and by interacting with peers and professionals in person. Reflecting in a community was considered to be crucial within Dewey's theory (Rodgers, 2002). Trainee teachers need to interact with others to develop personally and professionally and they need layers of support to come from the "inner circle", such as their tutor and teachers, and from outside the "inner circle", including friends and family members (Meierdirk, 2016b, p. 37). The relevant literature also highlighted the importance of the lecturer role when asking trainee teachers to reflect on their practice via the use of technology by providing the trainee teachers with online feedback (e.g. Hramiak, Boulton and Irwin, 2009; Yang, 2009; Deng and Yuen, 2011; Luik, Voltri, Taimalu and Kalk, 2011; Boulton and Hramiak, 2012).

The reasoning component (based on Bain's model of reflection) was reached more commonly by the majority of participants after responding to the professional online feedback given. The reasoning component was also more commonly achieved by students in the relevant literature (e.g. Bain, Mills, *et al.*, 2002; Henderson, Napan and Monteiro, 2004). Furthermore, the findings revealed four types of learners based on their different abilities and various needs, whereas the relevant literature which involved the use of blogs as a means of reflection stated two types of reflective practitioners: reluctant bloggers and frequent bloggers (Hramiak, Boulton and Irwin, 2009; Boulton and Hramiak, 2012).

This research found that engaging with reflection helped the participants to express themselves openly and to shift their paradigm to actively engage with their learning and teaching. A similar result was noticed by Freese (1999) when he articulated that, as a result of engaging with reflection, trainee teachers were able to play an active role by actively engaging with multiple sources and by self-evaluating their teaching practice while learning during their school placement. Elsewhere, engaging with reflection helps to enhance pre-service teachers' self-knowledge and develop their practical theories (Korkko and Outi Kyrö-Ammala, 2016).

Moreover, the narrative of this research found that participants became more considerate to the students when engaging with reflective thinking. In this regard many scholars acknowledge the importance of engaging with reflective thinking to achieve more ethical and moral outcomes within their teaching profession (e.g. Colnerud, 1997; Buzzelli and Johnston, 2001). A feeling of pride was also noticed among pre-service teachers as a result of engaging with writing their online reflective journals. This feeling does not appear in the relevant literature because of the uniqueness of the Saudi pre-service teachers' experience as explained throughout this study.

Chapter5: Discussion of the Findings

This chapter presents a discussion of the experiences of pre-service Saudi teachers and their supervisors' perspectives on the use of online RJs as a method of learning. Adopting narrative has helped me to understand the entirety of the participants' experiences when pre-service teachers reflect on their practice based on the theoretical framework (see Section 3.5) and link that to the nature of the learning context in Saudi Arabia. As a result, comprehensive themes from the participants' data emerged, namely: from a negative attitude to a conflictual attitude to a feeling of pride, impediment and disincentive factors to reflective thinking, implementation and support and, finally, pre-service teachers' progression and the critical turning points during their reflective thinking journey.

Before discussing these themes, it is necessary to note that the Saudi Arabian education system faces a number of challenges, some of which cannot possibly be tackled through the efforts of individual educators or even individual schools alone. Wholesale policy reform and a huge budgetary increase is required, meaning that these issues – such as inappropriate school building facilities and issues of inclusive education – should be addressed at the Ministry level. Indeed, although the MOE has implemented a number of wide-ranging reform projects in recent years, instead of improving the current education system there has been a marked decline in educational achievement in schools. For example, according to a 2015 TIMSS (Trends in International Mathematics and Science Study), Saudi Arabia's international ranking in mathematics for fourth grade students fell compared with results from a 2011 TIMSS report ('TIMMS 2015 international results in mathematics', 2015).

Despite these macro-issues that require state-level solutions, the primary focus of this research project is to encourage the participants to reflect on and devise ways of addressing challenges that do lie within their affective capacity, although they may sometimes discuss some of the larger issues that lie outside their remit or scope in their online journals. Some of the participants have written in their online journals about inclusion issues as this is clearly a crucial challenge facing pre-service teachers in their daily teaching practice, although they are not able to reflect at a thoughtful level of reflection when discussing these issues as they were unable to implement the appropriate solutions to tackle these issues.

5.1 From a negative attitude to a conflictual attitude to a feeling of pride

The findings from the informal phase, which took place before the main study, in which the students were asked to write a mandatory, paper-based weekly journal, indicated that there was a strong feeling of hate and bitterness towards reflection. Indeed, many clearly struggled to write RJs as the journals completed during the school placement semester were almost purely descriptive. However, this was unsurprising, given that these students did not understand the meaning of reflection or the purpose of completing such an assignment. In fact, a large number of studies have emphasised the importance of there being a clear agreement between the supervisor and the pre-service teachers about the meaning of reflection and how to reflect. If this is not the case, disappointing results will be obtained, with the journals being written on a very shallow level (Divitini, Haugaløkken and Morken, 2005; Granberg, 2010).

A general, variable explanation provided to the students at the beginning of the semester was not enough for them to understand the meaning or the purpose of reflective thinking. Moreover, when asking some of the students in the informal phase about what sort of help they received while writing their RJs, they replied that they receive no help in the form of written feedback or any model that could help them to understand the meaning of reflection. However, a large number of studies (e.g. Francis, 1995; Roberts, 1998; Hobbs, 2007) emphasise the importance of creating a supportive and secure environment in order to help the participants to independently reflect on their practice.

It is also important to highlight that writing reflections on paper does not appeal and is not considered practical for the current generation. According to the participants, one of the main reasons encouraging them to participate in this study was the use of technology when writing and sharing their thoughts, instead of writing and handing their reflections to their supervisors in a closed system. Indeed, Haifa noted that she wrote her journal entries carefully and tried to write thoughtfully about her incidents as she was aware that others would be reading them. In this regard, Nardi, Schiano and Gumbrecht (2004, p. 227) stated that, “in blogging, the presence of the audience and the writer’s consciousness of the audience clearly introduce the social into an individual’s thought process”. This reminds us of Vygotsky’s words that “thought develops from society to the individual and not the other way” (cited in Kanselaar, 2002, p. 2). Further, Reema, Sultanah and Nourhan stated more than once that they want to benefit others when they write and share their RJs. Indeed, to “express opinions to influence others” is one of the main reasons bloggers have in mind when they are writing a blog (Nardi, Schiano and Gumbrecht, 2004, p. 255). This means that the main objectives that were found to motivate bloggers in

general in the ethnographic study conducted by Nardi, Schiano and Gumbrecht (2004) can also be seen in some of the pre-service teachers' orientations in the present study, as they were also seeking others' opinions and feedback and the majority of them wrote their journal to influence others and to express their emotions. This means that using blogs as a way of reflecting seemed to encourage pre-service teachers to participate in this study as their reflections are supported by the blog's main characteristic that was found to motivate bloggers, of being a tool for personal broadcasting, sharing and reaching others, expressing their thoughts in appealing ways to be heard by others rather than viewing it merely as an assignment to be handed in to their supervisors.

It is also worth mentioning that, during the informal phase, the pre-service teachers were obliged to write a weekly journal and were informed that they would be assessed on them. In fact, 10% of the final grade for their assessment is allocated to the completion of the reflective assignments. This means that they were reflecting within a somewhat threatening atmosphere, which could easily lead to increased resentment and negative feelings. This reflects the findings of Hobbs (2007), who argued that forcing students to reflect on their practice, especially at an early stage of their school placement, could increase the negativity among them. Hobbs also emphasised the importance of helping students to gain confidence and awareness in a secure atmosphere. However, assessing students on their reflective writing can create an uncomfortable atmosphere, which may hinder their ability to reflect on their practice. Indeed, this is what Roberts (1998) argued when he explained the conflictual relationship between assessment requirements and reflection by stating the following:

Assessment seems to be inimical to any form of reflection that requires the disclosure of weaknesses. Assessment demands the meaning of external requirements and the disguise of personal weaknesses; neither condition is productive of reflection on aspects of self in need of change. (p. 59)

The design of this action research was mainly set according to the lessons learned from the informal research phase and the review of the relevant literature. With this, I attempted to create a friendly and supportive environment where making mistakes was acceptable and where learning to develop as a teacher was the main goal in writing the RJs. Furthermore, participating in this study was voluntary, which means that the level of the participants' reflective thinking would not affect their grades. Meanwhile, the process was flexible and cyclical in the sense that the participants would write their online journals and then receive online feedback (from me as a facilitator, their supervisors and the experienced teachers) in terms of how to improve their journals, at which point they would then rewrite them.

However, a conflict of feelings towards reflection that involved both hesitation and enthusiasm dominated the participants at the beginning of the first phase of this action research. The hesitation and the feeling of uncertainty were linked to whether they could reflect effectively or to whether there was actually a need to reflect on their practice. These feelings largely emerged due to the unfamiliarity of this kind of thinking, which resulted in some self-doubt in terms of whether they would be able to accomplish such a task to an acceptable level. This is why many of the participants asked me for more time to decide whether to participate. Indeed, many of them sent me their journals via email or via WhatsApp and asked for feedback to help them decide whether or not they had the necessary ability to write at a good level.

It was clear from the narrative from the first interviews that the pre-service teachers felt a lack of confidence in their ability to write at a deep level of reflection probably because they had never been asked to write in such a critical way. While some mentioned that they had had a chance to study certain optional modules related to critical thinking, these were unfortunately taught using traditional methods where memorising and recalling the relevant knowledge was the main aim. This means that the participants had likely never been asked to accomplish tasks that could help them to think or write critically. The nature of the Saudi educational system within a college of education at Saudi universities was revealed by Alnasib (2017), who confirmed the lack of presence of metacognition within lecture rooms. In fact, Alnasib (2017) explained a rote learning style was prevalent where students are more concerned about gaining good grades by memorising certain knowledge for the examinations.

The other factor that could have led to the feelings of hesitation among the trainee teachers relates to how, at the beginning of this study, many were ignorant of the actual meaning of reflection, despite the fact that they had had a chance to attend their first workshop. Indeed, at that time, many could not understand the real meaning or the purpose of reflection. This is because reflection is more challenging than is generally believed (Francis, 1995) and understanding the meaning and the purpose of reflection cannot be obtained theoretically (Fitzsimons, 2015). This means that reflective thinking cannot occur in isolation; professional experience is essential to engaging in deep reflective thinking as it involves a combination of thinking, feeling and interacting with one's experience in practice (Fitzsimons, 2015). Indeed, it was noticed that at the time of completing my first workshop, many of the trainees did not realise the real meaning of reflective thinking, as they began asking questions such as "how can we deal with bullying issues?" and "how can we manage classroom behaviour"? Here, I simply

replied that this is what you will figure out by yourselves through reading, interacting with each other and with the experienced teachers and through thinking deeply about your practice (research diary).

Overall then, reflective activities should be slowly introduced to the students within a supportive and understanding climate (Hobbs, 2007; Husu, Toom and Patrikainen, 2008). Pre-service teachers should be given appropriate time to engage with the complexity of teaching to write and to understand the purpose of their RJs. This is exactly what Marwa was referring to when she noted how she could not understand the real meaning of reflection until engaging with writing the RJs as she realised that reflective thinking is linked to and impacts her aim to improve as a teacher:

In fact, I was sure that I would benefit, because anyone who never thinks and reflects will be in trouble...but I was expecting to benefit theoretically, not in practice. I said to myself, okay, I will reflect, read [and] implement the solution, but I did not expect that this could really influence my teaching practice...I was saying, so what? What will happen when I have to think about that? Now, when I have to implement a solution, I keep thinking of my practice...is it appropriate? Is it a good solution? Why and why not, and what about trying something else...which means that it affected my actions as a teacher. (Marwa, 2)

The third factor that may have caused the hesitation or the resistance to engage in reflective thinking relates to how reflective thinking is an “emotional process”, as it implies a sort of self-disclosure and the need for change (Roberts, 1998, p. 35). Thus, one needs to be ready to address issues central to oneself (Roberts, 1998).

This means that expecting a positive attitude towards reflection from the pre-service teachers from the beginning of their school placement is perhaps unrealistic (Francis, 1995), especially given that the hesitation is associated with the negative opinion of reflection of other students in the college who went through an unsatisfying experience when writing their RJs. For example, Haifa stated the following:

I heard from my friends in other departments that they had to reflect on their practice, but they did not say what it was exactly...they said that it was very hard work and takes too long to complete. They were uncomfortable with doing it. (Haifa, 1)

Thus, supervisors should anticipate the students' resistance to reflective tasks (Calderhead, 1987) and give them time to set up what Francis (1995, p. 240) termed "establishing a commitment to journal writing". Francis further explained this by stating the following:

Provision of contact time, 'captive audience' writing and routine collection and reaction to journal entries within a warm, supportive environment can facilitate commitment. (1995, p. 240)

During this study, the provision of a friendly and supportive environment was considered. Indeed, uploading the journals was based on the trainees' needs and was not strictly on a weekly basis. I can assume that providing this promising, positive and unjudgmental climate encouraged the 12 participants to continue participating in this study and that this also led to the feeling of enthusiasm that conflicted with the feeling of hesitation at the early stages of this study. Nonetheless, many of the pre-service teachers withdrew from the study, despite the provision of a supportive and friendly environment.

In fact, when contacting some of the trainee teachers who had withdrawn to ask them about the reasons behind their decision, they generally stated that they were concerned about the time in terms of whether they would be able to find time to think and write about their incidents as they had to handle many compulsory teaching tasks at this time. This likely means that they considered reflection to be an unrelated aspect of their teaching, which reflected their misunderstanding of the purpose of reflection. Furthermore, their main concern was accomplishing the official tasks in order to achieve high grades.

This means that encouraging pre-service teachers to reflect within a positive climate often appears challenging, certainly when noticing that most trainee teachers are overwhelmed by other responsibilities within their school placement and were more worried about achieving high grades. In this regards, Alnasib (2017) argues that there is a need to establish a mechanism to integrate metacognition within the Saudi education system. Furthermore, it is crucial to encourage students to consider the values of acquiring these skills on both their educational success and their future career, all of which could influence students' attitudes towards engaging and acquiring metacognitive skills.

The other critical factor that contributed to the feeling of hesitation relates to the fact that some of the Saudi trainee teachers have a negative attitude towards the teaching practice itself. Indeed, one of the students who withdrew before completing her first journal replied to my

questioning by stating that she could not continue reflecting as she did not want to work as a teacher in the first place and that she hated dealing with teaching matters:

Ruba, for example, withdrew from the study after writing the first part of her journal before struggling to write the second part of it. When contacting her to ascertain why she had stopped, she replied that she had tried her best, but could not find useful solutions for her classroom incidents. Indeed, she clearly stated that teaching is demanding work and that she just wants to graduate from the education college but will never work as a teacher! (Researcher's diary)

In fact, much like Ruba, many students choose to study at education college not because they want to be a teacher but because, in the Saudi culture, working as a teacher is the most acceptable job for a female. Indeed, many students apply to an education college under pressure from their parents, while, in reality, they were hoping to study other fields such as medicine or law. This is mainly because working as a teacher guarantees that they will be able to work in a female-friendly environment that is more acceptable for Saudi women.

However, teaching is complex and requires a large number of skills and a great deal of effort to meet the teaching requirements (Roberts, 1998; Labaree, 2000). A large number of studies have found that practitioners' attitudes towards the teaching profession impacts their thinking process, their teaching activities and their improvement as teachers (e.g. Pajares, 1992; Williams and Burden, 1997). Therefore, those who do not choose the teaching profession because they have the passion to work as a teacher cannot endure the teaching incidents and would likely be less willing to reflect on their practice. This was demonstrated by Dewey (1933, cited in Rodgers, 2002), who articulated that one of the main personal attitudes which help individuals to reflect on their practice is maintaining enthusiasm for their subject. This involves the content, student learning, and how their teaching affects student learning; without keeping their enthusiasm, they may lack the energy to engage in reflective thinking (Rodgers, 2002). This could explain why some of the participants withdrew from the study and could not handle their teaching issues effectively.

Fortunately, this did not apply to all the trainee teachers. Indeed, for many of them, including Reema, Rana and Mona, the teaching profession was their first option and was their dream job from childhood. In fact, some, including Sultanah and Nourhan, were more ambitious and considered working as a teacher as a step on their journey towards working within academia or as experts in education in the MOE in Saudi Arabia.

Indeed, despite some feelings of hesitation, a level of enthusiasm emerged among the majority of the remaining participants. This enthusiasm emerged after attending the first workshop, where I assumed that the participants had taken teaching to their hearts, even if they were somewhat shocked by the reality of teaching. However, the narrative from the first interviews highlighted the fact that the majority lacked an understanding of some of the required teaching skills, especially in terms of classroom management. Furthermore, many found it hard to transform their theoretical knowledge into practical knowledge. This was also found in studies by Alsharif and Atweh (2010) and Hamdan (2015), where trainee teachers were found to have difficulty in implementing their theoretical knowledge within the classroom.

The majority of the trainee teachers who felt enthusiastic and who participated in this study had arguably noted their need to stop and think about their practice. Indeed, the participants illustrated two main reasons for being involved in such a project. The first related to reflecting as a kind of self-assessment with the aim of self-development. Here, the participants assumed that writing the RJs would help them to make wiser decisions, would help them to feel confident about their decisions and would help them to ultimately obtain high grades by addressing their problems before being assessed by their supervisors. Freese (1999) found that pre-service teachers engaged with reflection as a means to examine and evaluate their thoughts and action, thereby, this enables them to learn actively rather than passively, where they would be told how to overcome their teaching incidents.

Some participants, including Reema and Hanan, had a deeper vision, which led to their enthusiasm as they considered reflective thinking to be a kind of lifelong learning opportunity. This meant they decided to participate in order to have the opportunity to gain a rich and wide learning experience during their school placement. For example, Reema considered this experience to be equal to working for two years, as she had stopped and considered her incidents thoughtfully and believed that this would help her to grow professionally. Furthermore, Reema believed that she will continue reflecting when she gets a job and has the chance to work as a responsible teacher. A considerable number of scholars have emphasised that teaching involves ongoing learning (Kreber and Cranton, 2000), where one should continue reflecting and learning to understand the embedded knowledge within the school environment in order to develop professionally (Korthagen, 2001; Orland-Barak and Yinon, 2007; Korkko, Kyro-Ammala and Turunen, 2016; Rodgers and Laboskey, 2016). By encouraging trainee teachers to reflect on their practice, they can change their negative learning experiences and play an

active role in their school placement when they self-evaluate their teaching practice (Freese, 1999) and when they reconsider their issues from different perspectives to learn from their experiences (Loughran, 1996). This is because reflecting helps one to link current practice with how to improve it (Ghaye, 2011), and encourages them to accept the fact that teaching involves lifelong learning, which could result in improving the teaching and education system in Saudi Arabia.

On the other hand, the second reason for engaging in writing RJs, which emerged within a few of the participants, relates to the fact that they assumed that reflection would offer them the chance to air their views to the authorities. This means that some of the students were questioning the structure and the policies set by the Saudi educational ministry and were hoping to contribute to improving the current education system. Interestingly, this ambitious purpose came from two of the participants, Nourhan and Sultanah, who had earlier stated that they hoped to work in academia or within the Saudi education system at a higher level, as they considered working in teaching to be a bridge to reaching their ultimate goal. This wide view of reflection was reiterated by Meierdirk (2016a) when he explained the holistic meaning of reflection that is related to reflection on power and the social fields. In fact, Meierdirk believed that one should not take the policy structure for granted but should question it in terms of whether it really helps the students to improve or actually hinders them. This is also associated with Dewey's theory of reflection of the significant need to not accept the "collective code" or the definition of reality existing in schools which is based on impulse, tradition and authority taken usually for granted to inform school teachers' practice (Zeichner and Liston, 1996). Based on this view, Sultanah, for example, questioned the massive amount of knowledge within the subject of science and argued that she could not cover all of the content with two classes a week. However, not all of the participants were questioning the structures or state policies. Indeed, the majority were more focused on questioning their own knowledge and reflecting on their practice within the actual classroom. This is still in line with Dewey's belief on the importance of questioning any "belief" or "supposed form of knowledge", and this then leads to intelligent action, rather than routine action (Dewey, 1933; Zeichner and Liston, 1996).

The other factor that could have contributed to encouraging the students to take part in this study relates to the use of technology when reflecting on their practice. Indeed, many participants found that using technology was promising in terms of both gaining the knowledge on reflection and presenting their journals on their individual blogs. They were also encouraged by the fact that they would be supported in a technologically-enhanced learning atmosphere

when writing the journals by the researcher, the supervisors and the experienced teachers. Indeed, Sultanah stated that she would not have become involved in the project if it was not based on technology, as it would be boring and not as beneficial as she had hoped. In fact, the impact of using technology was articulated by a review paper from Kori et al. (2014), which reviewed studies related to supporting reflective thinking within technologically-enhanced learning over a six-year period (2007–2012). Here, the authors found that the support of either predefined guidance, human interaction or both could have a positive impact on reflection.

At the end of the semester, the majority of the participants felt very proud of themselves as they had challenged themselves and had successfully managed to write their journals. However, not all of them were able to reflect at a deep level, as their reflection levels tended to vary (see Section 4.1). Nonetheless, the majority of the participants articulated that writing these journals gave them a chance to learn actively by reading, by discussing their issues and by evaluating their solutions for addressing their issues. All of this influenced their belief that they were capable of teaching and learning.

This means that the majority of the Saudi pre-service teachers developed their reflective attitude when engaging in writing the RJs. This is likely to be the result of reflecting in a supportive and secure environment. This is in line with a study conducted in Switzerland by Buschor and Kamm (2015), who believed that they provided the opportunities to foster a reflective attitude within student teachers when implementing three types of learning: action research; participatory research; and video-based reflection and competence. During the latter study, the researchers and lecturers played very significant and active roles in terms of conducting the study and the process of co-reflection and in terms of scaffolding the students' learning when introducing the instruments used to facilitate their reflection. Furthermore, Buschor and Kamm emphasised the importance of considering the design of the learning setting in terms of helping to develop pre-service teachers' reflective attitudes, stating how "the learning settings are carefully designed to establish a balance between the students' need to know how and activities focusing on gaining knowledge on knowing that" (2015, p. 240). In fact, the use of blogs as a means of reflection within teacher training was found to result in a positive attitude towards their experience in a study by Yang (2009, p. 17), who investigated the influence of reflection and community of practice. The study found that "nearly two thirds of the 43 student teachers expressed very positive attitudes toward the use of blogs as a platform to reflect their learning and teaching". Hramiak, Boulton and Irwin (2009) conducted action research to determine the attitude and perceptions towards the use of blogs as a tool to influence reflective thinking among

trainee teachers. They stated that “there is positive evidence that the blogs were a useful tool for recording reflections and development as professional teachers” (p. 266).

However, although the related literature has articulated the importance of fostering trainee teachers’ reflective attitudes and has made some positive contributions to this by setting up supportive learning environments to help the participants to develop a positive learning process (e.g. Buschor and Kamm, 2015; Francis, 1995), none have indicated a sense of pride among the participants. This is likely due to the unique nature of the Saudi context, as the participants here had no relevant experience of questioning themselves or of thinking critically about their learning. This is why our pre-service teachers were unsure, lacked confidence in terms of their ability to reflect and were shocked by the reality of teaching at the early stages of this study. However, the participants bravely took the opportunity to try new ways of learning, which ultimately helped the majority of them to address some of their teaching issues. This could explain why the majority of our participants felt a sense of pride and were very happy and satisfied at the end of the semester.

5.2 Impediments and disincentives to reflective thinking

The previous section (‘From a negative attitude to a conflictual attitude to a feeling of pride’) highlighted a hesitation, a lack of confidence and certain struggles among the participants, especially at the informal stage and the first phase of the study. Many participants found writing the RJs challenging and certainly not a straightforward requirement, and from my experience as facilitator, I found that reflection was difficult for the majority of them, although many responded to the online feedback and improved their RJs accordingly.

Two dimensions of challenges appear to hinder the pre-service teachers from reflecting thoughtfully on their practices. The first concerns the challenges related to the use of the technology as a means to promote reflection; and the second is related to the unique nature of the Saudi educational system. As a consequence of discussing the second dimension, two levels of challenges emerged: general challenges related to the Saudi educational system and challenges concerning the context of Saudi Arabian schools (see Figure 5.1).

I also have to mention that some of these challenges were focused more on the theoretical and philosophical reasons that could impede participants from reflecting at a high level (impediment factors), while others related more to the practical challenges that could hinder pre-service

teachers from reflecting at a deeper level (disincentive factors). The disincentive factors in this study are discussed under two sub-themes, namely: “being overwhelmed by multilevel duties” and “the rapid and inconsistent changes within the Saudi Arabia education system”. All of these are practical problems found within the participants’ context, which seemed, sometimes, to hinder participants from writing thoughtful, RJs.

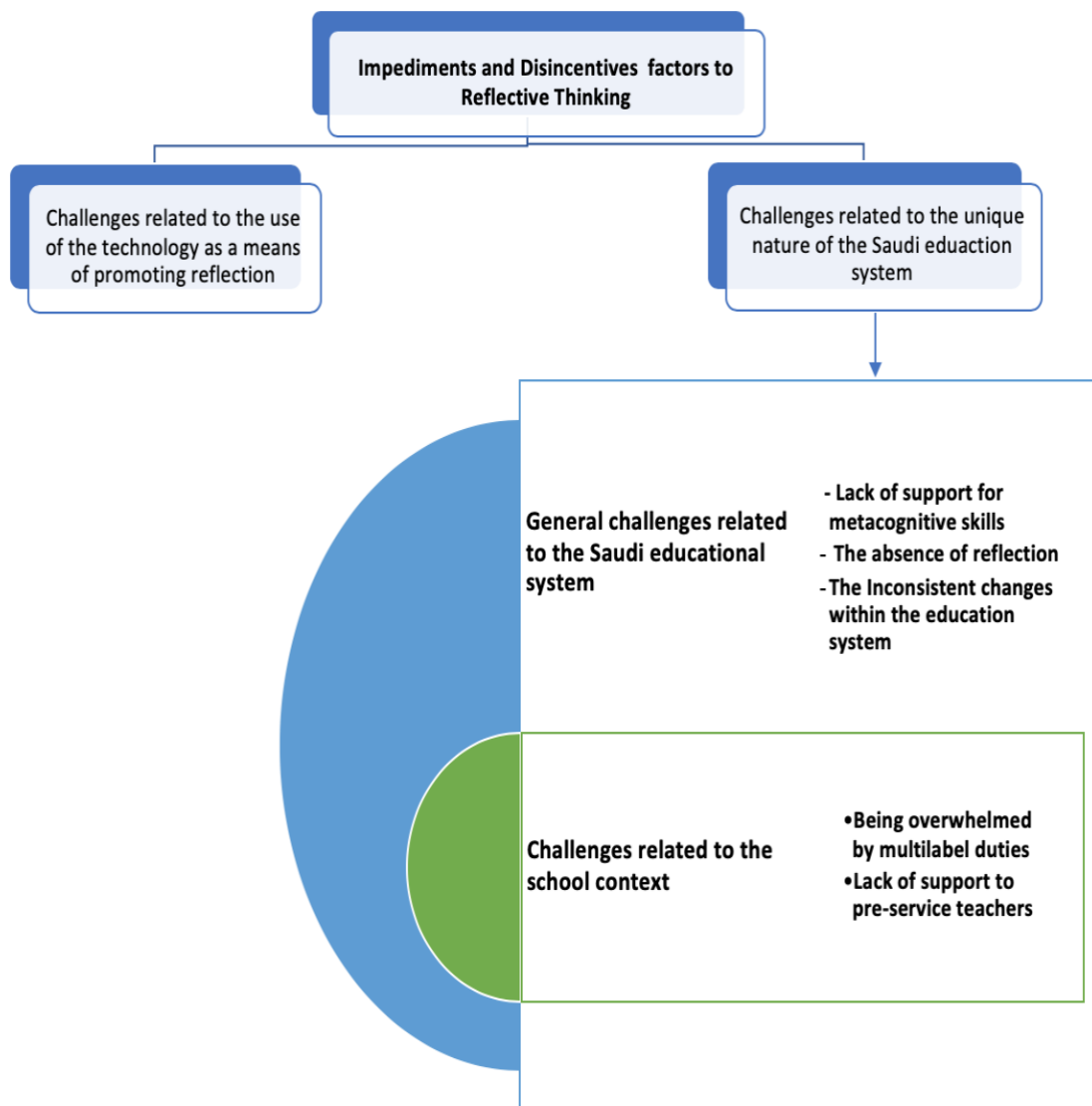


Figure 5.1: The two dimensions of challenges affecting Saudi pre-service teachers’ reflective thinking

5.2.1 Challenges related to the use of technology as a means of promoting reflection

The participants of this research project used technology as a means of reflecting on their practice, and it was expected that the students would interact actively when reading one another's blogs and sharing their thoughts, as well as when receiving online feedback from supervisors, researchers, experienced teachers, peers and other audiences.

However, the findings of the current study indicate that participant resistance to comments and to challenging one another's thoughts through their blogs or even through the official WhatsApp groups that had been set up by the researcher at the beginning of the study and, when they did, their comments were in the form of praising and compliments which obviously was not beneficial in terms of influencing each other's reflection. The lack of interaction via the individuals' blogs could be explained due to the nature of blogging as, according to Nardi, Schiano, and Gumbrecht (2004 p. 231), who conducted an ethnographic study of blogging as a social activity, "limited interactivity [is] characteristic of the blogging experience". This is attributable to the fact that "the relationship between blogger and reader [is] markedly asymmetrical" (ibid, p. 227), as the bloggers express their thoughts and opinions mainly to air their voice and/or to receive feedback, and not to interact heavily with audiences. Thus, although I encouraged the participants to comment on one another's blogs, they rarely did so as they saw the blog as an opportunity to reach a specific audience and to receive feedback from experts.

Another reason that could explain the lack of online interaction between the participants in this study is the fact that they were placed in different elementary schools in groups of 4–6 pre-service teachers and thus had many opportunities for face-to-face interaction, something which possibly affected their motivation to socially interact in these online blogs. This point concurs with the results of a study by Deng and Yuen (2013, p. 349), which found that one of the main factors hindering pre-service teachers from interacting actively via their blogs is the fact that "the ample opportunities for face-to-face interaction diminished their incentive to blog". The participants said that they often interacted and had conversations about their incidents and their journals in the schools (see Section 4.4.2). Indeed, it seems that the current research influenced the participants to engage in thoughtful face-to-face conversations when trying to comprehend and explore their real problems and, when discussing and reading one another's blogs and thinking collectively about some of their issues, this orientation was noticed by pre-service teachers' supervisors during this study (see Section 4.5.3).

The pre-service teachers in this research never challenged one another's thoughts through the use of technology (via their individuals blogs or the official WhatsApp group). Indeed, the current participants were receiving continuous feedback from professionals, and this may well have affected their attitude to interacting with one another as they viewed professional feedback as more valuable than their peers' comments, given their lack of experience and knowledge. This was also the orientation of a number of beginner teachers in another study. The participants articulated that they use online discussions to socially support one another when they become frustrated, adding that as beginner teachers they are at the same level and are from similar backgrounds, and hence interacting with other teachers in school to obtain feedback would be easier and more beneficial for them (Romano and Schwartz, 2005). Relying on providing participants with peer feedback alone to facilitate their reflection was not found to be beneficial (Xie, Ke and Sharma, 2008; Killeavy and Moloney, 2010; Reupert and Dalgarno, 2011). Indeed, adverse effects were noted in the students' reflective thinking when just receiving peer feedback in research conducted by Xie, Ke, and Sharma (2008), who analysed and compared two groups' posts, one assigned to different feedback groups and the other journaling regularly without receiving feedback. The results of Xie, Ke, and Sharma (2008) stated that "the students in the feedback group constantly showed lower reflective thinking level than those who were journaling in a secluded manner" (p. 23). This is because the students who were assigned to different peer feedback were avoiding discussing their issue in depth and preferred to write about them in a reticent way.

Meanwhile, in another study pre-service teachers were more able to criticise their own teaching than criticise others' practices or knowledge, as found in a study by Luik et al. (2011) conducted to examine the possibilities for using blogs as a means of reflection and communication. As the authors noted, "student teachers are more ready to criticize their own teaching, skills or knowledge than those of others" (ibid, p. 168). The resistance to interact explicitly on online platforms such as blogs could also be attributed to the specific cultural conditions of the East Asian countries, where reluctance to challenge or become embroiled in arguments with others is a cultural norm. The participants possibly feared that they may endanger their friendships or be concerned that their interaction might cause issues with their peers, and so they preferred not to engage in such interaction.

This reluctance was noted in a study with Malaysian teachers conducted by Nambiar and Thang (2016). When asked to reflect on their blogs, "the teachers' reluctance to share their teaching practices because of a fear of being judged, a fear of losing face when criticised by others and

a desire to avoid making others lose face were also serious constraints” (ibid., p. 53). Fear of how the school administration and higher school authorities might react was also a concern in Nambiar and Thang’s study. Pre-service teachers in this study did not have the same fears as they were encouraged by their supervisors to reflect but they were reluctant to challenge one another to prevent discomfort for peers. This could be explained due to the “face-saving” attitude that has been noticed, for example among Eastern students when working in groups (Tu, 2001; Wang, 2006), as they tend to avoid critiquing each other or being involved in any kind of disagreement, as such “open conflicts are considered embarrassing or demeaning” (Wang, 2006, p. 75). In this way, they maintain harmony in their relationships with one another (Chang, 2001 in Wang, 2006). However, what was noticed with these research participants is that they were interacting via their private WhatsApp group, and according to their supervisors they were engaging in some active face-to-face discussion in these groups in the school placement. Thus, private feelings are a significant factor which affects the students’ social presence when using technology as a means of interaction (Tu, 2001), as, according to Edwards (2002), Eastern students “did not feel comfortable challenging and arguing in public” (p. 288). “Face-saving” is also noticed in Arab culture and is common within collective cultures (Al-harthi, 2005), in which Arab students tend to be face-saving when dealing with others, especially in public, to avoid any embarrassing feelings.

5.2.2 Challenges related to the unique nature of the Saudi educational system

This section explains the three levels of challenges related to the unique circumstances of Saudi Arabia. The first level concerns the general challenges related to the Saudi educational system; the second level covers the school context.

General challenges related to the Saudi educational system

The challenges related to the nature of the Saudi education system in general include the lack of support for metacognitive skills, the inconsistency changes within the Saudi education system and the absence of reflection. These factors made integrating reflective thinking within the last semester of the trainee teachers’ study challenging at best and impossible for some, who withdrew from the study at an early stage.

Lack of support for metacognitive skills

The findings of this study highlighted certain weaknesses in the Saudi pre-service teachers' ability to write their RJs at a high level, as all of them articulated that they occasionally found it difficult to identify and assess their incidents, especially at the beginning of this study, while some were inflexible in terms of considering other aspects of their incidents. Moreover, speculating on the future and thinking about different circumstances appeared to be beyond their ability. Indeed, the participants repeatedly stated that this was their first experience of writing in an informal and intellectual way and while most found the idea of becoming involved in reflective activities exciting, at the same time, they were unsure whether they could successfully accomplish such tasks.

The uncertainty, the lack of confidence and the weaknesses in terms of both thinking skills and writing skills were perhaps predictable given the fact that the current Saudi educational system seems to continue to be based on teacher-centred learning not on student-centred learning (Almazrawi, 2014; Alsaleh, 2017). This means that integrating metacognitive activities such as reflection would not be easy for this style of teaching. This belief concurs with that of Alrumaih (2016), who found that many challenges limit the pre-service teachers' ability to reflect on their practice; challenges that mainly relate to a Saudi culture that is less supportive of certain aspects related to reflection such as "critical thinking" and "individual autonomy" (p. 198). This means that the participants found it difficult to engage in reflection and to deepen their thinking because they had been taught in traditional ways and had become accustomed to rote learning (using memorisation) during their school and university studies. In fact, this could explain why the most common component was reasoning, and when they wrote on reconstructing, the majority of participants could not go beyond the first level of the reconstructing component of the Bain model, even after responding to the given feedback as reflecting on a deeper level (see Section 4.1.2).

Although many educational projects were launched to reform the Saudi education system, including the Tatweer project and the Aafq project, which greatly emphasised the importance of enhancing critical thinking (Allamnakhrah, 2013), the reality revealed that the transmissive teaching was found to be dominant in both Saudi Arabia's public education system and its university education system. Indeed, many Saudi studies conducted specifically in relation to the colleges of education in Saudi universities – where pre-service teachers are supposed to develop professionally – revealed the dominance of the transmissive style of education and a lack of support for critical thinking.

For example, Alnasib found that although some skills appeared in the lecture classes, including “planning, monitoring, and evaluating skills”, these were not used “to engage students in thinking metacognitively or developing their own metacognitive abilities...[in brief] metacognition was not present consistently or intentionally in lecture rooms” (2017, p. 2). Elsewhere, Allamnakhrah (2013) conducted his study on two Saudi universities and revealed that the pre-service teachers and the lecturers in both universities had limited critical thinking knowledge and practice, while the study also revealed a lack of necessary policies that could enhance the implementation of critical thinking.

The lack of reflective thinking and critical thinking skills was also found to be relevant to other Arab countries (e.g. the UAE and Jordan) where reflective thinking is implemented during the school placements (Bataineh et al., 2007; Hourani, 2013). In Hourani's (2013) study, the pre-service teachers appeared to struggle to link their practice with the theories and many articulated that there was an absence of teaching metacognitive reflective skills at the universities. This means that the challenges are likely to be found within the Arab and Islamic countries who rely heavily on rote learning, as is the case in Saudi Arabia.

The transmissive style of teaching and the lack of support of metacognitive skills revealed that students found it challenging to be independent in their learning and to analyse and make decisions related to their incidents because they tended to depend on their teachers in terms of receiving the ready-made answers and solutions for any problems. In short, from an early age, they learn that all knowledge is fixed and unquestionable (Alghamdi, 2014). Here, some of our pre-service teachers supported this view. For example, Haifa was very disappointed when she realised that she had to make decisions on how to assess the students in many aspects of their learning in the subject of literacy:

We were asked to assess the students in terms of certain skills such as their ability to communicate and their proficiency in diction. However, they never explained this to us, neither in the curriculum nor in the teachers' guide book...So how can we do this? (Haifa, 2)

In fact, Haifa was expecting to have access to a guidance book that would tell her exactly how to assess the students' learning. She was traditionally taught both at school and at university and was thus expecting to be told exactly how she should assess the students in terms of a given standard. Thus, when she found herself having to decide for herself how she would assess the students, she struggled and blamed others and acted as a victim rather than as a responsible

trainee teacher who should take the responsibility for her own learning. In fact, Haifa could have, for example, searched how to assess the literacy learning aspects herself, or discussed with her colleagues how to plan her evaluation system. In short, she could have identified the standard herself and figured out how she could use the theoretical knowledge she already had to build up her own routine for evaluating the students effectively.

Meanwhile, Nada was struggling with writing the majority of her RJs as she was unable to widen her horizons and consider the other aspects of her incidents. For example, when she attempted to write her RJ about how to evaluate students in the Quran classes, she could not reach a thoughtful solution:

When Nada tried to address one of her teaching issues, which related to assessing the students in the Quran classes, this took a long time and resulted in some disorder. Here, Nada assessed the students by following the classroom teacher's method, which involved having the students in a queue and assessing them one by one while leaving the rest of the students doing nothing, which, of course, resulted in some chaos. She partially addressed the problem by copying the methods of her own primary school teacher and arranging the students in groups before hearing first from the higher-level students, which gave the other students a chance to revise the content. Unfortunately, Nada could not go beyond this even when I asked her to think deeply about the matter and to consider the other aspects that could help her to address her problem more effectively. (Researcher's diary)

In fact, from Nada's RJ, it was evident that she was unable to independently make decisions on how to address her problems. Here, she initially copied the class teacher's method then copied her own primary school teacher's method, and, when trying to encourage her to move beyond these solutions, I found that she could not go beyond what she already knew.

On the other hand, writing is considered a thinking tool and is a very important skill that one needs to be able to engage with metacognitive activities (Bjork and Rasanen, 1997, in Khuwaileh and Al Shoumali, 2000). A lack of writing ability was noticed more among some of the current participants, such as Kholoud and Mona, but was also noticed among some of the other participants when writing their first journal. It was challenging for them to express their thoughts clearly and critically (see Section 4.3.2). Similar writing difficulties were found in a study conducted in the UAE, in which it was found that pre-service teachers faced problems trying to express and write their thoughts. For example, they could not find the appropriate vocabulary, which affected their level of reflection (Hourani, 2013); however, these difficulties arose in Hourani's study because they were asked to write their journals in English, whereas in

this study, participants were asked to write in their mother tongue (Arabic). Nonetheless, as mentioned before, there were still some difficulties in writing their thoughts, especially at the beginning of the study.

With regards to understanding the difficulties of writing in either Arabic or English, a study conducted in Jordan to investigate writing skills in both languages with Arabic learners revealed that the students had similar areas of difficulties when writing in either language. These difficulties were related for example to the lack of coherence, cohesion, and paragraph unity (Khuwaileh and Al Shoumali, 2000). The ‘telling model’ could explain the weakness of the Saudi pre-service teachers’ level of writing, as they are used to using a telling approach to write directly about what they have learned in their subjects; they struggle to refine their knowledge to reach a new understanding or to transform their thinking (Cumming, 1989, cited in Shukri, 2014). This finding could expand the relevant knowledge related to the importance of considering the challenging aspects involved for Arab students when asking them to reflect on their practice in writing in their mother tongue.

Dr. Afnan noted that this weak writing ability was the result of neglecting the importance of learning and practicing writing within the whole education system:

I guess the major problem is with their writing...they lack writing skills. So, anything that requires writing would be hard for them. We certainly have a problem in our learning system...in terms of the lack of support for critical writing. For example, even the exams in the schools tend to be objective tests, which means that this generation writes less. In the university, we have a similar situation where the exam is based more on objective questions because the number of students is huge compared to the number of lecturers...which means correcting objective tests is easier. The students, in general, have not practiced enough writing and it is obvious that they would struggle to write their journals and when they struggle with things, they do not like to do them. (Dr. Afnan)

Indeed, the narratives highlighted that the majority of our participants had never been encouraged to engage in critical thinking or in critical writing activities:

The first journal took me a long time. I spent the whole day thinking about how to tackle the first part...it was a challenge for me to know how to start writing...because I am used to writing for myself, not for others. We are not used to thinking about and articulating our thoughts...it was something new to us. (Marwa, 3)

This fact was identified by Kamil (2011), who stated that the teachers generally encouraged the trainee teachers to memorise information for exam purposes, while they did not encourage them to engage in intellectual activities. However, one of the supervisors in this study articulated that it is, in fact, the students themselves who are not motivated to expand their knowledge by reading from other resources, as they are generally only concerned about their grades.

The students used to study a certain module with a certain resource, and they will be tested on that. If a student has been asked to read from other extra resources, they consider it a burden...and never read extra resources. The students have certain ideation and do not want to divert from this ideation. They want to study from a certain book and to acquire the grades without any extra effort. (Dr. Noor)

Indeed, acquiring high grades seems to be the main goal for Saudi students, mainly because obtaining high grades is seen as very important within Arab culture as this is regarded as a sign of intelligence and capability, meaning the students' parents expect high grades from them (Ahmed, 2010; Al-jadidi, 2012). In this regard, Alnasib (2017) stated that encouraging students to discover the benefit of engaging with metacognition activities on their academic studies success and in their future job could motivate them to develop their metacognitive skills.

Fortunately, this consideration is supported by the current Saudi Vision 2030, which emphasises the importance of developing general basic knowledge and thinking and learning skills as well as the social and lifelong skills that can help the students to meet the future labour market needs, while it also emphasises the importance of adopting a student-centred approach to teaching rather than a transmission approach (*Education and Vision 2030*, 2019). Meanwhile, within the Vision 2030 document, there is some acknowledgement of the challenges that education is facing, including the weak educational environment, the absence of innovation and creativity, the lack of personal skills and critical thinking among students, the decreasing quality of the curriculum and the dependence on traditional methodologies, which means that the Saudi MOE are aware that there are many difficulties that they will likely encounter while they continue to develop the current education system.

However, as a follow-up step in attempting to fulfil some of the tenets of the 2030 vision, during the International Conference on Education Evaluation (ICEE) in Riyadh, the previous education minister announced that the subject of critical thinking skills would soon be implemented in Saudi secondary schools (Al-Issa, 2018). However, while this may sound like a promising step towards improving the current education system, critical questions should be raised about how

this subject would be taught, such as whether the teachers themselves would be prepared to teach metacognitive skills. In fact, I am raising such questions because the findings from this study highlighted that studying a subject such as critical thinking skills would not contribute to improving the students' thinking. This was simply because it was taught in terms of rote learning. For example, Marwa emphasised that even though they were studying a subject entitled 'Thinking skills', they never engaged with metacognitive activities:

The first journal took me a long time. I spent the whole day thinking about how to tackle the first part...it was a challenge for me to know how to start writing...because I am used to writing for myself, not for others. We are not used to thinking about and articulating our thoughts...it was something new to us. I remember that while we studied one subject called 'Thinking skills', we did not practice either thinking or writing. Indeed, it was more about memorising information on psychology, paying attention and the various degrees of thinking. I was assisted by the formal test, which basically focused on memorising and recalling the information without having a chance to express our ideas or articulate our thoughts on this subject. (Marwa, 3)

Thus, integrating metacognitive skills within the Saudi education system requires the careful consideration of the current situation and the current difficulties such that these activities can be carefully planned and implemented so they support the students in acquiring these skills.

The consequences of the rapid and inconsistent changes within the Saudi Arabian education system

There were other disincentive factors that hindered the participants' ability to reflect at a deeper level, related to changes affecting the current education system, planned at the ministry level. Some of these issues related to inclusion, and others related to the consequences of the recent Saudi education system reform.

It was noticed in the pre-service teachers' RJs and from their interviews that they struggled to deal with some issues as a result of the implementation of many rapid and inconsistent changes within the current Saudi educational system. Inclusion was one dilemma that participants found it hard to deal with during their field work experience. In this regard, Hanan, in her second journal, Nada and Asma in their fifth journal, and Aldana in her fourth journal, could not go beyond writing on the relating component to refer to the relevant literature, and suggest some solutions so that they could implement them. For example, Hanan mentioned in her journal a student with ODD but could not go beyond the relating level of reflection. She later articulated the following:

Although I tried my best with an ODD student...I tried my best to build a good relationship with her...I tried to indirectly tell her what to do in order to stop her from feeling angry...I gave her many responsibilities in class to improve her self-esteem...this worked for me, sometimes, but I knew that I had to do more! However, the environment is not supportive enough. For example, I could not even provide the ODD student with a quiet area when she wanted to have a break and I could not reach her family to talk to them about her condition and to work together to support her learning needs. (Hanan, 3)

Many issues arose regarding inclusion, such as: how to deal with special needs, how to evaluate learning, and how to teach certain knowledge. Indeed, the participants noticed that there was a lack of collaboration between school teachers and special needs teachers, and they noticed that the current environment has to be improved to meet their needs. These issues were discussed by Alanazi (2012), who noted many issues regarding inclusion within the Saudi educational system when he articulated that “infrastructure was perceived to be a major obstacle to inclusion at the time of the study; the layout and age of the buildings, classrooms and other facilities such as halls clearly influenced a school’s self-perceived ability to implement inclusion. [Furthermore] too many pupils and an unprepared resource room set up the worst possible physical conditions for inclusion” (p. 282).

Likewise, Aldabas (2015) articulated that there is a need to establish appropriate infrastructure for inclusion needs, so that the environment is less restrictive and more flexible to meet special education needs. Alanazi (2012) mentioned that almost all the teachers and head teachers in her study believed that there was a lack of educational resources which hinder them from doing their jobs properly. Furthermore, Alanazi (2012) and Aldabas (2015) stated that the collaboration relationship between the general school teachers and special needs teachers is missing, leading to ineffective inclusion for students with disabilities. In short there is a need to “address critical elements of successful inclusion, such as accommodation and modification of general curriculum and collaborations” (Alquraini, 2010, p. 146).

There were also other issues that were noticed by participants which had arisen as a result of the recent reform within the Saudi education system, regarding the low level of student learning. For example, Reema mentioned:

I feel like our generation, when we were at the same age, were more capable, and even now I can remember certain skills and knowledge from my primary study. For example, I knew how to place punctuation marks when I was their age but I was surprised when I noticed that the students were placing them randomly without knowing the purpose of each of them. I mean, for example,

they place colons anywhere...but they should be placed in a specific position, before an explanation. (Reema, 3)

In fact, Saudi educational reform has focused on some aspects of the education system and ignored others. For example, the ministry has focused on developing the curriculum (not the whole curriculum but the content of school books). These books have adopted student-centred learning but there is, unfortunately, no consideration of other aspects of the education system, such as appropriate buildings, and a classroom design that can make implementing the new curriculum's orientation possible. Thus, the fixed class time and the inflexibility of the education system in general does not support the new orientation of the recent reform. This was also noticed by Alnahdi (2014, p. 5), who stated that "reforms should include all aspects related to education and not be fooled with the idea that education is just the content within the textbook. The Ministry of Education has attempted many previous projects in this area, but, unfortunately, most of them had the goal of changing the content of the textbook only".

As a result of this, the learning outcomes have dropped significantly, as reported in 2015 in the TIMSS report, which found that the student performance fell compared to the results from 2011 ('TIMMS 2015 international results in mathematics', 2015). Furthermore, a recent report by PISA (Program for International Student Assessment) stated that the average Saudi Arabian student's performance was below the average of all three subjects (maths, science and reading) (OECD, 2019). This indicates that poor academic achievement is one problem facing the Saudi educational system.

These issues have to be tackled at ministry level, and indeed made engaging with reflection frustrating sometimes. Dewey emphasised the importance of "whole-heartedness" and the enthusiasm of subject matter to engage with reflective thinking, however, Rodgers articulated that when the school environment is unsupportive, it can be a repulsive environment for teachers which also causes bitterness (Rodgers, 2002), and as a result engaging with reflection is difficult. However, the participants in this study were able to reflect on the issues that were within their scope, and this put pressure on them to tackle some of their issues. For example, they had to invest more time over and above their official class time to try to resolve issues, and this was noted by participants when writing their RJs. For instance, Haifa had to meet and support a student who was unable to read in Arabic as she was studying in an international school and had moved suddenly to the public school with no support. She invested her free time to help the student to overcome her weakness. However, with large issues, some participants

air their voice to give their opinions, hoping to be heard by the authorities, and so contribute to improvements in the current Saudi educational system.

In fact, I argue that even with the complexity and difficulties within the Saudi education system, we as lecturers, teachers, and trainee teachers have to take responsibility for our job by acting positively to make wise decisions to improve the current situation. One way to do this is by engaging thoughtfully with our practice as “teaching is a moral business concerned with means and ends” (Hatton and Smith, 1995, p. 46). Unfortunately, this was not the case with some of the school teachers as they seemed to be careless about dealing with changes within the Saudi education system, as they were implementing these changes without careful consideration, such as when assessing student learning (see Section 4.3.5). This orientation may have arisen as a result of the absence of reflection within the Saudi education system, and the following section discussed this in more detail.

The absence of reflection

One can anticipate that because of the lack of support of metacognitive skills in the Saudi context, as mentioned in one of the above sections, reflective thinking is an uncommon way of learning within the actual practice of Saudi teachers, both in terms of professional development programmes and in university study. The absence of reflection in Saudi teachers was found by Almazrawi (2014), who articulated that Saudi teachers did not have reflective skills as they generally did not link their beliefs with evidence from research or from experience, did not take the responsibility for their actions and only described their problems on a very superficial level.

The absence of reflection was also found in the professional development programmes. Here, Alrubian argued that the current professional development trainee programmes do not allow the teachers to take an active role in their learning in terms of interacting, raising their voices, discussing their practice and reflecting with each other, as the current traditional trainee programmes are not effective for meeting teachers’ needs since they employ “the transmission method in which a top-down approach is adopted” (Alrubian, 2014, p. 230). Furthermore, from my experience of teaching in the College of Education, none of the taught modules required reflection as a means for assessment in the field of “junior primary classes teacher programme”.

However, as mentioned earlier in this study, there were some attempts to implement reflection by a certain lecturer in “junior primary classes teacher programme” and other attempts in the diploma teaching degree programmes and in an official way in another department

(kindergarten programme). Nonetheless, the informal phase of this study revealed a descriptive level of reflection and an ignorance of the real meaning of reflection among the pre-service teachers (see Section 4.2.2). This echoes the absence of the real meaning of reflection within the university study system. Furthermore, there is no indication, either explicitly or implicitly, of the importance of preparing the students to engage actively in their practice in order to address their incidents and to reflect on their practice within the official practical education documents of the current university system in the field of “junior primary classes teacher programme”.

Thus, one of the main challenges relates to the fact that the concept of reflection is uncommon among school teachers, some university lecturers and the majority of pre-service teachers. Therefore, clarifying the meaning, the process and the model of reflection would be a vital initial step when integrating reflective thinking as a learning method in teacher education programmes (see Section 5.3.1). However, because reflection is difficult and challenging in itself (Francis, 1995; Rogers, 2001) there is a need to consider the other factors that would appear to hinder the pre-service teachers’ ability to engage in reflection, some of which are related to the school context where the students were placed. The following sections discuss these factors in more detail.

Challenges related to the school context (during the school placement)

A school placement is considered to be a crucial aspect of teacher education programmes as it provides a chance to ‘practice’ the knowledge and skills that the trainee teachers have learned during their university studies (Ryan, Toohey and Hughes, 1996; Allen and Wright, 2014). However, the findings of this study revealed many challenges and obstacles faced by the trainee teachers, which affected their ability for reflection.

Being overwhelmed with multilabel duties

One of these disincentive factors relates to how the participants were being overwhelmed by the multilabel duties imposed on them by the senior management at their schools. This appears to indicate that the senior management use their position of authority to make the trainee teachers cover some of the regular school teachers’ duties. For example, Reema reported the following:

Sometimes, at the school we do not have a chance to attend to each other’s classes as we are so busy...One day, I was asked to cover four ‘waiting classes’ at the same time (a class needing supervision in the normal teacher’s

absence). When this happened, we helped each other or just put all the students in a huge room so we could control them...and, of course, when my friends ask me for help, I will help them....So while in the schedule, it appears like I covered, 'one waiting class', this is not the reality...I do not want to ruin my good relationship with them...so I just accept that. (Reema, 2)

From Reema's narrative, it is clear that the school's senior management take advantage of having the pre-service teachers at their school by making them do work that consumes their valuable time at school. Being overwhelmed by irrelevant teaching tasks and other administrative problems would hinder the students in terms of deepening their ability for reflection, as writing thoughtful RJs requires time and a fresh mind is required for concentrating on their learning.

Taking advantage of the pre-service teachers and putting them under pressure in order to accomplish the school and university requirements was found in many studies in the Saudi context. For example, Al-jadidi (2012, p. 292) articulated that trainee teachers were "encumbered with a lot of work during their teaching practice" by the school senior management. This was reiterated by Alzaydi, who mentioned that the school administration considers pre-service teachers as offering "a chance to reduce their burden and cover the lack of teachers at the school" adding that "the course was very compressed, which put the student teachers under pressure to meet the different demands of different institutions" (2010, p. 253).

In fact, pre-service teachers require a secure, suitable and supportive environment (Hobson, 2002; Minott, 2008), one in which they should be treated fairly in order that they have a chance to concentrate on their learning rather than on irrelevant work. This would help them to find time to think and to interact with each other and reflect on their practice.

Lack of support for pre-service teachers

The relevant literature states that written feedback is vital in terms of promoting a high level of reflection when pre-service teachers engage in writing reflectively (Bain, Ballantyne, et al., 2002; Bain, Mills, et al., 2002), which was represented with the findings of this study as the online written feedback appeared to help to develop the level of reflection of many of the participants (see Section 4.1.2 Explaining the Reflection Levels for all RJs). However, the findings of this study also illustrated how some of the participants needed more than written feedback after completing their journals in order to engage with their issues in more depth.

These participants (Aldana, Mona, Rana, Kholoud, and Nada) articulated that understanding their current incidents often appeared challenging and they thus wanted to receive close support from professionals, which would help them to think about their incidents and write their RJs.

Indeed, according to Ryan (2013), writing the RJs based on the Bain model needs to be scaffolded very carefully within students. She explained that engaging with reflective thinking involved some internal conversation, particularly when writing at the first two components of the Bain model in which individuals should reach a clear focus of the incident. Meanwhile within the “Relating” component, one should be able to connect their skills and experience and be able to decide how and when to act. However, Ryan argues that even the first two levels of reflection seem to be challenging for higher education students and thus educators have to facilitate students’ reflective thinking by, for example, engaging with them in discussion and negotiations to help them focus on their main issues rather than re-telling what happened. In fact, writing at the ‘Reasoning’ level of the Bain model “moves the reflection from a largely personal response to an intellectually rigorous analysis of the context” (Ryan, 2013, p. 147). Thus, some interaction with others is crucial as a high level of reflection cannot be achieved in isolation. In short, the trainee teachers need to interact with others while writing their RJs in order to deepen their understanding of a certain situation and to learn and to ultimately develop, both personally and professionally (Bound, Keogh and Walker, 2013). However, although the pre-service teachers in this study received some support from the school teachers and supervisors (see Section 4.4.2), they also reported that many of the class teachers were reluctant to help them even by giving them relevant information and having discussions about their teaching practice. This was due to various reasons, including their lack of time (Alzaydi, 2010) and their low level of competence (Altayar, 2003 in Alnahdi, 2014). Meanwhile, the lack of support found in Alzaydi's (2010) study was found to be due to the hindrance factors in the schools, where the pre-service teachers were considered as regular teachers rather than as trainee teachers who needed to be supported during their school placement.

The participants also experienced a lack of support from some of the university tutors. For example, Dr. Samira concentrated more on evaluating the students’ level of teaching rather than on engaging with them through reflective discussions that could help them to analyse and address their issues. While she visited the trainee teachers at school three times with the aim of assessing their teaching practice, in the official Practical Education document, it is noted that the pre-service teachers should be visited at least four times, two in terms of guidance and two in terms of assessment (Researcher’s diary). Indeed, from the participants’ narrative, it was

noticed that the majority of Dr. Samira's students preferred not to have a discussion with her as she was always in a rush and seemed very busy.

Another supervisor, who did not participate in this study, generally had a weekly supervision meeting with the students at the university, one of which I attended. Here, she appeared to be trying to 'spoon-feed' the pre-service teachers in exactly what they should do and how they should face their problems, while, ironically, the lecture was one-directional, with none of the students asking any questions or trying to engage in any discussion with the supervisor (Researcher's diary).

Both of these supervisors appeared to be unprepared to encourage the pre-service teachers to reflect thoughtfully on their practice. Indeed, they were unaware of their supervisory role of supporting the pre-service teachers and helping them to learn actively about the knowledge embedded within the practice; rather they chose to concentrate on evaluating the trainee teachers or on telling them exactly what to do and how to face their issues beforehand. In this regard, Dewey and Schon (in Cochran-Smith and Lytle, 1999) argued that the embedded tacit teaching knowledge cannot be taught but must be learned with the support of experienced teachers or supervisors.

In fact, the supervisors come from different backgrounds and have their own visions of how to supervise the trainee teachers, meaning not all of them support the idea of reflection. Thus, it is important to offer them some training workshops that would help them to understand their role as a supportive supervisor. Although Dr. Samira engaged with some of the online feedback, as I arranged many meetings with her where we could read the pre-service teachers' journals and provide useful feedback, her comments were not always particularly thoughtful (Researcher's diary).

A similar result was found by Alrumaih, who articulated that there was a lack of competence among the supervisors in terms of enhancing the students' reflection on their practice during the school placement and argued that "the current supervisors' weakness poses a challenge to applying reflection as a method of supervision in Saudi universities in the future" (2016, p. 197).

However, this was not the case with all the supervisors. Indeed, although the official Practical Education document does not mention reflective practice as an aspect that should be considered

when preparing the students to graduate as teachers, the supervisors who participated in this study, Dr. Noor and Dr. Afnan, supported the orientation towards reflective thinking by engaging the students in thoughtful discussions about their practice, which helped the current participants in writing their RJs. For example, Dr. Noor and Dr. Afnan often introduced discussions to help the pre-service teachers to identify some of their problems. Here, Dr. Afnan offered the following:

Basically, during my supervision, I encourage the trainee teachers to admit their issues...because with this...half of the work is done...but when they resist...sometimes they do not notice they have a problem. So, while they may describe what happened, they never notice the depth of the problem. For example, when the trainees implemented a teaching strategy...they found that the problem related to the students, while they never noticed that the implementation of the strategy was inappropriate. When telling them that they did not implement the teaching strategy appropriately, they were surprised and said 'Aha...so this was the problem!' So, by engaging with them in some discussion, they notice their problems. (Dr. Afnan)

However, in looking at the narratives, while it would appear that the supervisors supported the pre-service teachers before writing RJs, as their interaction helped the pre-service teachers to recognise the main issues that they were encountering but did not recognise previously, when the pre-service teachers attempted to deepen their thoughts, they rarely discussed their issues with their supervisors. Rather, they would generally start to address their issues by reading certain relevant books or by interacting with any available, trusted individuals such as the cooperative teachers, the school social workers or their qualified relatives, while all of them tended to engage in discussions with their peers to understand the situation more thoughtfully.

On the whole, the majority of the participants found the means of support in informal ways. This concurred with a study conducted by Al-jadidi (2012) who found that pre-service teachers tend to engage in informal conversations where many of the communities of practice are created, which will help them to discuss their issues actively and engage with reflective thinking.

Despite the engagement in the informal communities and receiving the online feedback, this was not enough for some of the participants. Indeed, many (Kholoud, Aldana, Mona, Rana, and Nada) wanted more face-to-face interaction and more help, either from the university tutors or from the cooperative teachers, as they often struggled to improve their level of reflection when they only received the written feedback, while some even asked for phone calls in order to

deepen their thoughts (see Section 4.1.3 The nature of feedback provided to the participants during the study to improve their reflective journals).

This indicates that there are individual differences among the participants, as the students varied in terms of abilities and learning habits (Oosterheert and Vermunt, 2001; Rogers, 2001). Therefore, combining various types of support would appear to be more effective for helping pre-service teachers when they are learning about teaching. These could include online feedback and face-to-face interaction, all of which would arguably help the majority of the trainee teachers to reach their potential. In fact, participants need layers of “support [coming] from the ‘inner circle’, which includes the university tutor, subject mentor, other teachers in the placement and other [course] students [and] from agents outside this ‘inner circle’: parents, partners, and friends” (Meierdirk, 2016b, p. 37).

5.3 Implementation and support

In this section, I will discuss the pre-service teachers’ complete experience when they engaged in writing the RJs with the support of technology to facilitate their understanding of reflection and to influence the process of reflective thinking. I will highlight the impact of the use of technology as a means of scaffolding and how that could illustrate and prompt reflection, as well as the impact using technology with human interaction has on reflection. Other themes emerged as vital factors that affected the students’ reflection, including the importance of understanding the meaning of reflection, reading and reflection, individual differences and the pre-service teachers’ need for a combination of support measures during the study (see Figure 5.2).

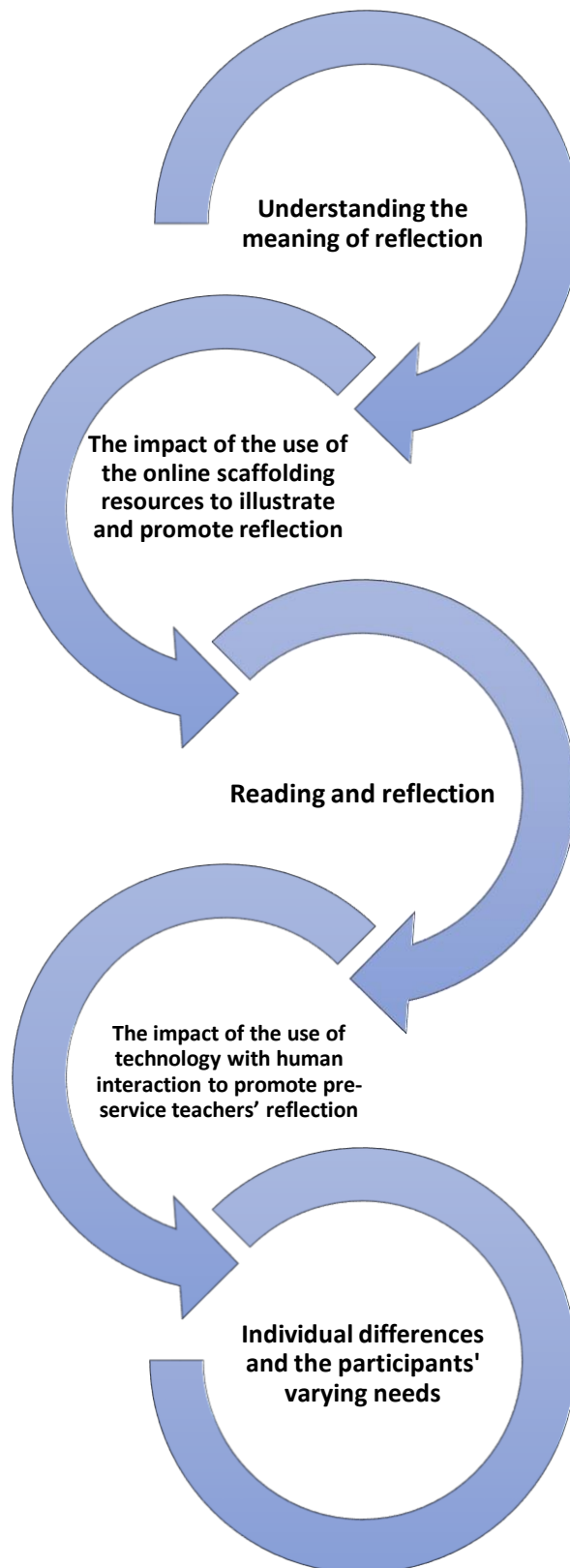


Figure 5.2: Implementation and support to foster the process of reflective thinking

5.3.1 *Understanding the meaning of reflection*

It became clear after examining the relevant literature that reflection is defined in various ways (Rodgers and Laboskey, 2016). Indeed, Hatton and Smith (1995 p. 33) stated that the term reflection is “used, rather loosely, to embrace a wide range of concepts and strategies”. In this respect, both Bain, Ballantyne, et al. (2002) and Moon (2013) argued that the meaning of reflection depends on the researcher’s adopted framework. According to La Boskey (1994) and Valli (1993 cited in Bain, Ballantyne, et al., 2002), distinguishing between the process and the content of reflection is vital to understanding the meaning of reflection.

Thus, I argue that deciding about the content and the process of the reflection is vital for both the education teachers and the pre-service teachers in terms of having a clear vision of the purpose of being involved in such a task in order to reach a clear agreement about the reflection and how to reflect. If this is not addressed, disappointingly descriptive journals would be the result (Divitini, Haugaløkken and Morken, 2005; Granberg, 2010). The findings of the informal phase of the current study mirrored this point, as all of the students failed to understand the real meaning of reflection, clearly because there was no specific model or theory on reflective thinking that could be explained to them, which resulted in a descriptive level of reflection and a negative attitude towards reflecting. This finding correlates with Lai and Calandra's (2007) research, where it was found that one of the main factors that leads to a descriptive level of reflection relates to how trainee teachers lack an understanding of the meaning of reflection and of how to start writing their journals.

For Dewey, the purpose of reflection “was to make sense of experience toward the end of (a) individual growth, and thus, (b) the growth and health of a democratic society” (cited in Rodgers and Laboskey, 2016, p. 76). In fact, according to Dewey, reflection is “scientific inquiry” (cited in Rodgers, 2002, p. 845), which involves several phases, including “suggestion”, which represents the first impression of an experience, “naming” the incidents, which includes raising questions and setting hypotheses to “intellectualise” a given experience, and “examining” such hypotheses in order to achieve “intelligent action” (Rodgers and Laboskey, 2016, p. 74).

In this sense, Bain, Ballantyne, et al.(2002) assumed that the process of reflection is heavily cognitive, which is associated with Dewey’s reflection process, albeit with a more nonlinear order when engaging with reflective thinking. This means that the practitioner can reflect on the first three components (reporting, responding and relating) in any order. However, in order

to begin writing in the reconstructing component, the practitioner should complete the reasoning component by discussing several alternative factors and their relation to understanding the incident before moving on to the reconstructing component (Bain, Ballantyne, et al., 2002). Regarding the focus or the content of reflection, it should be noted that there are arguments related to whether the focus or the content of reflection should be on the moral and ethical considerations or on the current circumstances. In fact, Bain, Ballantyne, et al.(2002) took the position that the content of reflection mainly depends on the practitioner's incidents, which would, over time, generally involve concerns related to the ethical and moral issues of educational practice.

Meanwhile, facilitating the process of reflection and reaching a clear agreement about reflection is not an easy task (Rogers, 2001), due to the complex nature of reflection itself (Dewey, 1933; Francis, 1995; Ryan, 2013). Furthermore, given the fact that such a concept is uncommon within the Saudi context, the situation is more complex for both the education teachers and the pre-service teachers (see the discussion on 'The absence of reflection' embedded in section 5.2.2 'Challenges related to the unique nature of the Saudi educational system' for more details). Indeed, understanding the meaning of reflection requires both time and a supportive environment, where students can fulfil their potential (Hobbs, 2007; Husu, Toom and Patrikainen, 2008) and a technology-enhanced learning platform was used as a means by a substantial number of studies to influence reflection (e.g. Lai and Calandra, 2010; Daniil, 2013; Brooke, 2014; Kori et al., 2014). However, it can be argued that providing students with technology alone as a means or a space in which to reflect does not guarantee that they would reflect at a thoughtful level (Killeavy and Moloney, 2010; Kori et al., 2014). Indeed, the use of technology should be planned carefully beforehand to meet the students' needs when they engage with reflection, as many fail to use technology as a means to this end. This is mainly because it is assumed that pre-service teachers know what reflection is and how they can reflect by themselves (Killeavy and Moloney, 2010). Providing students with online scaffolding tools (as a guidance for their reflection) could help them to understand the meaning of reflection and influence their reflective thinking (Lai and Calandra, 2010; Kori et al., 2014).

During this study, although I conducted two workshops at the beginning of the semester to explain the meaning of reflection, the students could not really understand it until they engaged with the complexity of teaching and completed their first RJ. Completing their journals involved a number of support measures. I will now discuss the impact of the embedded online

scaffolding resources on the main blog and how the pre-service teachers benefited from them during this study.

5.3.2 The impact of the use of the main blog (with the embedded online scaffolding resources) to illustrate and promote reflection

When designing the current study, I considered the importance of using technology with predefined guidelines in terms of providing the participants with some visual resources, including infographics, exemplars and other resources, which were embedded within the main blog to help the participants to understand the meaning and purpose of reflection and how they could reflect on their practice (see Appendix I).

The findings of the current research revealed that the use of technology as a resource to explain the meaning of reflection was beneficial, especially at the beginning of this study, in terms of understanding how to express their thoughts and feelings as well as how to reflect on their practice largely based on Bain's model. The participants' narratives revealed that accessing the embedded resources was beneficial in terms of understanding the purpose of reflection and how they could start writing their RJs.

Two infographics were embedded on the main blog, one related to Bain's 5Rs model and another related to reflective writing (Ryan, 2011). The two infographics were designed in a simple way with a number of emojis and prompting questions that could help the participants when writing their journals (see Figure 3.6 and Figure 3.7). The findings of this research highlighted that many participants, especially at the beginning of the study, used and benefited from reading the infographics. Indeed, the students mentioned that the original Bain model that was uploaded with the other resources was difficult to understand as it looked so complicated, which was not the case with the infographic designed based on the model.

It should be noted that to the best of my knowledge, this is the first study that uses infographics as a visual support to explain the meaning of reflection. However, a large number of studies found that the use of infographics as a tool of learning is promising in terms of supporting students' learning and understanding in the 21st century, especially when engaging with a complex and rich amount of knowledge (Vanichvasin, 2013; Uyan Dur, 2014).

For example, in Vanichvasin's study, where the aim was to examine the use of infographics as visual communication and learning tools for undergraduate students, the researcher found that

“most of the students agreed that using infographics as a visual communication tool could enhance appeal, comprehension and retention” (2013, p. 135). Furthermore, there was a positive attitude towards the use of infographics as a tool of learning among the students (Vanichvasin, 2013). Elsewhere, Uyan Dur believed that the “visual design of information and data is important, not only for increasing perceptibility but also for revealing the patterns within complex information, and being educative, persuasive and guiding depending on the content and objective” (2014, p. 39).

One of the infographics used in this study consisted of prompting questions and guidance on how to reflect based on Bain’s model. This guidance was found to be essential when asking the participants to reflect on their practice. Roberts emphasised the importance of providing students with guidance and support, he reach this conclusion after reviewing the relevant literature to develop and use a conceptual model that could help students to deepen their reflection; thus he suggested that “the provision of appropriate structure and support, which may include the provision of guidance and feedback, can help students produce reflective outputs, even if they are not naturally inclined to do so” (2009, p. 641).

Several participants articulated that the prompting questions placed on the online infographic of Bain’s 5Rs framework were vital, especially at the beginning of the semester, as they helped them when writing their RJs in terms of questioning themselves about their practice, which made writing their RJs possible. They commonly used these questions as a way to start writing their journals, while for some, they provided an evaluative tool for improving their journals’ level after completing them.

The relevant literature indicated that when encouraging students to engage with reflection via the use of blogs without reaching an agreement about the purpose and the meaning of reflection and without offering scaffolding tools, the results will be disappointing, as many pre-service teachers did not use their blogs (Divitini, Haugaløkken and Morken, 2005) or many of them may write at a descriptive level of reflection rather than consider their issues in critical terms (Granberg, 2010).

Indeed, the result of the present study correlates with a review study conducted by Kori et al. (2014). This review article “identified 21 articles that used predefined guidance and deemed them beneficial for supporting reflection” (Kori et al., 2014, p. 50). This is because the predefined guidance within technology-enhanced learning generally consists of guiding and

prompting questions, which can provide general support for students when involved in reflective thinking.

However, the findings of this study do not entirely concur with those of Lai and Calandra (2010), which involved an explanatory study to investigate the effectiveness of two computer-based scaffolding measures. The first used question prompts and the second a flowchart to describe the writing requirements step by step (writing process display group). In contrast, the control group wrote at a critical level with no support. Lai and Calandra's study adopted the writing reflective rubric developed by Ward and McCotter (2004) which consists of four levels of reflection: the first two levels are routine and technical and the two second higher levels of reflection are dialogic and transformative). The researchers found that about 80% of their novice teachers' writing remained within the two lowest levels of reflection, while the writing in the treatment group was within the two highest levels of reflection: 78.2% for the question prompt group and 81.8% for the writing process display group. Although the current study concurs with the above study in terms of the advantages of adopting online guidelines to facilitate reflection, which helped the participants to know how to start writing and what kind of information they should include, the results do not concur with the percentage achieving the two highest levels. In my study, around 57% were able to write at the two highest levels in the majority of their journals, before receiving online feedback (see Section 4.1.2. 'Explaining the reflection levels for all online reflective journals' for more detail). However, when responding to the given online feedback, 71% of the written journals were at the two highest Bain levels of reflection.

Moreover, reading the exemplars was more beneficial for some of the participants than reading the 5Rs infographic, as this helped them to conceive how to write their RJs and made the idea of reflection clearer. Here, Haifa stated the following:

The existing exemplars...were very nice. They clarified how to reflect...they were clearer than Bain's model...and I benefited when reading these exemplars more than from reading Bain's model...because, you know, Bain's model explains reflection through a more scientific approach...but these exemplars helped me to comprehend how to write, what kind of thoughts I should write down and how to think intellectually. This is why I tend to read the relevant exemplars before writing my own journal as this stimulates me to think in a similar fashion. (Haifa, 2)

This was previously identified in Hume's study, where the author articulated the following: "the sharing of exemplars and feedback that prompted further thinking appeared to help

students increase the sophistication of their reflections and their insights into the teaching of science” (Hume, 2009, p. 254). Modelling reflection by giving some examples about the expected level of thinking helped the majority of the participants to understand how to start writing their RJs.

Meanwhile, using the online infographics on the academic reflective writing model (Ryan, 2011) helped some of the participants to overcome some of their writing difficulties, express their thoughts and improve their writing. The academic writing model consists of a number of linguistic resources and certain language that is associated with Bain’s model and has the aim of influencing the pre-service teachers’ writing ability when reflecting on their practice.

In this regard, Ryan (2011) believed that engaging in reflective writing is difficult and should be supported in a systematic and clear way. However, she also stated that there is no evidence on whether using such a model was beneficial or not to improving students’ writing. Indeed, the findings of this study illustrated that while the academic writing infographic was beneficial for some of the current participants when writing their journals in terms of helping them to use the appropriate language for each component, the use of such a model was not sufficient enough to help those students who have serious issues with their writing in terms of linking ideas, having a clear vision and a logical sequence of thoughts. For example, while Kholoud was struggling at the beginning of the semester to write clearly about her thoughts, she was eager to learn as she actively responded to the feedback until she improved her writing style (see Section 4.3.2. ‘Lack of Writing Ability’). Indeed, most participants were able to improve their writing style through various strategies, including reading the academic writing infographic, reading the relevant books, revising each other’s writing and responding to the professional feedback, all of which supported them in improving the level of their writing.

On the whole, although all the participants articulated that they benefited from using these embedded resources in terms of writing their RJs, many of the participants could not write at a deeper level in some of their journals before responding to the given feedback (see Section 4.1.2. ‘Explaining the reflection levels for all online reflective journals’). This means that providing online guidance alone was not enough to encourage many of the participants to reflect at a deeper level in some of their journals. A substantial number of studies have emphasised the importance of the lecturer’s role in influencing pre-service teachers’ reflective thinking (e.g. Bain, Ballantyne, et al., 2002; Roberts, 2009; Ryan, 2013; Jones and Ryan, 2014). I will discuss

this point in more detail in section 5.3.4. ‘The impact of the use of technology with human interaction’.

In fact, understanding the meaning of reflection requires time and patience on the part of the educators, who must help the participants to understand the real purpose of reflection (Hobbs, 2007; Husu, Toom and Patrikainen, 2008). In this study, the participants articulated that after beginning their RJs and engaging with the complexity of teaching experiences, they realised that reflecting had an influence on their practice as they changed some of their actions as a result of it. Here, Marwa stated the following:

In fact, I was sure that I would benefit, because anyone who never thinks and reflects will be in trouble...but I was expecting to benefit theoretically, not in practice. I said to myself, okay, I will reflect, read [and] implement the solution, but I did not expect that this could really influence my teaching practice...I was saying, so what? What will happen when I have to think about that? Now, when I have to implement a solution, I keep thinking of my practice...is it appropriate? Is it a good solution? Why and why not, and what about trying something else...which means that it affected my actions as a teacher. (Marwa, 2)

There are other factors that helped many of the participants write their journals in terms of reaching a new understanding of their issues when they reflected on their practice. Here, reading is one example, and the impact of reading on reflection will be explained in the following section.

5.3.3 Reading and reflection

In this section, I discuss the benefit of reading books (either the embedded online books or other books) for understanding one’s current situation and widening one’s horizons when making practice-related decisions. I also discuss the impact of reading others’ blogs, which emerged as a positive factor in the findings in terms of helping the students to understand reflection.

In fact, reading from books was an essential part of this study, as the participants were advised to refer to the literature when writing on both the relating and the reasoning components of Bain’s model in order to link any current incidents with the relevant knowledge. In the relating component, referring to the literature is vital in the sense that one can draw a relationship between the incidents, the theoretical understanding and one’s own experience. At this stage, the pre-service teachers would be focused on the rationale behind implementing certain strategies, while in the reasoning component, referring to the relevant theories is a means of

support in terms of gaining a new understanding of the situation or the current incidents (Bain, Ballantyne, et al., 2002).

Reading from the online books, which included some practical knowledge in the form of relevant case studies, was found to be beneficial by the majority of the participants, as these books used real-life examples that helped the students to learn and to deal with their incidents. They found that reading the online books was far more interesting than reading the university's curriculum books, because the latter were heavily based on theoretical knowledge and neglected the practical aspects. Furthermore, the focus when they studied these books was on memorising the facts rather than reaching a new understanding.

Indeed, Hanan stated that her experience of engaging with the reading activities when thinking about and writing her RJs changed her approach from one of focusing on memorising knowledge to one that is more meaningful, which involved understanding the issue in more depth in order to address her practice incidents:

My way of reading indeed changed. Instead of reading to memorise information so as to write it down at the exam...I now tend to read more carefully...to stop and think when reading on certain topics. I also now tend to reread some information again and again...and to read with the aim of understanding...I link the ideas together. Up to this point I have read more than five books...I read them to find some appropriate solutions for my teaching incidents. (Hanan, 3)

This means that reading helped many of the pre-service teachers to construct and build new knowledge based on their previous learning and knowledge, as opposed to passively 'copying' the knowledge of others. This means that their new way of reading helped them to actively engage in meaningful learning in order to understand their issues, which will ultimately lead them towards personal and professional growth. Indeed, reading in this study provided individuals with alternative assumptions in which it helped to widen the trainee teachers horizons, to consider their incidents from a different perspective, and to reach a new understanding, instead of accepting what Dewey (in Zeichner and Liston, 1996) named the "collective code" of everyday reality. In fact, reading from literature with the aim of understanding the current situation encouraged the participants in the present study to consider alternative solutions and other assumptions that could lead to a new understanding and ultimately to the "intelligence action" rather than continuing with "routine action" (Dewey in Zeichner and Liston, 1996).

Indeed, reading was considered by some of the participants as one of the main factors that helped them to overcome their incidents. In short, it helped some of them to correct their misconception of certain beliefs or concepts and to illuminate their thinking through considering other aspect of their issues. This proved to be a valuable resource that was adopted by many to address their incidents and to feel more confident about their teaching decisions, especially given that they do not receive sufficient support from the class teachers in terms of understanding their work as a teacher. In fact, the participants noted that many of the school teachers lack certain knowledge, especially that related to managing the classroom and how to treat students appropriately, which made reading these books a vital experience for the majority of them.

This attitude towards reading was also found by Smith and Lev-Ari, who found that “more than half of the students perceived the reading of professional literature as highly useful for reflection on their teaching practice” (2005, p. 296). Reading relevant articles about teaching and learning mathematics was found to be a valuable factor that enhances trainee teachers’ reflective thinking, in a study conducted by Kaasila and Lauriala (2012). In this regard, Buschor and Kamm (2015) demonstrated that improving students’ knowledge and competence is crucial when preparing them for their role as a teacher, as they believed that when designing a learning environment to support pre-service teachers’ reflective thinking, it is essential “*to establish a balance between the students’ need to know how and activities focusing on gaining knowledge on knowing that*” (Buschor and Kamm, 2015, p. 242).

On the other hand, reading others’ blogs was found to be helpful by the practitioners in terms of understanding how to reflect on a deep level, while this also stimulated them to think about other aspects of their practice. This correlates with the findings of Deng and Yuen, who articulated that the participants’ reflection was triggered by reading each other’s blogs, as it “enhanced the cognitive presence within the group of student teachers” (2011, p. 448).

Although reading was found to be a beneficial activity among the majority of participants when reflecting on their practice, not all the participants had a positive attitude towards the activity. For example, Haifa, Nada and Mona stated that they found it difficult to engage in reading and they rarely link their journals to the literature. Furthermore, a majority articulated that they require more support, including in terms of online interaction, as this was found to be crucial

and had a clear influence on the majority of the pre-service teachers' level of reflection. This point is discussed in more detail in the following section.

5.3.4 The impact of the use of technology with human interaction to promote pre-service teachers' reflection

In this section, I discuss the impact of the use of technology for interacting with peers, experienced teachers, the supervisors and the researcher after writing the RJs.

The findings of this research highlighted that there was a resistance to online interaction among the pre-service teachers. Furthermore, if they did write comments that included praise and compliments, this could be explained through knowing that the pre-service teachers were placed in groups in schools, which means they had the opportunity for face-to-face interaction, which affected their motivation to socially interact through online blogs. This point was discussed in more detail in section 5.2.1. 'Challenges related to the use of technology as a means to promote reflection'.

During the current research, the pre-service teachers stated that they received online feedback from experienced teachers and that although their feedback did not generally influence their thinking, it had a positive emotional effect on them. Some of the participants articulated that reading some of these comments benefited them in terms of reconsidering some aspect of their teaching. Indeed, the experienced teachers generally compiled their comments in terms of a list of advice rather than, as was expected, in terms of influencing the pre-service teachers' thinking by raising questions and commenting in more thoughtful ways. However, the teachers themselves were new to the reflection concept (with the exception of one who was working as a teacher supervisor (Nadia)) and this could explain the reason behind the lack of quality of their online comments. It should be noted that even Nadia provided a list of advice, which could have been because she misunderstood her role and thought that the pre-service teachers need to reach direct solutions in order to resolve their incidents. This orientation was identified by Alrumaih (2016), who suggested a model for engaging in a focus group after observing the participants' teaching practice, which would include the pre-service teachers and the school teachers and would encourage the former to reflect on their practice without the use of technology. In fact, she found that the school teachers did not help to influence the participants' reflective thinking as they provided feedback as a list of practical advice. This means that it could be too early to involve experienced teachers in such a process, given that, as was already noted, reflective thinking is still uncommon practice within the Saudi context.

The other type of online human interaction that was appreciated by most of the participants involved receiving continuous online feedback from their supervisors and from the researcher. Here, the pre-service teachers emphasised that receiving this online feedback motivated them to compile and improve their RJs. In short, it encouraged them to think more deeply about their issues and to improve their writing style. For example, Hanan highlighted that it would be difficult for her to deepen her thinking without receiving feedback:

It is hard for me sometimes to think deeply about some issues without receiving feedback. I read the online feedback carefully and I considered them even when writing my next journal. (Hanan, 3)

A substantial number of research studies have revealed that when using blogs as a means of reflection without considering the educator role of facilitating participants' reflective thinking by posing questions and evaluating their reflection, this would largely relate to exchanging social support, where the participants rarely engaged in a deep level of reflection (e.g. Killeavy and Moloney, 2010; Reupert and Dalgarno, 2011; Jones and Ryan, 2014). For example, a study was conducted by Jones and Ryan (2014), in which they used two moderating online resources (unstructured personal blog and structured threaded discussions); both revealed little evidence of engaging in a high level of reflection. The researchers here emphasised that providing the participants with structured topics does not guarantee an engagement in critical thinking, and they conclude that considering the lecturer's role is vital in terms of posing questions and providing them with encouragement and affirmations to help them deepen their reflection (Jones and Ryan, 2014). In fact, many studies have identified the importance of the lecturer's role when using a blog as a means of reflection (e.g. Hramiak, Boulton and Irwin, 2009; Yang, 2009; Deng and Yuen, 2011; Luik et al., 2011; Boulton and Hramiak, 2012).

The findings of this study concur with those of Hramiak, Boulton and Irwin (2009, p. 259), who found that "unlike traditional paper-based systems, blogs provided ongoing opportunities for the tutor to assist the trainees in their development as reflective practitioners", which has a positive impact on supporting the pre-service teachers' reflective thinking process. Rodgers and Laboskey (2016) articulated that it is "the teacher educator's job to put teacher-learners in situations that give them direct experiences with teaching and learning...[and] to lead their learners to reflect on these experiences" (cited in Rodgers and Laboskey, 2016, p. 75). Leading learners to reflect can be achieved through the use of blogs as a means of interaction. Here, Boulton and Hramiak articulated that "the blogs gave the tutors an added dimension in terms

of effectiveness by being able to intervene to assist trainees with reflection and give guidance on this where necessary” (2012, p. 513).

Meanwhile, in both the above studies, it was noted that there was a clear difference in the quality of the blog posts among the participants. This indicated that there were individual differences among them. Indeed, individual differences in terms of the ability to think thoughtfully and logically in order to reach a new understanding was clear in this study (see Section 4.1.2. ‘Explaining the reflection levels for all online reflective journals’). This indicates that the participants’ needs in terms of support varies, as some of the participants argued that in order to deepen their thinking, they require more support than simply receiving online feedback to understand their work as a teacher. The participants’ different needs in terms of support based on their ability and the need for a combination of support measures during the school placement are discussed in the following section.

5.3.5 Individual differences and the participants’ varying needs for a combination of support measures during the entire study

At the beginning of this study, all the participants articulated that close professional support and some form of co-reflection were needed, especially during the first two weeks of their field experience. This would help them to understand their main incidents. Interacting face-to-face with their supervisors or with school teachers and co-reflecting on their main issues play a very important role in facilitating reflective thinking, especially at the beginning of the semester. Here, Haifa wrote the following in one of her last journals:

Trainee teachers need professional colleagues monitoring them and providing them with a close support to realise their main incidents at least during the first two weeks, as theoretical knowledge is not enough to understand how children could be taught to learn. (Haifa, RJ: 6)

This finding correlates with that of Ryan’s argument, who believes that reflecting on practice is challenging and should be scaffolded within students throughout all the Bain model components. She explained that even writing at the first two components of the Bain model needs to be facilitated and this could be through engaging with dissuasion with the educators to help individuals focus their thinking. This is because without having a clear focus when they start writing the reflective journal, participants would not be able to reflect at a high level of reflection (Ryan, 2013).

This means that the role of the professionals (the lecturers or school teachers) should not be limited to online feedback. Indeed, the participants emphasised the importance of face-to-face interaction with professionals before starting their journals, especially at the beginning of this study, as it was difficult for them to figure out their main issues without thinking aloud about their incidents (see discussion on the difficulty in identifying and assessing certain incidents in section 4.3.3. 'Lack of thinking skills'). Indeed, some of the participants need more face-to-face interactions than others during the study, as their abilities to reflect were varied, based on their individual differences. In fact, at a later stage of the study, four types of learners were identified based on the level of their RJs (see Figure 4.1 for more detail), as follows:

First group: Marwa, Reema, and Sultanah. These students were able to help themselves when reflecting on their practice, as they wrote at the highest two components of reflection based on the Bain model in the majority of their journals, without the need for any support. They were in general involved with reading, analysing and discussing their issues with others while benefitting sometimes from the online feedback in terms of improving their RJs.

Second group: Nourhan, Hanan, Asma and Haifa. These students were able to write the majority of their journals at the reasoning level of reflection before receiving feedback but needed continuous online feedback to be able to improve the level of reflection in some of their journals. Indeed, they could not reach the reconstructing component before receiving feedback, after which the majority of them were able to improve at least two of their journals regarding reconstructing.

Third group: Kholoud, Aldana, Mona and Rana. These students usually write at the relating component in many of their journals before receiving feedback but were able to improve many of their journals after responding to continued online feedback. Within this group, the participants sometimes appeared to need closer support to discuss some of their issues when writing their RJs.

Fourth group: Nada and some other students who withdrew. These students did not respond actively or could not widen their horizons to consider their issues thoughtfully, even when they received online feedback on all of their journals. Nada, on the other hand, who chose to continue to participate, was able to write within the reasoning component in only her last journal.

In fact, in certain studies that involved blogs as a means of reflection, pre-service teachers were classified into two groups: the reluctant bloggers who often write at a descriptive level and generally did not improve their level of reflection; and the frequent bloggers who gradually come to write at a critical level (Hramiak, Boulton and Irwin, 2009; Boulton and Hramiak, 2012). Here, Hramiak, Boulton and Irwin stated “there was a clear difference in the quality of the blog posts of the more frequent bloggers...and those who saw the blog as an extra chore to be completed near the hand-in date” (2009, p. 265).

This could be explained through two dimensions, the first of which relates more to the participants in the fourth group as they appeared not to have the attitude required to engage with reflection. In this sense, Dewey articulated that reflection is not just a cognitive process; rather it “requires attitudes that value the personal and intellectual growth of oneself and of others” (cited in Rodgers, 2002, p. 845).

Meanwhile, according to Dewey (cited in Rodgers, 2002), reflection is guided by a set of essential personal attitudes that allow one to engage in reflective thinking (see Table 2.1). All of these attitudes are vital to encouraging individuals to engage in reflective thinking.

When looking back over the findings of this study, it is clear that the students who withdrew lacked the required attitude to engage in reflection. For example, Ruba never wanted to work as a teacher to start with, while Alanoud was struggling with the subject matter of certain basic knowledge. Meanwhile, Nada, who struggled to reflect within reasoning and reconstructing components of Bain’s model in all of her journals (except her last journal), tended to stick to her opinions and did not benefit from her peers’ feedback when they observed her teaching.

In contrast, the other participants showed, to a certain extent, their readiness to reflect at different levels by showing their enthusiasm for teaching, for learning and for the content, by being open to alternative perspectives, by observing themselves with the aim of improvement and having the ultimate aim of growing as a teacher. For example, Reema was eager to improve her practice by reading thoughtfully about her incidents, by being open to other solutions and by interacting with others to discuss her issues in order to finally reach a thoughtful decision. However, the participants could not be wholly open-minded or fully represent a state of Open-Mindedness since, as Dewey stated in Rodgers (2002, p. 858), “we are usually a combination of many of these [attitudes]”.

Meanwhile, the second dimension that could explain the existence of the four types of learners based on their ability to reflect relates to the fact that there were individual differences among the participants. This was identified in Vermunt and Oosterheert's (2001) study, who found that five orientations emerged when students learn to teach: “an open meaning orientation, a closed meaning orientation, an open reproduction orientation, a closed reproduction orientation, and a survival orientation” (p. 133). Here, the pre-service teachers who think with a survival orientation tend to rely more on the external information to address their incidents without careful consideration, defining their issues as problems related to their students, which means they do not take responsibility for their actions. On the other hand, those pre-service teachers who think with an open meaning orientation invest all their resources into improving their understanding of teaching, defining their incidents in terms of understanding and performance. Their main concern is improving their effectiveness to influence their students’ learning. This indicates that pre-service teachers have different abilities and learning habits when learning to teach, meaning teacher education institutions should provide them with the appropriate and sufficient support according to their thought frameworks in order to help them improve as teachers.

Thus, although the majority of the participants appeared to benefit from the use of technology to promote their reflection (the first and second groups), the students in the third group wanted, sometimes, to have more face-to-face interactions or a co-reflection with knowledgeable individuals in order to help them while reflecting on their practice.

Since we have reached the end of this discussion section, a very important question should be raised regarding the criteria that should be established within the Saudi context for choosing individuals who are eligible to teach in terms of having the attitude and the ability to learn, to teach and to improve as a teacher. This is because the participants in the fourth group and many of the other students who withdrew appeared not to have the potential and the essential attitudes to work as effective teachers. Here, we found that personal skills such as “openness, conscientiousness, extraversion and emotional stability...were positively associated with teacher effectiveness” (Kim, Jörg, and Klassen, 2019, p. 163). Therefore, identifying a valid selection method to select the appropriate individuals to work as teachers is crucial for the students, the schools and for society as a whole (Hanushek and Rivkin, 2012 cited in Klassen et al., 2014).

Indeed, no clear criteria have been used in the Saudi context to choose future teachers or trainee teachers in the teacher education programme, but I have to demonstrate here that recently a new policy has been established on placing teachers in levels. These levels are: expert, advanced, and practitioner based on certain criteria. Furthermore, they set up a role to let the practitioner teachers have a trial period for two years. The new policy also focuses on obtaining a professional licence, which is based mainly on passing a certain exam (Ministry of Education, 2019). Nonetheless, I would argue that the Saudi policy should also consider and establish certain criteria for choosing the appropriate students for entering the teacher education programmes as well as for selecting teachers for employment, not only in terms of their cognitive abilities but also other selection criteria related to non-cognitive attributes (i.e. personal skills), which will help to improve the current Saudi education system.

5.4 Pre-service teachers' progression and the critical turning points during their reflective thinking journey

Despite the individual differences that can be noticed between the participants and their varying needs of support as noted previously, engaging in reflective thinking has a significant impact on pre-service teachers during their training. In this section, I will explain two critical turning points that are acknowledged by pre-service teachers in this study as the most important changes (see Figure 5.3). I will also explain other progression aspects that can be noticed within Saudi pre-service teachers when they reflect on their practice.

The first turning point occurred when pre-service teachers engage with writing their first RJ, with the majority of participants articulating that they realised for the first time that they have to adopt an active role during their learning to develop professionally by thinking and reflecting on their practice instead of waiting passively on the suggestions of others. Hanan, for example, mentioned her initial understanding of her role as a trainee teacher from copying and taking advice as granted from others to reflectively engage and consider her incidents thoughtfully:

I thought that when I face any problem, I should ask the classroom teacher for the solutions and I would follow her methods...But now I try to address the problems on my own. I write down the positive and negative aspects of my teaching...I then think and decide whether it should be considered as a problem or not...By doing that I expect to be continuously developing as a teacher...and this will keep me aware of my incidents because being in the teaching profession requires from each one of us that we improve by ourselves, not just by reading...but also by thinking thoughtfully about the reasons for the problems and the ways to address them. (Hanan, 1)

The narrative from the first interviews also revealed that the pre-service teachers, before engaging with reflective thinking, often used to make arbitrary decisions when trying to address their issues. Here, they tended to implement random solutions through trial and error, without scrutiny. Indeed, some articulated that they did not have a clear vision about how to tackle their incidents and often rushed to apply the easiest solutions that were suggested by others without giving them careful consideration. As a result, trainee teachers may jump to inappropriate conclusions based on their limited experiences, what Dewey (cited in Rodgers, 2002, p. 852) termed “Spontaneous Interpretation of the Experience”, whereby rash decisions occur in novice practitioners who lack experience, leading potentially to unsuitable and risky solutions.

The limited epistemological views among the pre-service teachers in terms of believing that certain solutions were correct for their teaching incidents were identified by Yost, Sentner and Forlenza-Bailey (2000). The authors stated that this is why encouraging teachers to reflect would help them to widen their horizons and to think critically about their incidents by considering the rationale for alternative solutions when addressing their teaching issues (Yost, Sentner and Forlenza-Bailey, 2000). The limited epistemology and the passive orientation of learning during the school placement was expected, especially when one is aware that the nature of the Saudi educational system is less supportive of metacognitive skills (see Section 5.2.2).

However, understanding their new role when they are being introduced to reflective thinking does not guarantee that they will engage with all of their incidents at a deeper level (see Section 4.1.2). Indeed, the relevant literature (see, inter alia, Granberg, 2010; Luik et al., 2011; Reupert and Dalgarno, 2011; Yang, 2009) which has used blogs as a means to influence reflective thinking reveals varied results as to how and at what level pre-service teachers engage with reflection. Generally, some evidence of reflective thinking and more on descriptive reflection was found. However, reaching a clear consensus on reflection, engaging in writing their personal individual RJs and considering the educator-teacher role as a facilitator of reflection, the findings of this research project concur with those reached by Boulton and Hramiak (2012) and Hramiak, Boulton and Irwin (2009), whose research revealed that there were two types of bloggers – reluctant and frequent bloggers – with the former reflecting at the descriptive level and the latter developing a deeper form of reflection. The current research identified four groups of participants according to their ability to engage with reflection (see Figure 4.1).

Active roles adopted by the participants in this study when engaging with their incidents in order to address them thoughtfully and to take the responsibility of their decisions were noticed,

even from all the participants' supervisors. For example, Dr. Noor noted that the participants tend to rely on themselves to address their teaching incidents rather than passively wait for solutions to be provided:

I noticed that the participants tend to rely on themselves when learning during the school placement. Some were able to discover their incidents and address them. Moreover, the participants were active in terms of considering other external resources rather than asking me for solutions. For example Sultanah, when I told her that she has a problem when dealing with students working in groups, recognised her problem... When I attended her class the next time, I noticed that her teaching in terms of organising the group work for the students had improved. (Dr. Noor)

Indeed, during this research the participants tended to think about their teaching issues and to evaluate their solutions systematically based on the '5 Rs' model, the aim being to reach a new understanding regarding their discussed issues. This includes the fact that they started to question themselves and their own practice, explain their feelings, make some effort to figure out their real main problem, acknowledge their weaknesses and link them to their own experiences, and actively interact with their environment to address the incidents. Lee (2007) in this regard articulated that when encouraging trainee teachers to write RJs, they would have a chance to apply their experience and value to evaluate their learning in which this help them to become more reflective. Reflection in fact helps to enhance trainee teachers' "self-knowledge" as teachers and to develop their practical theories (Korkko and Outi Kyro-Ammala, 2016). It seems that engaging with reflection helped them to actively engage with multiple sources while learning about their teaching profession (Freese, 1999). However, this new approach was not easy for the majority of the involved participants in this research as they struggled at the beginning of this study to identify their real and main incidents. Nonetheless, instead of ignoring their problems or seeking direct advice and following it passively, the majority of the pre-service teachers engaged actively with knowledgeable people such as school teachers in fruitful discussions about their practice, trying to understand their work as trainee teachers. What happened here for many of the participants was that these social engagements, discussions and initial feedback formed the seeds of their own RJs, in which they thought and wrote about the issues and considered repeatedly in order to devise a future plan of action.

Moreover, according to their supervisors it was noticeable that the participants engaged actively in thoughtful face-to-face interaction with one another, something that had not previously been noticed by the supervisors during their work with other pre-service teachers at the education college. In this case, Dr. Noor stated that she was surprised upon noticing that the participants

were engaging enthusiastically in discussion regarding certain teaching issues when she visited their school to supervise them:

I was surprised when I found the students engaging in a very serious discussion about a certain teaching issue...where everyone was sharing their opinions and trying to convince others with their thoughts... Throughout my supervisory experience with my previous students I had not seen such engagement in a discussion with that level of excitement...which means that reflection helped and encouraged the students to interact with one another effectively to discuss and overcome their common issues. (Dr. Noor)

In fact, in a study conducted by Bain et al. (1999) to enhance pre-service teachers' reflection with the use of journal writing, in practice both the dialogue and self-analysis journals had not been written in isolation, as the pre-service teachers reported that they interacted with their peers and supervisors while writing their journals.

Interacting with peers is considered vital for the development of reflective thinking among pre-service teachers, a point associated with Vygotsky. As Yost, Sentner, and Forlenza-Bailey (2000, p. 43) note:

Vygotsky's zone of proximal development provides a sound basis for providing preservice teachers with opportunities to work with competent peers in order to maximize one's growth.

Nonetheless, face-to-face social interaction between peers was not planned in this study but emerged rather spontaneously as a result of engagement with reflective thinking, with the participants mentioning that interacting with peers was helpful sometimes to understand some of their complicated teaching issues when writing their RJs. In fact, in the current study, virtual social interaction emerged within private WhatsApp groups (not in the official WhatsApp groups for the three groups that I created myself, nor in writing comments on their individual blogs). This could be because participants needed some privacy and space away from knowledgeable people or experts to interact actively with one another. Indeed, privacy has been found to be an important factor in certain cultures in student online interactive environments. For example, Tu (2001) found that Chinese students were reluctant to engage in a public online interactive environment on their distance learning course. Thus, when designing an online environment to foster reflection among Eastern and Arab students, one should consider providing them with a private online space to express their ideas without fear of judgement or consequences, such as affecting their grades, or being embarrassed in front of others.

On the other hand, one of the progressive aspects noticed among the participants was their courage to admit to their weaknesses instead of hiding or ignoring them. Indeed, Dr. Afnan was impressed with their level of openness when talking about their teaching issues and expressing their thoughts:

I noticed that they were very explicit, and this was the advantage of openly talking about themselves. Usually, when you ask students to write... they write about the positive aspects and they do not mention the negative aspects of their teaching. I mean, as Ruba said explicitly, she hates teaching. For me, it was good to see this level of honesty among the students. (Dr. Afnan)

This was not the same orientation of the pre-service teachers in the informal phase, as one of them, for example, stated that after her supervisor reminded her more than once about her weaknesses and her negative feelings during the field experience, she decided to hide them from her supervisor. This means that offering an appropriate milieu of forgetfulness and forgiveness as the basis of the relationship between supervisors and pre-service teachers is crucial when they later engage in reflection (Roberts, 1998; Fernsten and Fernsten, 2005; Hobbs, 2007). This would help trainee teachers to adopt to what Dewey (1933) named “open-mindedness”, to somehow encourage them to take the first step in the process of reflection by admitting their limitations as well as being open to alternative possibilities, understandings and beliefs, with the aim of engaging in more thoughtful approaches to addressing their issue.

For Dewey, being “open-minded means not only being hospitable but also being playful not clinging too tightly to our ideas but releasing the mind to lay over and around them” (Rodgers, 2002, p. 861). Thus, I would emphasise that, although the current participants come from a culture where face-saving is crucial (Al-harthi, 2005), and where they rarely are exposed to the experience of reflection and critical evaluation of their thoughts on learning and teaching, they however were able to first admit weaknesses and issues openly, which is uncommon among Saudi pre-service teachers, according to their supervisors’ perspectives. Furthermore, they engaged in some thoughtful discussion to help them identify real incidents and decide on solutions in their face-to-face interactions, within their online private WhatsApp groups. Thus, I argue here that this contributes to the concept of “open-mindedness” of Dewey’s theory, as this study shows that within Arab culture, which tends to avoid any embarrassment or criticism of the self or others (Al-harthi, 2005), the majority of participants were able to some extent to realise some of their previous thoughts or beliefs. In turn, this helped to widen their horizons when considering other perspectives, evaluate other solutions, and be open to other thoughts, instead of being closed and hiding mistakes and repeating them, consciously or not.

Meanwhile, some authors such as Edwards and Thomas (2010) believe that teachers are always reflective and there is no need to teach them how to reflect. However, the current findings do not concur with this argument. As mentioned at the beginning of this section, the majority of the participants were not aware of their role during the school placement and lacked a vision of how to deal with their teaching issues. I thus argue that reflection should be taught systematically (Ryan, 2013) to help trainee teachers to make their decisions during school placements.

Indeed, it should be stated that a small number of pre-service teachers claimed that they considered themselves reflective practitioners even before joining the study (Reema, Haifa and Nourhan). Nevertheless, while this was true for some of the participants, who believed that they would reflect unconsciously without necessarily being aware of the technical terminology, these participants did acknowledge that somehow when *consciously* and *systematically* reflecting on their practice they developed different orientations when dealing with their incidents, which helped them to develop professionally during their school placement. For example, Reema emphasised that she never thought that reading would benefit her during the school placement; she thought that teaching was all about practical knowledge and so there was no need to read. Yet her orientation was significantly transformed when she engaged in writing her online RJs as she realised that reading is vital to answer some of the questions she has and to solve some of her practical dilemmas. This suggests that she realised the importance of linking theory with practice to reach a thoughtful understanding of her teaching, and that when analysing her journals it was obvious that she was considering reading as a main resource when addressing her teaching incidents, alongside other factors such as interacting with others. Haifa, on the other hand, was convinced at the beginning of this research that she was already a reflective practitioner and she obviously had to reflect unconsciously on her incidents even without participating in this study and without writing in an RJ. She later admitted that writing the RJ helped her to commit to her suggested solutions as she would forget about them if she just thought about them without writing them down and evaluating each solution before reaching a decision about the incidents. Furthermore, she was able to reach a deeper level of reflective thinking when responding actively to the online feedback.

In this regard, Yost, Sentner and Forlenza-Bailey (2000, p. 46) emphasise the importance of using “a combination of strategies ...to develop higher thinking skills in preservice teachers”. This is because fostering reflective thinking in line with various strategies was crucial for

trainee teachers who lacked the relevant experience in order to assist them to engage purposely and thoughtfully with their situations with the aim of addressing them critically.

The second critical turning point that was noticed among the participants was the development of a sense of moral and ethical consideration by the end of the semester in terms of teaching students and dealing with students' issues. Developing the need for an ethical consideration involved a paradigm shift from complaining about students' behaviour and low achievements to taking responsibility for one's role and actions and to concentrate on students' learning. The development of the sense of moral and ethical consideration was noticeable from the participants' stories and RJs when they wrote that they had become more aware of the diverse needs and different circumstances of their students, factors which could hinder or promote their ability to learn effectively.

In this regard, some scholars believe that in order to reach a critical level of reflection one should discuss and consider the moral and ethical dimension of reflection. This is what Zeichner and Liston (1996), named reflection from social reconstructionist orientation, in which one questions his beliefs and values and has to examine the social and political context within his work. However, other scholars (see, inter alia, Bain, Ballantyne, et al., 2002; LaBoskey, 1994), believe that the foci of reflection should be on the individuals' incidents, which would lead automatically in time to consideration of the ethical and moral issues. The latter position was adopted in the current study, and a sense of ethical consideration emerged gradually during the study, which was noticed more clearly in the participants' stories in the second and third interviews of the study.

Haifa, for example, became more considerate of the students in terms of contemplating and supporting their different individual learning needs based on their unique circumstances:

I became more caring about the students. Now, I search for how to improve their ability and their growth. I focus more on the methods and approaches that would make them better. For example, a student in grade two was moved suddenly from an international school to our school and could not read or write in Arabic. She could not even recognise the Arabic alphabet. When I asked her to read any letter, she took some time to remember it. Thus, it was problematic for me in terms of how to assess this student, because her mother tongue was English not Arabic. I have now started to give her more support by giving her [in the activity class] some activities to encourage her to learn the Arabic alphabet. I brought her an alphabet book and let her practice pronouncing the sound of these letters while writing them. Thus, recently I feel she is improving, although she still needs more time. Indeed, the student's cognitive ability is perfect...but her inability to read and write hinders her

progress, even in other subjects. She cannot answer the questions in other subjects because she cannot understand the Arabic language. It is like giving an Arabic student a test written in English. (Haifa, 2)

From this narrative, Haifa probably became more aware of the importance of considering and digging deeper to understand the underlying reasons that could affect a student's ability to learn effectively by considering the other aspects of each situation in order to reach an appropriate solution. Thus, Haifa made her decision to afford some help for the student to improve her Arabic language. Thinking intellectually when making daily teaching decisions would encourage more ethical teachers' decisions. This is because one gives these issues some time and thoughtful consideration instead of rushing to implement the easy and unthoughtful solution. In this regard, Rodgers and Laboskey (2016, p. 73,74), following Dewey, stated that, "educative experiences were those that led to essentially moral outcomes" and thereby one should consider the various learning capacity among their pupils.

In fact, many researchers (e.g. Colnerud, 1997; Buzzelli and Johnston, 2001) have suggested engaging with reflective thinking in order to achieve more ethical and moral outcomes in the field of teaching. Indeed, while Buzzelli and Johnston (2001) believe that, by its very nature, the practice of teaching implies the use of moral actions, they also suggested that engaging with continual reflective thinking is crucial to re-evaluating how authority functions in the classroom, which once again shows the importance of engaging with reflection while dealing with the complexity and changeable nature of teaching in order to reach moral outcomes.

Nourhan, on the other hand, noticed that engaging with reflection is crucial within professional members in order to consider other aspects of teaching and to learn how to improve the students, both personally and academically:

Teaching is not just about giving certain information to the students... Teaching involves improving the students from different perspectives. If each teacher practices some reflection and searches for thoughtful solutions to their issues...I think we may contribute to creating a different generation. (Nourhan, 2)

Nourhan's view of the purpose of education is associated with what Dewey (cited in Rodgers, 2002, p. 845) claimed to be the purpose of education, namely "the intellectual moral and emotional growth of individual and, consequently, the evaluation of a democratic society".

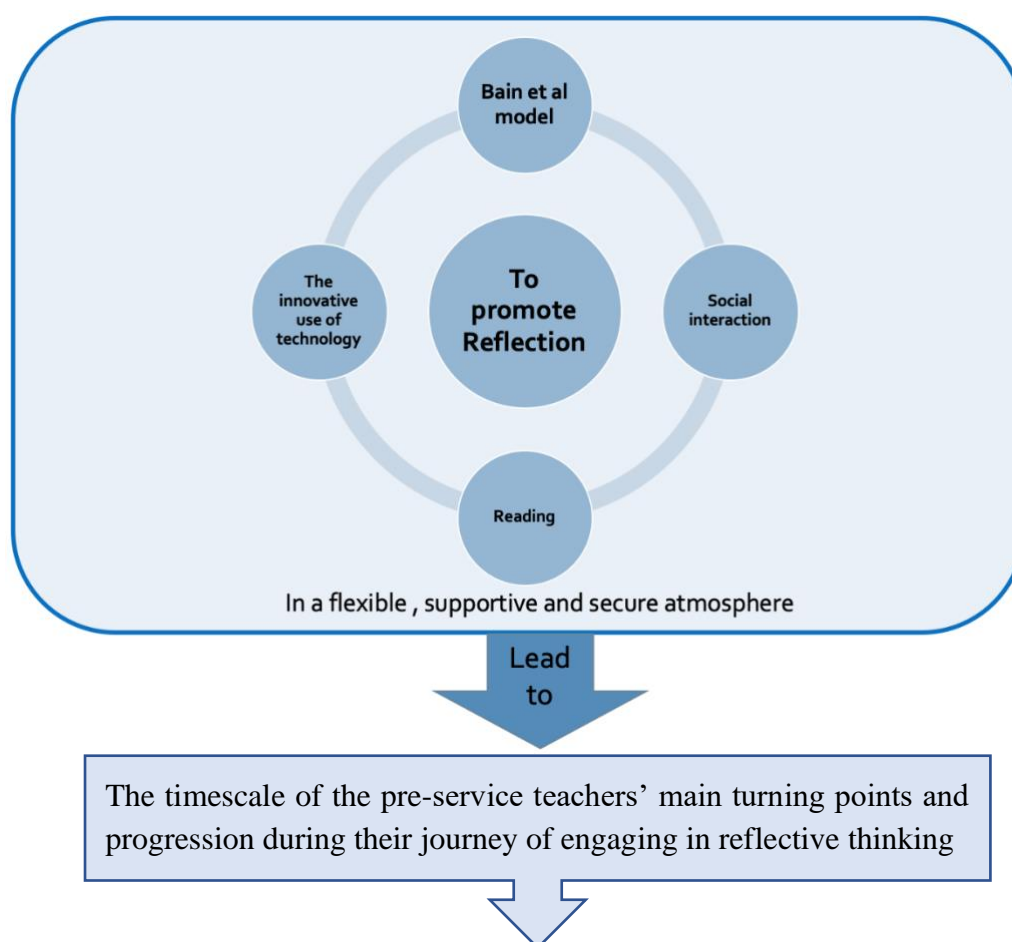
It needs also to be stated that the findings of the current study reveal that engaging with reflective thinking seems to have fostered a commitment to autonomous lifelong learning on behalf of a number of the participants. Reema, for example, contacted me approximately six months after completing the study and informed me that she was still adopting reflection as a way to address her teaching incidents. She also asked for more materials to conduct a workshop on reflection in her school. She stated that she wants to spread the idea of reflection within teachers to help them learn from the theoretical and practical aspects of their teaching by reading, discussing and addressing their incidents intellectually. She also noted that she strongly believed in the importance of engaging with reflective thinking as it had helped her to change her orientation as a teacher and to improve her awareness of her own thoughts and actions as a teacher. Thus, and according to Little (2006), taking responsibility for one's own learning should be considered a first step towards fostering autonomy. In this regard, Little (2006, p. 1) stated that, "developing the ability to take charge of our own learning [begins] when we accept full responsibility for the learning process, acknowledging that success in learning depends crucially on ourselves rather than on other people". This is supported by Korthagen and Wubbels (1995) who found that in any case, pre-service teachers who are more naturally reflective are more independent in their learning irrespective of supportive guidance from their tutors.

Therefore, I argue here that Saudi Arabian education policy should start to consider co-reflection and fostering reflective thinking via the use of technology as an essential part of the teacher education curriculum. This would help the new generation of Saudi teachers to think purposely, thoughtfully and systematically about their teaching practice, which would, in turn, help them to develop professionally and personally. This would also help to spread the idea of the reflection approach among other school teachers, which potentially would contribute to improving certain aspects of the wider Saudi Arabian education system by encouraging teachers to learn from their practice to improve the situation instead of complaining or acting passively when faced with challenging teaching and practical issues.

5.5 A practical framework for the Saudi pre-service teachers' experiences during their journey of engaging with reflective thinking

The practical framework visualised in Figure 5.3 explains the main combination of factors that helped to promote these Saudi pre-service teachers' reflection in a flexible, supportive and secure atmosphere. This led to the timescale of the main turning points and progression of the

Saudi pre-service teachers during their journey of engaging in reflective thinking. The figure contributes to practical knowledge within the field of teacher education, particularly in Arab countries where reflection seems uncommon within learning and teaching. The framework combines the Bain model with the components of reflective thinking, social interaction, engaging with reading (particularly from practical books), the innovative use of technology with the main blog as a source of various materials. Explanation was employed when using their individual blogs to represent their thoughts, share their RJs, and develop their RJs after receiving feedback. All of this led to progression and critical turning points related to these pre-service teachers' experiences, and these are represented in a timescale of their journey of engaging in reflective thinking. The timescale highlights the main turning points of the affordance, impediments, attitudes, and facilitating factors during the three phases of the current research (the informal phase, and the first and second phases of action research).



	The informal phase	The First phase	The second phase	
Affordance	Passive learners	Trainee teachers began to understand their new roles (active learners)	Engage with the reflective thinking actively + identify their incidents independently	More Ethical consideration on when teaching students
Impediments	Lack of understanding of the meaning of RT	Lack of writing skills + difficulties in identifying the incidents	Facing some challenging incidents to be addressed, difficulties reaching the highest level of reflection	
Attitude	Negative	Conflict feelings	Positive and Proud	
Facilitates		Online scaffolding tools + online feedback + Co-Reflection + reading	Online feedback + face to face interactions with peers and professionals + reading	
Critical Points		All trainee teachers at this stage knew that they had to actively learn how to teach		All trainee teachers realized the importance of moral and ethical considerations as a result of reflection

Figure 5.3: A practical framework for the Saudi pre-service teachers' experiences during their journey of engaging with reflective thinking

From the above diagram, it can be seen that within the informal phase there was a basic lack of understanding of the meaning of reflection and how to reflect, and this was associated with negative feelings towards reflection. One possible explanation for these negative feelings among the participants is conflict with the nature of assessment. This is because reflection is associated with revealing one's weaknesses, whereas the nature of assessment can disguise weaknesses. Thus, providing students with a secure atmosphere is crucial when asking them to reflect on their practice. Moreover, writing RJs on paper was not attractive or appealing for the pre-service teachers during the informal phase of this study. Some changes were noticed in the first action research phase; at a very early stage of the semester, passiveness among the pre-service teachers was apparent as they thought that in order to learn how to teach they have to learn through trial and error. The majority thought that ready solutions for any teaching incident could be found by counselling the class teachers. This way of thinking changed significantly when they understood their role better. They began to actively engage with learning how to teach effectively by stopping and thinking about their practice, analysing their situation, sharing their thoughts, and reading to understand their work as trainee teachers. Conflicting feelings were noticed among the participants, regarding both enthusiasm and hesitation towards reflection (for greater detail see Section 4.2.3). The main impediment factors were the lack of writing skills for some participants, and all participants had difficulties identifying their main incidents during this phase. However, engaging with the online scaffolding tools, online feedback, co-reflecting with their supervisors and class teachers and reading helped the majority to develop their level of reflection and overcome many of their difficulties. During the second phase of the action research, many of these pre-service teachers were able to identify their main issues independently, but they could not reflect at a high level of reflection on all of their journals, as their level varied (see Section 4.1.2 for more detail) depending on their ability to reflect and the complexity of the issues (related to the Saudi education system). The main facilitating factors were the online feedback they received, face-to-face interaction with peers and professionals, and reading. Gradually, positive and proud feelings were noticed among the participants as they became satisfied with their experience of writing their own RJs during the second phase of the study. The main critical change points that appeared in this phase were the development of a sense of moral and ethical consideration when dealing with their students after carefully analysing their teaching incidents and understanding various aspects and alternative reasonings for the issues which arose.

Chapter6: Conclusion

6.1 Introduction

This chapter brings the study to a conclusion, recapping the context, and the methodology, before summarising the main findings. It will then outline the contribution the study makes to knowledge in the field, before closing with a number of suggestions for further related research.

This study revealed that fostering reflective thinking within Saudi pre-service teachers has the potential to shift their thinking from one that relies on others' advice and takes it as a guaranteed solution, to actively taking responsibility for their own learning and thinking critically about the incidents they face in their careers. However, fostering reflection in a country where the prevailing education system is the transmissive style of teaching (i.e. it is unsupportive of developing metacognitive skills and reflective thinking is an uncommon way of learning) makes engaging with reflective thinking more challenging for Saudi pre-service teachers. Therefore, acknowledging the complexity of Saudi Arabia's cultural context led me to adopt a combined action research framework design with a narrative analysis to understand pre-service teachers' experiences through their stories. The findings of the research are drawn from the study's three phases: the informal phase, the first phase of the action research, and the second phase of the action research.

Moreover, this study also revealed that the use of technology had a significant impact on the majority of the participants, this means that there was a noticeable impact of the use of technology in terms of the participants' level of reflection and their attitude towards engaging with reflection. The use of the main blog, especially the two online infographics and the embedded exemplars, helped the participants to understand the meaning of reflection, engage, and start writing their online RJs. Furthermore, receiving online feedback from supervisors and the researcher was crucial to improving and deepening these pre-service teachers' reflective thinking during this study.

It is also vital to highlight that this research found consistencies between the main objectives that motivated the use of technology (blogs in this research) and some of the initial orientations reported by the pre-service teachers in this study, such as expressing their thoughts, having their voices heard by others, and seeking feedback when sharing their online RJs. The consistent relationship between the main purposes of using technology in general and the initial orientations reported by the participants seemed to motivate the participants to take part in this study in the first place, and to continue reflecting actively during the study.

6.2 Summary of main findings

This section explains the main findings by answering the five main research questions.

6.2.1 Saudi pre-service teachers' levels of reflection

The findings of this study revealed that individual differences appeared among the participants. Each pre-service teacher was varied in terms of abilities and learning habits (see Section 4.1.2. for more detail). This should be taken into account when designing the learning environment to support pre-service teachers to engage systematically with reflection once they are in the programme by offering them optional and diverse support to deepen their reflection whenever needed. Indeed, in this research, the participants were classified into four groups according to their level of reflection and their various needs for support to influence their reflection (see Figure 4.1). In this regard, the first group were able to reflect on the highest two components of the Bain model of reflection, namely reasoning and reconstructing, in the majority of their online journals before receiving any online support. The second group were able to write on the reasoning component in the majority of their online journals before receiving online feedback but needed continuous online support to improve some of their RJs. The third group usually wrote on the relating component in many of their online journals before receiving the online feedback, which then improved some of their journals. However, they sometimes seemed to need more support than what was offered online, as they struggled more than the other groups to write thoughtfully about some of their incidents. The fourth group did not respond actively to the online feedback and could not manage to improve any of their journals, but the one who chose to continue participating in this study managed to write only in her last journal on the reasoning component.

With regard to this research question, especially for the fourth group who did not respond actively to the online feedback, and could not deepen all of their RJs as many of them had withdrawn from the study, another aspect arose which is crucial and needs to be considered on teacher education programmes. This is establishing valid criteria for choosing the appropriate candidate for entering a teacher education programme in terms of both their cognitive abilities and other selection criteria related to non-cognitive attributes (i.e. personal skills), and would in all likelihood serve to improve the current Saudi Arabian educational system.

At the same time, it has to be mentioned that reasoning was reached more commonly by the majority of participants, and when they reached the reconstructing component, considered the

highest level of reflection, they often wrote at its first level. This could be explained as the result of the various factors associated with the unique nature of the Saudi Arabian educational system, such as time constraints, being overwhelmed by multilabel duties, and other contextual issues, all of which may contribute to hindering students' ability to reflect in more depth on their practice (this is discussed in greater detail in Section 5.2.2).

6.2.2 Saudi pre-service teachers' attitudes and orientations towards using reflective journals as a method of learning

Pre-service teachers' experiences of reflective thinking and their attitude towards it were diverse and changeable depending on the phase of the study. In the informal phase, in which the pre-service teachers were requested to write a weekly compulsory paper-based reflection, a number of negative feelings were noticed. This could be attributable to numerous reasons, but one of the significant factors that would explain this negativity was their lack of understanding of the meaning of reflection and how to reflect on one's practice. Furthermore, the conflict between the assessment and reflection requirements could also explain their negative feelings because engaging with reflection includes revealing one's weaknesses, considered an integral property of reflection, while assessment usually leads to people disguising their weaknesses (see section 5.1 for further explanation).

At the beginning of the first research phase, conflicting feelings of both hesitation and enthusiasm towards reflection was evident among the participants. The feeling of hesitation could be attributed to self-doubt about whether they would even be able to reflect on their practice or not as engaging with such an activity was not common within the Saudi Arabian context. The feeling of enthusiasm, on the other hand, appeared as a result of being shocked by the reality of teaching as many of the participants swiftly realised that it was not easy to apply their theoretical knowledge in practice. Indeed, two main orientations found among the participants led them to participate in this study. The first orientation was one whereby the participants considered reflecting as a sort of 'self-assessment', the aim of which is self-development. Here, the participants assumed that engaging with reflection would help them to make decisions and to feel confident about them, allowing them to grow professionally. A number of them went further and considered reflection as lifelong learning. The second orientation, found among a smaller number of participants, was to see reflection not just through the lens of self-development but also as a space for their voices to be heard by others (particularly by the relevant authorities, given that they were in effect questioning the policies and the structures set and imposed by the Saudi Arabian MOE and were positively hoping to

contribute to improving the educational system). As the second phase was entered, the participants' emotions gradually turned more positive as they started to feel satisfied with their experiences when engaging with reflective thinking (see section 5.1 for more detail).

6.2.3 The impedimentary and disincentive factors for using electronic reflective journals as a method of learning

Two dimensions of challenges appeared to hinder the participants from engaging thoughtfully and actively with reflective thinking. The first is related to the use of technology as a means of fostering reflection, and the second is related to the unique nature of the Saudi Arabian education system (see Figure 5.1). Regarding the impediment factors related to the use of technology, the findings of this study indicate that there was a certain amount of participant resistance to commenting on or challenging each other in the blogs, or even through the official WhatsApp groups set up by the researcher at the beginning of the study. When they did comment, their messages were praising and complimentary, which obviously was not beneficial in terms of influencing each other's reflection. This could be explained as a result of a number of factors: there were ample opportunities for face-to-face interaction in their placement schools; the nature of blogging as one of limited interactivity, with the literature reporting that the relationship between the blogger and the audience is greatly asymmetrical (Nardi, Schiano and Gumbrecht, 2004); and attempting to 'save face' by not challenging each other in public, a characteristic of Saudi Arabian culture (see Section 5.2.1 for more explanation).

The second dimension of the challenges is related to the unique nature of the Saudi Arabian education system, demonstrated at two levels. The first level focuses on the general challenges related to the Saudi Arabian education system, including the lack of support for the development of metacognitive skills, the consequences of the rapid and inconsistent changes within Saudi Arabia's education system and the absence of reflection in most of the university studies and school studies, all of which act as personal disincentives and could explain why the participants struggled at the beginning of the study when engaging with reflection for the first time. For example, they found it difficult to identify their main incidents clearly, while some were inflexible in terms of considering other aspects of the issues they were facing (they were accustomed to relying on the 'telling model' and the traditional way of teaching whereby they expect to be told exactly what to do in specific circumstances). Moreover, speculating on the future and thinking about different circumstances appeared to be beyond their ability and some of them experienced difficulties in terms of their writing skills, particularly at the beginning of

the study. The consequences of the rapid and inconsistent changes in the Saudi Arabian education system could explain why some of the pre-service teachers struggled to move beyond the Relating component of the Bain model, as some of the teaching issues could not be tackled through the efforts of individual educators or even individual teachers' schools alone and require state-level solutions (discussed in more detail in section 5.2.2).

The second level of challenges revolved around the school context (i.e. during their placements). The participants reported that they were overwhelmed with multiple duties and other administrative matters early on in their placements. This environment hindered their ability to focus on their RJs as writing the journals requires time and a space for concentrating. Furthermore, some of the participants experienced a lack of support from class teachers, who were reluctant even to give relevant information and treated the pre-service teachers as regular teachers instead of trainees who needed support during their school placements. A lack of support came as well occasionally from some of the university tutors, with one of the three groups reporting that they preferred not to engage with their supervisor in a discussion as she seemed very busy and did not appear to have time for discussing their matters.

6.2.4 The affordances and facilitatory factors for using electronic reflective journals as a method of learning

The findings of the current research emphasise the importance of having a clear vision and reaching an agreement about the meaning of reflection and how to reflect, both for educational teachers and pre-service teachers. According to the pre-service teachers, the use of the main blog and the embedded online scaffolding resources, including infographics, exemplars and other resources, proved vital for illustrating and promoting reflection, particularly in the first phase of the study. Furthermore, reading from books based on practical knowledge was found to be important as it widened the participants' horizons when it came to having to make practice-related decisions. However, not all of them displayed a positive attitude towards reading. Another factor that appeared to help the participants during their reflective journey was receiving online feedback from both their supervisors and the researcher which motivated the participants to compile and improve their RJs as it encouraged them to think more deeply about the issues they were facing. On the other hand, the online feedback received from experienced teachers, in general, did not appear to influence the participants' thinking as it was more in the form of a list of advice, but that feedback did have a positive *emotional* effect on them (see Section 5.3.4 for more detail).

In this study, individual differences and the participants' varying needs for support were recognised (see Section 5.3.5 for more details), and thereby one should consider providing pre-service teachers with a combination of support measures, including online scaffolding tools, online feedback, and some form of co-reflection to facilitate their own reflection during their field experiences. However, despite the individual differences that were observed among the participants, it can be stated that in general engaging with reflection would have a significant impact on Saudi Arabian pre-service teachers. The ones involved in this study were able to transform how they thought about their roles as teachers during a school placement, from passively waiting for direct help from others to engaging actively with their learning to evolve professionally. It is also crucial to mention that although the current participants come from a culture where face-saving is an integral cultural characteristic, they were able to progress in their ability to be open-minded about themselves and others, as they first were able to explicitly acknowledge their own weaknesses before moving on to engaging in fruitful discussion with others to reach their decisions instead of concealing their opinions and ignoring the vital role that their own volition plays in actively addressing the incidents they were facing.

Furthermore, a second critical point noticed among the participants was the gradual development of a sense of ethical and moral consideration by the end of their field experience in terms of teaching their students and dealing with students' incidents. Moreover, engaging with reflection fostered a commitment to autonomous lifelong learning among some participants as they stated that they had continued reflecting on their roles after they had been recruited as full-time teachers (discussed in greater detail in section 5.4).

Finally, a practical framework for understanding Saudi Arabian pre-service teachers' experiences during their journey of engaging with reflective thinking was devised (see Section 5.5 for more details). This framework presents how critical turning points were discussed regarding the main affordances of engaging in reflection from the perspective of pre-service teachers and associated attitudes that arose during their school placements. Furthermore, the framework outlined the numerous factors that supported the participants during their reflective journey while at the same time it highlighted the main impediments that hindered the participants from reflecting on their practice.

This research demonstrates that encouraging pre-service teachers to engage with reflection is important during their work placements. Although many obstacles arose as a result of the

unique context of the Saudi education system, including the lack of metacognitive skills, the majority of the participants in this study were able to write at the two highest levels of reflection in many of their journals. The participants were able to take responsibility for their actions, and shift their role to actively engage with their learning and teaching. This transformation is in support of Saudi Vision 2030, which emphasises the importance of being responsible citizens to present “the ambitious nation”.

This research shows that despite the lack of support for metacognitive skills in Saudi Arabia, visualising and modelling reflection concepts seem to help and encourage student teachers to take their first steps within their reflective journey. Visualising, translating and modelling the process of reflection made its meaning more understandable and meaningful for the participants. This research also demonstrates that providing participants with an attractive environment when using technology with all the facilitating factors such as receiving expert feedback and online scaffolding with embedded materials, motivated them to engage in reflection and to consider their issues more carefully. Furthermore, this research emphasises the importance of providing pre-service teachers with a secure atmosphere of “forgiving and forgetting” in which they can admit their weaknesses and discuss their issues without any fear of being judged by others or suffering consequences such as losing grades. This is represented by the supervisors’ role during this study as they encouraged the pre-service teachers to express their opinions openly when discussing their issues in a very supportive and friendly environment.

6.2.5 The educational supervisors’ perspectives on the use of electronic reflective journals as a method of learning

The supervisors acknowledged a noticeable progression in the pre-service teachers’ reflective thinking and an increase in their level of willingness and ability to discuss their issues openly and in some depth during this study, especially when using technology to facilitate participants’ level of reflection. This was in comparison to their experience in previous years when asking other pre-service teachers to reflect on paper. Indeed, the supervisors were surprised by the level of honesty and openness that appeared among the current participants when expressing their thoughts and ideas, something the other students in the previous year had not achieved.

The supervisors believed that the technology of the main blog embedded with materials and the use of individual blogs was beneficial and motivating for the current participants. In this regard, the supervisors noticed that the Bain model infographic and examples in the main blog

specifically helped the current participants to understand the meaning of reflection. Furthermore, providing the participants with the online feedback helped to improve many of their RJs when they responded actively to the online feedback.

The educational supervisors also highlighted certain factors that should be considered when implementing reflection as a method of learning. For example, they found that the personal characteristics of the participants in terms of their willingness to learn were a crucial factor, given that the current participants had voluntarily participated in this PhD research project, thereby demonstrating a pre-disposition towards learning and teaching (a crucial factor for engaging in reflective thinking) which might not be so in all cases. Furthermore, the supervisors identified a feeling of belonging to a cordial and supportive group was vital for the participating pre-service teachers as it was noticed that this environment encouraged them to continue reflecting on their practice.

6.3 Contribution to knowledge

This is the first study that has had the dual aims of adopting technology in order to foster and promote reflective thinking within Saudi Arabia's teacher education programme. No similar study had been reported in the relevant literature. The study thus contributes original work to the relevant body of knowledge by exploring Saudi pre-service teachers' experiences during their journey of engaging with reflective thinking with the use of technology (see Figure 5.3). This research points the way for more research on reflective thinking and the use of technology to foster pre-service teachers' reflection in the Saudi Arabian context.

This research is thus significant in that it reveals a novel understanding of teacher education in a rarely studied context (i.e. the KSA), adding to the practical knowledge within the relevant field on a specific context that requires further exploration at all levels of the teacher education curriculum. The practical framework of the Saudi pre-service teachers' experiences of engaging with reflective thinking (illustrated in Figure 5.3 and explained in detail in section 5.5) explained the main factors that helped the participants to reflect during their school placement. Furthermore, it highlighted two critical turning points that were noticed as significant markers during this reflective journey. The first of these was how they understood their role to actively engage with their teaching and learning in the first research phase. The second turning point was how they developed a sense of moral and ethical consideration when dealing with students by evaluating the students' situation carefully to understand different facets of the incidents they encountered. Indeed, the practical framework summarises the key points of the

participants' experiences when reflecting on their practice via the use of technology by highlighting the main affordances that helped them to reflect, the impediments that hindered their ability to reflect, their attitude to reflection and, finally, the critical turning points during the research. In sum, this research emphasises the importance of reconsidering the Saudi Arabian teacher education curriculum as it suggests an approach to how technology can be used to enhance reflective thinking as a step towards curriculum reform in pre-service teacher education (an entirely new paradigm for teacher development in Saudi Arabia).

This research contributes methodological insights that could be integrated into future study within the field of reflection. A combined action research framework design with narrative analysis was adopted, and thus the report of this qualitative action research was not derived from the researcher's stories alone but rather from the participants' active engagement in telling their stories, generating rich insights into comprehending pre-service teachers' experiences when they reflect on their practice via the use of technology. The reason behind combining the narrative within the qualitative action research framework was the complexities and peculiarities of the current situation within the Saudi Arabian teacher education programme, given the fact that reflection is not a common practice in teaching and learning and pre-service teachers had not been exposed to requirements that encourage them to stop and think about their experiences. Acknowledging the complexity of the Saudi Arabian cultural context and the current education system (see Section 5.2.2 for more detail) led me to adopt the narrative, not only as an analytical framework but also as an approach that encourages participants to tell their stories (Bryman, 2016). This was achieved by adopting in-depth interviews (see Section 3.9.1), in which the questions stimulated the participants to recount their stories. Interviewing pre-service teachers in three stages (beginning, middle and end of the study) was crucial to garner in-depth insights about their experiences when hearing and interacting with their stories (for more detail see Section 3.4.3), as understanding the participants' experience cannot be achieved by applying action research alone. Indeed, the ongoing thematic narrative analysis (Polkinghorne, 1995) that aims to recognise the common themes of several stories of the three stages of the interviews of the 12 participants generated rich and thoughtful insights into how they engage in their own unique ways with the experience of reflection and how each one changed over the course of the study. Furthermore, the combination of action and narrative gave the participants a voice to contribute to planning the second phase of this study when they reflected on their experiences of writing their first journal (see Section 3.7.2 for more detail).

Furthermore, to the best of my knowledge this is the first study that has adopted infographics as visual support to explain the meaning of reflection. The two infographics were embedded in the main blog as scaffolding tools, one relating to Bain's 5Rs model and the second to reflective writing (Ryan, 2011). The two infographics were designed in a simple way as they include a number of emojis, hints and prompt questions (see Figure 3.6 and Figure 3.7). According to the participants, the two infographics helped them to understand the meaning of reflection and how to reflect on their practice during the first phase of the research. Using infographics to visualise and clarify the meaning of reflection opens the door for other innovative technological methods to facilitate the first steps of reflective thinking by clarifying the meaning of the concept, especially for those teachers who had not come across the concept of reflection beforehand.

It is also important to articulate that this research makes a contribution to the relevant body of knowledge by identifying four types of learner based on their ability to reflect and the various support requirements they need to help them reflect on their practices (see Section 5.3.5 for further explanation of the four groups of learners). The relevant literature on reflection within the use of blogs highlights two types of participant: reluctant bloggers who often write at a descriptive level and do not improve their level of reflection, and frequent bloggers who gradually begin to progress to writing at a critical level (Hramiak, Boulton and Irwin, 2009; Boulton and Hramiak, 2012). Indeed, based on this study's findings, it is crucial to provide trainee teachers with a combination of support, including technological and co-reflection support, so as to meet their varied and diverse needs. This would in all likelihood aid the majority of pre-service teachers to reach their potential and to evolve as teachers.

This research also demonstrates that the links between the main objectives that motivated individuals to use technology in general (blogs, in this research) and a number of associated initial orientations reported by the majority of the participants may be consistent, which could foster the participants' learning and engagement. For example, this research found that the instinctive orientation of a number of the participants was to express their thoughts to benefit others, airing their voice to share their opinions with others and seek feedback from others. These were found to be the basic motivational factors reported by the bloggers (seeking audience feedback, airing one's voice, and sharing ideas) in the relevant literature, and they seem to encourage the participants in the present study to engage with reflection actively. Thus, considering the main objectives that motivated people when using certain technology in general with the participants' own orientations points the way to a novel understanding of how researchers might enhance the use of technology to foster learning.

On the other hand, it was also noticed that the participants were resistant to interacting with or challenging each other via their blogs or via the official WhatsApp group (see Section 5.2.1 for more detail). These findings could remind scholars in this field of the need to consider cultural aspects when designing a virtual environment to foster reflection. For example, as this study makes clear and stresses throughout, requesting pre-service teachers to challenge each other openly is considered inappropriate within an Arab cultural context. One could thus consider providing them with a private online environment and the necessary space to learn and to engage with discussion, as well as providing them with the continued online feedback and help they require to develop their potential for deeper reflection.

However, notably, this finding also proves that although the participants were resistant to challenging each other in public via their blogs or via the official WhatsApp group, they were able to express their ideas and thoughts as well as to acknowledge their mistakes explicitly after engaging with reflective thinking. This was a significant step towards being open about one's beliefs and thoughts and, critically, airing them when they were convinced that this is a fundamental part of comprehending their situation and thus to developing as trainee teachers. This observation concurs with Dewey's theory of reflection, in which open-mindedness is considered a crucial attribute to engaging with reflection. This is because the study found that although the participants come from a culture where face-saving is considered important, they were nevertheless able, after acknowledging their weaknesses and their need to develop, to express their thoughts openly with others and learn how to consider other opinions and to consider how they will react in the future when faced with similar issues. Indeed, the participants tended to openly interact with their peers (via their private online WhatsApp group or when interacting face-to-face in their school placement), with their supervisors (by responding to the online feedback and in face-to-face discussions; human interaction is discussed in more detail in Section 5.3.4), or even when reading the relevant literature. All of this helped them to widen their horizons when addressing their issues.

The findings of this research highlight a number of challenges related to the Saudi Arabian education system on two levels: general challenges and challenges concerning the context of Saudi Arabian schools and how these factors hinder pre-service teachers' ability to reflect (see Figure 5.1). Although the majority of these challenges are mentioned in the relevant literature, these studies (except Alrumaih, 2016) are not related to reflective thinking and thus do not discuss the relation between these challenging factors and how they affect pre-service teachers' reflective thinking. Therefore, this study makes a novel contribution to the field by discussing how these factors affected the participants' reflective thinking, insights which could help the

relevant decision-makers when planning teacher education programmes. For example, adopting the narrative approach allowed this research to garner in-depth data to illustrate that the participants were occasionally overwhelmed by irrelevant teaching and/or administrative tasks which threatened to hinder their ability to focus on their learning and teaching (see Section 5.2.2). Furthermore, this research's analysis reveals that engaging with their learning and teaching thoughtfully and actively by reflecting on their practice requires that pre-service teachers have the requisite time and fresh minds to focus on their learning. Thus, policymakers should reconsider the situation in the schools and should endeavour to devise policies that ensure trainee teachers are treated as fellow teachers who need support, rather than being overburdened with meaningless tasks that are not central to their posting.

It is also important to highlight how in the relevant literature students in the Arab world find it particularly difficult to reflect in English (Hourani, 2013), but the current participants were asked to write online RJs in Arabic; nevertheless, some participants still had difficulties writing their RJs (see Section 4.3.2 for more detail). In fact, the literature has highlighted that Arab students can have difficulties when writing in general in both Arabic and English language, such as a lack of coherence, cohesion, and paragraph unity (Khuwaileh and Al Shoumali, 2000). However, to the best of the researcher's knowledge, none of these studies have discussed students' difficulties when writing in their native language (Arabic) when they reflect on their practice within a teacher education programme. This study therefore adds to the literature by highlighting issues raised by some of the participants regarding their writing on self-reflection in their native language, and how they overcame these difficulties (see Section 4.3.2 for more detail).

All of these factors led to contradictory emotions – of both hesitation and enthusiasm – in the first phase of this study, emotions which turned into more positive feelings as the study progressed into the second phase. No studies in the relevant literature have reported a sense of pride among their participants when reflecting on their practice within teacher education. In this study, the participants gradually recognised a need to engage with reflection after being shocked by the reality of teaching at a very early stage, and they soon displayed enthusiasm to do so. However, this positive attitude was hesitant and apprehensive as the participants grappled with the concept of reflecting. The apprehension gradually dissolved as it became clear that the environment within which the participants would be expressing their viewpoints was secure and cordial, allowing them to note down and then air their thoughts and share them with others (see Section 5.1 for more detail). Therefore, understanding and considering the relevant factors

that could either aid or hinder participants within a specific context is crucial when designing a learning environment.

Finally, this study revealed that some pre-service teachers, especially those who withdrew from the study at an early stage, were not fully committed from the beginning to work as teachers and had attended an educational college merely to gain the certificate. This raises very significant questions for policymakers in Saudi Arabia about which methods might be considered to select future teachers as there is currently no policy for recruitment. Although there have been certain policy changes regarding stipulating professional licences and placing teachers in different levels based on certain criteria, nothing is mentioned regarding how to choose those teachers in the first place, for both the teaching training programme or when they are subsequently chosen to work as teachers in a school. This research argues that an initial attitude inclined to teaching and the basic soft skills are crucial for working as an effective teacher. Such selection criteria would provide a solid basis for the recruitment of trainee teachers and future teachers, especially when knowing that there are a large number of people applying for teaching each year as the teaching profession is increasingly seen as a desirable career option in Saudi Arabia.

6.4 Overall limitation of the study

Although a detailed consideration of the study's limitations has been presented in the methodology and research design chapter (see Section 3.12), it is important to reiterate the main areas of limitations of this study. Briefly, the first main limitation of this study is the small size of the sample of having only 12 pre-service teachers and their three supervisors. The second limitation is the specific cultural context of this study in terms of the lack of support of metacognitive skills and the inconsistent changes within the Saudi education system which make engaging with reflection challenging and resulted sometimes in difficulties in tackling some of the participants' incidents. However, this research provides detailed and in-depth data through the use of narrative as a research method to collect data and as an analytical framework to analyse participants' stories to understand their experiences and to understand the complexity of the current Saudi context and how these challenges could be overcome. Indeed, this research has richly representational qualities that are transferable to other countries and curriculum contexts within teacher education, particularly those who have similar circumstances of being unfamiliar with metacognitive activities.

6.5 Possibilities for further research

This study was limited to three months as it took place during a school placement (which, in Saudi Arabia, lasts for three months). It was immediately noticeable that the participants were overwhelmed by an array of teaching/administrative duties and exposed to new experiences such as reflecting and dealing with the complexity of teaching. Consequently, it could be possible to replicate the study over a longer time frame, whereby given the current teacher education programme stipulation in the Saudi Arabian context, reflective thinking might be fostered in the early stages of the participants' studies. One possible approach to doing this, for example, would be to design or record short videos of real teaching practice and include some of the most common teaching and learning issues and then ask the participants to engage in discussion regarding them, before finally reflecting on them. This means that a study of six months could be conducted in two stages, the first stage for reflecting on videos of real teaching practice, and the second stage for reflecting on their teaching practice during the school placement.

It is also possible to replicate the same study to foster reflection within teachers instead of pre-service teachers to help them understand their work as a teacher. This would help to improve the education system in the Saudi context. The other social media could be used to enhance reflective thinking, particularly using online tools which are currently popular in Saudi Arabia, such as, for example, Twitter. Thus, considering the use of Twitter as a means of reflection could be beneficial in terms of allowing the teachers to share their tweets with knowledgeable people, which could help them to engage in fruitful discussion. Direct private messages may also be considered when interacting with others via the use of Twitter.

Other possible avenues for future research would be to replicate this study with a larger sample, to deploy a mixed methods research design, and to include pre-service teachers from different subjects. Such studies would generate more insights into pre-service teachers' experience from different angles, although they would in all likelihood need to be conducted by more than one researcher so as to involve and understand the participants' experiences more thoughtfully.

References

- Ahmed, A. H. (2010) 'Students' problems with cohesion and coherence in EFL essay writing in Egypt: Different perspectives', *Literacy Information and Computer Education Journal*, 1(4), pp. 211–221.
- Al-Ahdal, A. A. and Al-Awaid, S. A. (2014) 'Reflective teaching and language teacher education programmes: A milestone in Yemen and Saudi Arabia', *Journal of Language Teaching and Research*, 5(4), pp. 759–768.
- Al-harhi, A. S. (2005) 'Distance higher education experiences of Arab Gulf students in the United States: A cultural perspective', *The International Review of Research in Open and Distributed Learning*, 6(3), pp. 1–14.
- Al-hassan, O., Al-barakat, A. and Al-hassan, Y. (2012) 'Pre-service teachers' reflections during field experience', *Journal of Education for Teaching*, 38(4), pp. 419–434.
- Al-Issa, A. (2018) 'Skills for Generation 2030', in *International Conference on Education Evaluation ICEE*. Riyadh.
- Al-jadidi, N. (2012) *The professional preparation, knowledge and beliefs of kindergarten teachers in Saudi Arabia*. Unpublished Ph.D. Thesis. University of Exeter.
- Al-Zarah, L. (2008) *An investigative study of the female initial teacher preparation programme in Saudi Arabia in an Islamic context*. Unpublished Ph.D. Thesis. Durham University.
- Alanazi, M. (2012) *Teachers' and parents' attitudes towards inclusion in inclusive schools in Saudi Arabia*. Unpublished Ph.D. Thesis. University of Warwick.
- Aldabas, R. A. (2015) 'Special education in Saudi Arabia: History and areas for reform', *Creative Education*, 6(11), pp. 1158–1167.
- Alghamdi, A. K. H. (2014) 'The road to culturally relevant pedagogy: Expatriate teachers' pedagogical practices in the cultural context of Saudi Arabian higher education', *McGill Journal of Education*, 49(1), pp. 201–226.
- Allamnakhrah, A. Y. (2013) *Teaching critical thinking in Saudi Arabia: A study of two pre-service teacher education programs*. Unpublished Ph.D. Thesis. UNSW.
- Allen, J. M. and Wright, S. E. (2014) 'Integrating theory and practice in the pre-service teacher education practicum', *Teachers and Teaching: Theory and Practice*, 20(2), pp. 136–151.
- Almazrawi, G. (2014) *Exploring the reflective practice among Saudi female in-service teachers*. Unpublished Master's Thesis. Boise State University.

- Alnahdi, G. H. (2014) 'Educational change in Saudi Arabia', *Journal of International Education Research (JIER)*, 10(1), pp. 1–6.
- Alnasib, B. N. M. (2017) *Practices from lecturers' and undergraduate students' perspectives in the Faculty of Education at a university in Saudi Arabia*. Unpublished Ph.D. Thesis. University of Exeter.
- Alquraini, T. (2010) 'Special education in Saudi Arabia: Challenges, perspectives, future possibilities', *International Journal of Special Education*, 25(3), pp. 139–147.
- Alrubian, A. M. (2014) *Using a community of practice via a new technology (Moodle) for continuing professional development in Saudi Arabia*. Unpublished Ph.D. Thesis. University of Manchester.
- Alrumaih, B. (2016) *Developing supervision: A study on improvement reflection in pre-service teachers in KSM University*. Unpublished Ph.D. Thesis. University of East Anglia.
- Alsaleh, N. J. (2017) *Social networking website-based learning activities to develop critical thinking skills among undergraduate students in Saudi Arabia*. Unpublished Ph.D. Thesis. University of Leicester.
- Alsharif, K. and Atweh, B. (2010) 'Gaps in understanding and implementing connectedness in mathematics teaching by Saudi student teachers', in *IAARE 2010 Conference Proceedings*. Australian Association for Research in Education. Vancouver.
- Alzaydi, D. (2010) *Activity theory as a lens to explore participant perspectives of the administrative and academic activity systems in a university–school partnership in initial teacher education in Saudi Arabia*. Unpublished Ph.D. Thesis. University of Exeter.
- Anderson, J., Justice, J., Gorhan, J., Wall, S., Boyd, A., Nichols, K. and Altheiser, L. (2013) 'The affordance of blogging on establishing communities of practice in a pre-service elementary teacher education program', *Journal of Technology and Teacher Education*, 21(1), pp. 49–88.
- Andrews, M., Squire, C. and Tamboukou, M. (2008) *Doing narrative research*. London: Sage.
- Arthur, J., Davison, J. and Lewis, M. (2005) *Professional values and practice: Achieving the standards for QTS*. London: Routledge.
- Amhag, L. (2020) 'Student Reflections and Self-Assessments in Vocational Training Supported by a Mobile Learning Hub', *International Journal of Mobile and Blended Learning*, 12(1), pp. 1–16.
- Bain, J., Ballantyne, R., Mills, C. and Lester, N. (2002) *Reflecting on practice: Student teachers' perspectives*. Flaxton: Post Pressed.

- Bain, J., Ballantyne, R., Packer, J. and Mills, C. (1999) 'Using journal writing to enhance student teachers' reflectivity during field experience placements', *Teachers and Teaching: Theory and Practice*, 5(1), pp. 51–73.
- Bain, J., Mills, C., Ballantyne, R. and Packer, J. (2002) 'Developing reflection on practice through journal writing: Impacts of variations in the focus and level of feedback', *Teachers and Teaching Theory and Practice*, 8(2), pp. 171–196.
- Bairral, M. (2007) 'Building a community of practice to promote inquiry about geometry: A study case of pre-service teachers interacting online', *Digital Education Review*, 14(14), pp. 55–64.
- Bataineh, R. F., Al-Karasneh, S. M., Al-Barakat, A. A. and Bataineh, R. F. (2007) 'Jordanian pre-service teachers' perceptions of the portfolio as a reflective learning tool', *Asia-Pacific Journal of Teacher Education*, 35(4), pp. 435–454.
- Beattie, M. (1995) 'New prospects for teacher education: Narrative ways of knowing teaching and teacher learning', *Educational Research*, 37(1), pp. 53–70.
- Beauchamp, C. (2015) 'Reflection in teacher education: Issues emerging from a review of current literature', *Reflective Practice*, 16(1), pp. 123–141.
- Bennett, N., Glatter, R. and Levacic, R. (1994) *Improving educational management: Through research and consultancy*. London: Sage.
- BERA (2011) *Ethical guidelines for educational research*. Available at: <https://www.bera.ac.uk/publication/bera-ethical-guidelines-for-educational-research-2011> (Accessed: 1 October 2017).
- Berger, R. (2015) 'Now I see it, now I don't: Researcher's position and reflexivity in qualitative research', *Qualitative Research*, 15(2), pp. 219–234.
- Birt, L., Scott, S., Cavers, D., Campbell, C. and Walter, F. (2016) 'Member checking: A tool to enhance trustworthiness or merely a nod to validation?', *Qualitative Health Research*, 26(13), pp. 1802–1811.
- Borko, H., Whitcomb, J. and Liston, D. (2009) 'Wicked problems and other thoughts on issues of technology and teacher learning', *Journal of Teacher Education*, 60(1), pp. 3–7.
- Boulton, H. and Hramiak, A. (2012) 'E-flection: The development of reflective communities of learning for trainee teachers through the use of shared online web logs', *Reflective Practice*, 13(4), pp. 503–515.
- Bound, D., Keogh, R. and Walker, D. (2013) *Reflection: Turning experience into learning*. New York: RoutledgeFalmer.
- Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77–101.

- Brooke, M. (2014) *Enhancing pre-service teacher training: The construction of an online model to develop reflective practice*. Unpublished Ph.D. Thesis. University of Durham.
- Bryman, A. (2012) *Social research methods*. 4th ed. Oxford: Oxford University Press.
- Bryman, A. (2016) *Social research methods*. 5th ed. Oxford: Oxford University Press.
- Buschor, C. B. and Kamm, E. (2015) 'Supporting student teachers' reflective attitude and research-oriented stance', *Educational Research for Policy and Practice*, 14(3), pp. 231–245.
- Buzzelli, C. and Johnston, B. (2001) 'Authority, power, and morality in classroom discourse', *Teaching and Teacher Education*, 17(8), pp. 873–884.
- Calandra, B., Brantley-Dias, L., Lee, J. K. and Fox, D. L. (2009) 'Using video editing to cultivate novice teachers' practice', *Journal of Research on Technology in Education*, 42(1), pp. 73–94.
- Calderhead, J. (1987) *Exploring teachers' thinking: An introduction*. London: Cassell Education.
- Calderhead, J. and Gates, P. (1993) *Conceptualising reflection in teacher development*. London: The Falmer Press.
- Callens, J. C. and Elen, J. (2011) 'The impact of approaches to reflection and learner control upon critical reflection', *Reflective Practice*, 12(4), pp. 495–506.
- Camileri, V. (2014) *Virtual worlds in pre-service teacher training: Classroom technology acceptance and behavioural change*. Unpublished Ph.D. Thesis. Coventry University.
- Carrington, S. and Selva, G. (2010) 'Critical social theory and transformative learning: Evidence in pre-service teachers' service-learning reflection logs', *Higher Education Research and Development*, 29(1), pp. 45–57.
- Casanave, C. (2013) *Journal writing in second language education*. Michigan: University of Michigan Press.
- Central Department of Statistics and Information (2020). Available at: <https://www.stats.gov.sa/en> (Accessed: 6 January 2020).
- Chamoso, J. M. and Cáceres, M. J. (2009) 'Analysis of the reflections of student-teachers of mathematics when working with learning portfolios in Spanish university classrooms', *Teaching and Teacher Education*, 25(1), pp. 198–206.
- Chen, Y., Chen, N. S. and Tsai, C. C. (2009) 'The use of online synchronous discussion for web-based professional development for teachers', *Computers and Education*, 53(4), pp. 1155–1166.
- Cherrington, S. and Loveridge, J. (2014) 'Using video to promote early childhood teachers' thinking and reflection', *Teaching and Teacher Education*, 41, pp. 42–51.

- Cho, H. (2014) “Go for broke and speak your mind!” Building a community of practice with bilingual pre-service teachers’, *Qualitative Report*, 19(49), pp. 1–22.
- Clandinin, D. J. and Connelly, F. M. (2000) *Narrative inquiry: Experience and story in qualitative research*. San Francisco: Jossey-Bass.
- Cochran-Smith, M. and Lytle, S. L. S. (1999) ‘Relationships of knowledge and practice: Teacher learning in communities’, *Review of Research in Education*, 24(1), pp. 249–305.
- Cohen-Sayag, E. and Fischl, D. (2012) ‘Reflective writing in pre-service teachers’ teaching: What does it promote?’, *Australian Journal of Teacher Education*, 37(10), pp. 19–36.
- Cohen, L., Manion, L. and Morrison, K. (2011) *Research methods in education*. 7th ed. New York: Routledge.
- Colnerud, G. (1997) ‘Ethical conflicts in teaching’, *Teaching and Teacher Education*, 13(6), pp. 627–635.
- Le Cornu, R. and Ewing, R. (2008) ‘Reconceptualising professional experiences in pre-service teacher education...reconstructing the past to embrace the future’, *Teaching and Teacher Education*, 24(7), pp. 1799–1812.
- Creswell, J. W. (2009) *Research design: qualitative, quantitative, and mixed methods approaches*. 3rd ed. London: Sage
- Creswell, J. W. (2014) *Research design: Qualitative, quantitative, and mixed methods approaches*. 4th ed. London: Sage.
- Creswell, J. W. and Poth, C.-A. (2017) *Qualitative inquiry and research design choosing among five approaches*. 3rd ed. London: Sage publications.
- Crotty, M. (1998) *The foundations of social research: Meaning and perspective in the research process*. London: Sage.
- Daniil, M. (2013) *Exploring the process of reflection within teacher education: A qualitative case study of student teachers using Videopapers to reflect on practice*. Unpublished Ph.D. Thesis. University of Bristol.
- Dash, S., De Kramer, R. M., O’Dwyer, L. M., Masters, J. and Russell, M. (2012) ‘Impact of online professional development on teacher quality and student achievement in fifth grade mathematics’, *Journal of Research on Technology in Education*, 45(1), pp. 1–26.
- Dede, C. (2006) *Online professional development for teachers: Emerging models and methods reproduced*. Harvard Ed. Cambridge: Harvard Education Press.
- Deng, L. and Yuen, A. H. K. (2011) ‘Towards a framework for educational affordances of blogs’, *Computers and Education*. Elsevier Ltd, 56(2), pp. 441–451.

- Deng, L. and Yuen, A. H. K. (2013) 'Blogs in pre-service teacher education: Exploring the participation issue', *Technology, Pedagogy and Education*, 22(3), pp. 339–356.
- Denscombe, M. (2014) *The good research guide: For small-scale social research projects*. Fifth. Berkshire: Open University Press.
- Devlin, M. and Samarawickrema, G. (2010) 'The criteria of effective teaching in a changing higher education context', *Higher Education Research and Development*, 29(2), pp. 111–124.
- Dewey, J. (1933) *How we think: A restatement of the relation of reflective thinking to the educative process*, *Handbook of Personality Theory of Research*. London: D.C. Heath and company.
- Divitini, M., Haugaløkken, O. and Morken, E. M. (2005) 'Blog to support learning in the field: Lessons learned from a fiasco', in *The Fifth IEEE International Conference on Advanced Learning Technologies (ICALT'05)*. Taiwan: IEEE, pp. 219–221.
- Draper, D. (2015) 'Digital knowledge mapping as an instructional strategy to promote visual literacy: A case study', in *Essentials of teaching and integrating visual and media literacy 2015*. Cham: Springer, pp. 219–236.
- Duncan-Howell, J. (2010) 'Teachers making connections: Online communities as a source of professional learning', *British Journal of Educational Technology*, 41(2), pp. 324–340.
- Dwyer, S. C. and Buckle, J. L. (2009) 'The space between: On being an insider-outsider in qualitative research', *International Journal of Qualitative Methods*, 8(1), pp. 54–63.
- Education and Vision 2030* (2019) Ministry of Education. Available at: <https://www.moe.gov.sa/en/Pages/vision2030.aspx> (Accessed: 10 February 2019).
- Edwards, C. (2002) 'Implementing networked learning with HRD professionals internationally', in *Understanding human resource development*. London: Routledge. pp. 273–292.
- Edwards, G. and Thomas, G. (2010) 'Can reflective practice be taught?', *Educational Studies*, 36(4), pp. 403–414.
- El-Dib, M. A. B. (2007) 'Levels of reflection in action research. An overview and an assessment tool', *Teaching and Teacher Education*, 23(1), pp. 24–35.
- Ernest, P. (1994) *An introduction to research methodology and paradigms*. Exeter: University of Exeter.
- Eröz-Tuga, B. (2012) 'Reflective feedback sessions using video recordings', *ELT Journal*, 67(2), pp. 175–183.
- Van Es, E., Tunney, J., Goldsmith, L. and Seago, N. (2014) 'A framework for the facilitation of teachers' analysis of video', *Journal of Teacher Education*, 65(4), pp. 340–356.

- Fernsten, L. and Fernsten, J. (2005) 'Portfolio assessment and reflection: Enhancing learning through effective practice', *Reflective Practice*, 6(2), pp. 303–309.
- Finlay, L. (2008) 'Reflecting on reflective practice', *PBPL Practice-based Professional Learning Center*, 52, pp. 1–27.
- Fitzsimons, M. C. (2015) *Irish nursing students' experiences and understanding of reflective practice: A narrative inquiry*. Unpublished Ph.D. Thesis. University of Sheffield.
- Francis, D. (1995) 'The reflective journal: A window to preservice teachers' practical knowledge', *Teaching and Teacher Education*, 11(3), pp. 229–241.
- Freese, R. A. (1999) 'The role of reflection on preservice teachers' development in the context of a professional development school', *Teaching and Teacher Education*, 15(8), pp. 895–909.
- Gaudin, C. and Chaliès, S. (2015) 'Video viewing in teacher education and professional development: A literature review', *Educational Research Review*, 16, pp. 41–67.
- Gelfuso, A. (2016) 'A framework for facilitating video-mediated reflection: Supporting preservice teachers as they create "warranted assertabilities" about literacy teaching and learning', *Teaching and Teacher Education*. Elsevier Ltd, 58, pp. 68–79.
- Gelfuso, A. and Dennis, D. V (2014) 'Getting reflection off the page: The challenges of developing support structures for pre-service teacher reflection', *Teaching and Teacher Education*, 38, pp. 1–11.
- Ghaye, T. (2011) *Teaching and learning through reflective practice: A practical guide for positive action*. Edited by Routledge. New York: Routledge.
- Gibbs, G. (2007) *Analyzing qualitative data*. London: SAGE.
- Goodman, N. (1998) 'Mathematics as an objective science', in *New directions in the philosophy of mathematics: An anthology*. Princeton: Princeton University Press, pp. 79–94.
- Granberg, C. (2010) 'Social software for reflective dialogue: Questions about reflection and dialogue in student teachers' blogs', *Technology, Pedagogy and Education*, 19(3), pp. 345–360.
- Greene, M. (2014) 'On the inside looking in: Methodological insights and challenges in conducting qualitative insider research', *Qualitative Report*, 19(29), p. 1.
- Guba, E. G. and Lincoln, Y. S. (1994) 'Competing paradigms in qualitative research', in *Handbook of qualitative research*. Exeter: SAGE, pp. 163–194.
- Hagevik, R., Aydeniz, M. and Rowell, C. G. (2012) 'Using action research in middle level teacher education to evaluate and deepen reflective practice', *Teaching and Teacher Education*, 28(5), pp. 675–684.

- Hamdan, A. K. (2015) 'Challenges and constraints encountered by Saudi pre-service science teachers: A critical perspective', *Learning and Teaching in Higher Education: Gulf Perspectives*, 12(1).
- Hamlin, K. D. (2004) 'Beginning the journey: Supporting reflection in early field experiences', *Reflective Practice*, 5(2), pp. 167–179.
- Hanewald, R. (2013) 'Teachers' learning in online communities of practice: Two case studies from Australia', in *International Conference on Educational Technologies*, pp. 97–104.
- Harris, A. (1998) 'Effective teaching: A review of the literature', *School Leadership and Management*, 18(2), pp. 169–183.
- Hatton, N. and Smith, D. (1995) 'Reflection in teacher education: Towards definition and implementation', *Teaching and Teacher Education*, 11(1), pp. 33–49.
- Heikkinen, H., Huttunen, R., Syrjälä, L. and Pesonen, J. (2012) 'Action research and narrative inquiry: Five principles for validation revisited', *Educational Action Research*, 20(1), pp. 5–21.
- Heikkinen, H. L. T., Huttunen, R. and Syrjälä, L. (2007) 'Action research as narrative: Five principles for validation', *Educational Action Research*, 15(1), pp. 5–19.
- Hein, G. E. (1991) 'Constructivist learning theory', in *CECA (International Committee of Museum Educators) Conference*, pp. 15–22.
- Henderson, K., Napan, K. and Monteiro, S. (2004) 'Encouraging reflective learning : An online challenge', *Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference*, (1993), pp. 357–364.
- Hibbert, K. (2008) 'Virtual communities of practice: A vehicle for meaningful professional development', in *Communities of practice: Creating learning environments for educators*. Charlotte: Information Age Publishing, pp. 127–148.
- Hobbs, V. (2007) 'Faking it or hating it: Can reflective practice be forced?', *Reflective Practice*, 8(3), pp. 405–417.
- Hobson, A. J. (2002) 'Student teachers' perceptions of school-based mentoring in Initial Teacher Training (ITT)', *Mentoring & Tutoring: Partnership in Learning*, 10(1), pp. 5–20.
- Hollway, W. and Jefferson, T. (2000) *Doing qualitative research differently: Free association, narrative and the interview method*. London: Sage.
- Holmes, B. (2013) 'School teachers' continuous professional development in an online learning community: Lessons from a case study of an eTwinning Learning Event', *European Journal of Education*, 48(1), pp. 97–112.
- Hopkins, D. and Stern, D. (1996) 'Quality teachers, quality schools: International perspectives and policy implications', *Teaching and Teacher Education*, 12(5), pp. 501–517.

- Hou, H. (2015) 'What makes an online community of practice work? A situated study of Chinese student teachers' perceptions of online professional learning', *Teaching and Teacher Education*, 46, pp. 6–16.
- Hourani, R. (2013) 'Pre-service teachers' reflection: Perception, preparedness and challenges', *Reflective Practice*, 14(1), pp. 12–30.
- Hramiak, A., Boulton, H. and Irwin, B. (2009) 'Trainee teachers' use of blogs as private reflections for professional development', *Learning, Media and Technology*, 34(3), pp. 259–269.
- Hume, A. (2009) 'Promoting higher levels of reflective writing in student journals', *Higher Education Research and Development*, 28(3), pp. 247–260.
- Hung, I., Yang, X., Fang, W., Hwang, G. and Chen, N. (2014) 'A context-aware video prompt approach to improving students' in-field reflection levels', *Computers and Education*, 70, pp. 80–91.
- Husu, J., Toom, A. and Patrikainen, S. (2008) 'Guided reflection as a means to demonstrate and develop student teachers' reflective competencies', *Reflective Practice*, 9(1), pp. 37–51.
- Improving teacher preparation programs* (2019) Ministry of Education. Available at: <https://departments.moe.gov.sa/PlanningDevelopment/RelatedDepartments/committee/Pages/default.aspx> (Accessed: 5 December 2019).
- Jarvis, P. (2002) 'Teaching, learning – the changing landscape', in *The theory and practice of teaching*. London: Routledge.
- Jones, M. and Ryan, J. (2014) 'Learning in the practicum: Engaging pre-service teachers in reflective practice in the online space', *Asia-Pacific Journal of Teacher Education*, 42(2), pp. 132–146.
- Kaasila, R. and Lauriala, A. (2012) 'How do pre-service teachers' reflective processes differ in relation to different contexts?', *European Journal of Teacher Education*, 35(1), pp. 77–89.
- Kabli, A. (1999) *Initial training of male elementary school teachers in the Kingdom of Saudi Arabia: An empirical study of contributions by principals and teachers to teaching practice*. Unpublished Ph.D. Thesis. University of Hull.
- Kamil, I. (2011) *Perceptions of Kuwaiti EFL student-teachers towards EFL writing, and methods of teaching and learning EFL writing*. Unpublished Ph.D. Thesis. University of Exeter.
- Kanselaar, G. (2002) 'Constructivism and socio-constructivism', *Constructivism and socio-constructivism* (1986), pp. 1–7.

- Khuwaileh, A. A. and Al Shoumali, A. (2000) 'Writing errors: A study of the writing ability of Arab learners of academic English and Arabic at university', *Language, Culture and Curriculum*, 13(2), pp. 174–183.
- Killeavy, M. and Moloney, A. (2010) 'Reflection in a social space: Can blogging support reflective practice for beginning teachers?', *Teaching and Teacher Education*, 26(4), pp. 1070–1076.
- Kim, J. H. (2015) *Understanding narrative inquiry: The crafting and analysis of stories as research*. California: Sage publications.
- Kim, L. E., Jörg, V. and Klassen, R. M. (2019) 'A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout', *Educational Psychology Review*. Elsevier BV, 13(1), pp. 163–195.
- King, K. (2011) 'Professional learning in unlikely spaces: Social media and virtual communities as professional development', *International Journal of Emerging Technologies in Learning*, 6(4), pp. 40–46.
- Klassen, R., Durksen, T., Rowett, E. and Patterson, F. (2014) 'Applicant reactions to a situational judgment test used for selection into initial teacher training', *International Journal of Educational Psychology: IJEP*, 3(2), pp. 104–124.
- Kong, S. C. (2010) 'Using a web-enabled video system to support student-teachers' self-reflection in teaching practice', *Computers and Education*, 55(4), pp. 1772–1782.
- Kori, K., Pedaste, M., Leijen, Ä. and Mäeots, M. (2014) 'Supporting reflection in technology-enhanced learning', *Educational Research Review*, 11, pp. 45–55.
- Korkko, M., Kyyro-Ammala, O. and Turunen, T. (2016) 'Professional development through reflection in teacher education', *Teaching and Teacher Education*, 55, pp. 198–206.
- Korthagen, F. (2001) *Linking practice and theory: The pedagogy of realistic teacher education*. Mahwah: Lawrence Erlbaum Associates Publishers.
- Korthagen, F. and Wubbels, T. (1995) 'Characteristics of reflective practitioners: Towards an operationalization of the concept of reflection', *Teachers and Teaching*, 1(1), pp. 51–72.
- Koshy, V. (2005) *Action research for improving practice: A practical guide*. London: SAGE.
- Kreber, C. and Cranton, P. A. (2000) 'Exploring the scholarship of teaching', *The Journal of Higher Education*, 71(4), pp. 476–495.
- Kvale, S. (2007) *Doing interviews*. London: Sage.
- Labaree, D. F. (2000) 'On the nature of teaching and teacher education', *Journal of Teacher Education*, 51(3), pp. 228–233.
- LaBoskey, V. K. (1993) 'A Conceptual Framework for Reflection in Preservice Teacher Education', in *Conceptualising reflection in teacher development*. London: The Falmer press.

- Pritchard, A. (2005) *Ways of learning: Learning theories for the classroom*. first. London: David Fulton.
- LaBoskey, V. (1994) *Development of reflective practice: A study of preservice teachers*. New York: Teachers College Press.
- Lai, G. and Calandra, B. (2007) 'Using online scaffolds to enhance preservice teachers' reflective journal writing: A qualitative analysis', *International Journal of Technology in Teaching and Learning*, 3(3), pp. 66–81.
- Lai, G. and Calandra, B. (2010) 'Examining the effects of computer-based scaffolds on novice teachers' reflective journal writing', *Educational Technology Research and Development*, 58(4), pp. 421–437.
- Larrivee, B. (2000) 'Transforming teaching practice: Becoming the critically reflective teacher', *Reflective Practice*, 1(3), pp. 293–307.
- Lave, J. and Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lee, I. (2007) 'Preparing pre-service English teachers for reflective practice', *ELT Journal*, 61(4), pp. 321–329.
- Legard, R., Keegan, J. and Ward, K. (2003) 'In-depth interviews', in *Qualitative research practice. A guide for social science students and researchers*. London: Sage.
- Lewis, B. and Rush, D. (2013) 'Experience of developing Twitter-based communities of practice in higher education', *Research in Learning Technology*, 21, pp. 1–13.
- Lieblich, A., Tuval-mashiach, R. and Zilber, T. (1998) *Narrative research: Reading, analysis, and interpretation*. London: Sage publications.
- Lin, X., Hmelo, C., Kinzer, C. K. and Secules, T. J. (1999) 'Designing technology to support reflection', *Educational Technology Research and Development*, 47(3), pp. 43–62.
- Liou, H. C. (2001) 'Reflective practice in a pre-service teacher education program for high school English teachers in Taiwan, ROC', *System*, 29(2), pp. 197–208.
- Little, D. (2006) *Learner autonomy: Drawing together the threads of self-assessment, goal-setting and reflection*, European Centre for Modern Languages (ECML, Hrsg). France.
- Loughran, J. (1996) *Developing reflective practice: Learning about teaching and learning through modeling*. London: Falmer Press.
- Loughran, J. (2008) 'Challenges, dilemmas, and future directions in teaching about teaching', in Springer (ed.) *Teacher learning and development*. Dordrecht: Springer, pp. 163–175.
- Luik, P., Voltri, O., Taimalu, M. and Kalk, K. (2011) 'On the use of student teacher blogs during teaching practice', *Procedia – Social and Behavioral Sciences*, 11, pp. 165–169.

- Makinster, J., Barab, S., Harwood, W. and Andersen, H. (2006) 'The effect of social context on the reflective practice of preservice science teachers: Incorporating a web-supported community of teachers', *Journal of Technology and Teacher Education*, 14(3), pp. 543–579.
- Manen, M. van (1977) 'Linking ways of knowing with ways of being practical', *Curriculum Inquiry*, 6(3), pp. 205–228.
- Meemar, S. S., Poppink, S. and Bierlein Palmer, L. (2018) 'Educational decentralization efforts in a centralized country: Saudi Tatweer principal perceptions of new authorities granted', *International Journal of Education Policy and Leadership*, 13(2), pp. 1–15.
- Meierdirk, C. (2016a) 'Is reflective practice an essential component of becoming a professional teacher?', *Reflective Practice*, 17(3), pp. 369–378.
- Meierdirk, C. (2016b) 'Reflections of the student teacher', *Reflective Practice*, 18(1), pp. 23–41.
- Mergler, A. G. and Tangen, D. (2010) 'Using microteaching to enhance teacher efficacy in pre-service teachers', *Teaching Education*, 21(2), pp. 199–210.
- Ministry of Education (2019a) *Educational jobs regulations, 2019*. Available at: https://eservices.mcs.gov.sa/edu/edu_regulations_new.pdf (Accessed: 1 January 2020).
- Ministry of Education (2019b). Available at: <https://www.moe.gov.sa/ar/about/Pages/MinistryDevelopment.aspx> (Accessed: 20 July 2019).
- Minott, M. A. (2008) 'Valli's typology of reflection and the analysis of pre-service teachers' reflective journals', *Australian Journal of Teacher Education*, 33(5), pp. 54–65.
- Moon, J. (2004) *Reflection in learning and professional development: Theory and practice*. London: RoutledgeFalmer.
- Moon, J. A. (2013) *A handbook of reflective and experiential learning: Theory and practice*. London and New York.
- Moore-Russo, D. A. and Wilsey, J. N. (2014) 'Delving into the meaning of productive reflection: A study of future teachers' reflections on representations of teaching', *Teaching and Teacher Education*, 37, pp. 76–90.
- Mortimore, P., Sammons, P., Stoll, L. and Ecob, R. (1988) *School matters*. California: University of California Press.
- Murati, R. and Ceka, A. (2017) 'The use of technology in educational teaching', *Journal of Education and Practice*, 8(6), pp. 197–199.
- Nambiar, R. M. K. and Thang, S. M. (2016) 'Examining Malaysian teachers' online blogs for reflective practices: Towards teacher professional development', *Language and Education*, 30(1), pp. 43–57.

- Nardi, B. A., Schiano, D. J. and Gumbrecht, M. (2004) 'Blogging as social activity, or, would you let 900 million people read your diary?', in *In Proceedings of the 2004 ACM conference on Computer supported cooperative work*. ACM, pp. 222–231.
- Nelson, F. L., Miller, L. R. and Yun, C. (2016) "'It's OK to feel totally confused": Reflection without practice by preservice teachers in an introductory education course', *Reflective practice*. Routledge, 17(5), pp. 648–661.
- Van Nes, F., Abma, T., Jonsson, H. and Deeg, D. (2010) 'Language differences in qualitative research: Is meaning lost in translation?', *European Journal of Ageing*, 7(4), pp. 313–316.
- Nias, J. (1996) 'Thinking about feeling: The emotions in teaching', *Cambridge Journal of Education*, 26(3), pp. 293–306.
- Nykliček, I., Vingerhoets, A. and Zeelenberg, M. (2011) *Emotion regulation and well-being*, Springer Science & Business Media. New York: Springer.
- OECD (1990) 'High-quality education and training for all', in *European handbook*. 38th edn. Paris: Council of Europe, pp. 29–36.
- OECD (2019) *Programme for international student assessment (PISA). Result from PISA 2018*. Paris.
- Oliver, P. (2010) *The student's guide to research ethics*, Open University Press. Maidenhead: Open University Press.
- Oosterheert, I. E. and Vermunt, J. D. (2001) 'Individual differences in learning to teach: Relating cognition, regulation and affect', *Learning and Instruction*, 11(2), pp. 133–156.
- Orland-Barak, L. and Yinon, H. (2007) 'When theory meets practice: What student teachers learn from guided reflection on their own classroom discourse', *Teaching and Teacher Education*, 23(6), pp. 957–969.
- Ormston, R., Spencer, L., Barnard, M. and Snape, D. (2014) 'The foundations of qualitative research', in *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage, pp. 1–23.
- Orr, K. (2012) 'Coping, confidence and alienation: The early experience of trainee teachers in English further education', *Journal of Education for Teaching*, 38(1), pp. 51–65.
- Pajares, M. F. (1992) 'Teachers' beliefs and educational research: Cleaning up a messy construct', *Review of Educational Research*, 62(3), pp. 307–332.
- Pitney, W. A. (2004) 'Strategies for establishing trustworthiness in qualitative research', *Athletic Therapy Today*, 9(1), pp. 26–28.
- Polkinghorne, D. E. (1995) 'Narrative configuration in qualitative analysis', *International Journal of Qualitative Studies in Education*, 8(1), pp. 5–23.

- Pransky, K. (2008) *Beneath the surface: The hidden realities of teaching culturally and linguistically diverse young learners K-6*. Portsmouth: Heinemann.
- Pring, R. (2004) *The philosophy of education*. London: Bloomsbury Publishing.
- Pritchard, A. (2005) *Ways of learning: Learning theories for the classroom*. first. London: David Fulton.
- Rees, K. L. (2007) *The lived experience of final year student learning through reflective nurses of processes*. Unpublished Ph.D. Thesis. Bournemouth University.
- Reeves, T. D. and Li, Z. (2012) 'Teachers' technological readiness for online professional development: Evidence from the US e-Learning for Educators initiative', *Journal of Education for Teaching*, 38(4), pp. 389–406.
- Reupert, A. and Dalgarno, B. (2011) 'Using online blogs to develop student teachers' behaviour management approaches', *Australian Journal of Teacher Education*, 36(5), pp. 48–64.
- Rienties, B., Brouwer, N. and Lygo-Baker, S. (2013) 'The effects of online professional development on higher education teachers' beliefs and intentions towards learning facilitation and technology', *Teaching and Teacher Education*, 29(1), pp. 122–131.
- Ritchie, J., Lewis, J., Elam, G., Tennant, R. and Rahim, N. (2013) 'Selecting samples', in *Qualitative research practice: A guide for social science students and researchers*. London: Sage, pp. 111–142.
- Roberts, A. (2009) 'Encouraging reflective practice in periods of professional workplace experience', *Reflective Practice*, 10(5), pp. 633–644.
- Roberts, J. (1998) *Language teacher education*. London: Hodder Education.
- Rodgers, C. (2002) 'Defining reflection: Another look at John Dewey and reflective thinking', *Teachers College Record*, 104(4), pp. 842–866.
- Rodgers, C. and Laboskey, V. K. (2016) 'Reflective practice', in *International handbook of teacher education*. Singapore: Springer, pp. 71–104.
- Rogers, R. (2001) 'Reflection in higher education: A concept analysis', *Innovative Higher Education*, 26(1), pp. 37–57.
- Romano, M. and Schwartz, J. (2005) 'Exploring technology as a tool for eliciting and encouraging beginning teacher reflection', *Contemporary Issues in Technology and Teacher*, 5(1), pp. 49–168.
- Rosaen, C., Lundeberg, M., Cooper, M., Fritzen, A. and Terpstra, M. (2008) 'Noticing noticing: How does investigation of video records change how teachers reflect on their experiences?', *Journal of Teacher Education*, 59(4), pp. 347–360.
- Rugh, W. (2002) 'Education in Saudi Arabia: Choices and constraints', *Middle East Policy*, IX(2), pp. 40–55.

- Ryan, G., Toohey, S. and Hughes, C. (1996) 'The purpose, value and structure of the practicum in higher education: A literature review', *Higher Education*, 31(3), pp. 355–377.
- Ryan, M. (2011) 'Improving reflective writing in higher education: A social semiotic perspective', *Teaching in Higher Education*, 16(1), pp. 99–111.
- Ryan, M. (2013) 'The pedagogical balancing act: Teaching reflection in higher education', *Teaching in Higher Education*, 18(2), pp. 144–155.
- Ryan, M. and Ryan, M. (2013) 'Theorising a model for teaching and assessing reflective learning in higher education', *Higher Education Research and Development*, 32(2), pp. 244–257.
- Santagata, R. (2009) 'Designing video-based professional development for mathematics teachers in low-performing schools', *Journal of Teacher Education*, 60(1), pp. 38–51.
- Saudi Vision 2030 (2016). Available at: <https://vision2030.gov.sa/en> (Accessed: 20 July 2019).
- Samuels, M. and Betts, J. (2007) 'Crossing the threshold from description to deconstruction and reconstruction: using self-assessment to deepen reflection', *Reflective Practice*, 8(2), pp. 269–283.
- Sawe, B. (2017) *The economy of Saudi Arabia*, *World Atlas*. Available at: <https://www.worldatlas.com/articles/the-economy-of-saudi-arabia.html> (Accessed: 20 July 2019).
- Schon, D. (1983) *The reflective practitioner: How professionals think in action*. New York: Basic Book.
- Schulz, R. (2005) 'The practicum: More than practice', *Canadian Journal of Education*, 28(1–2), pp. 147–167.
- Seban, D. (2009) 'Researching reflective field practices of elementary pre-service teachers: Two-dimensional analysis of teacher narratives', *Reflective Practice*, 10(5), pp. 669–681.
- Seidman, I. (2013) *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. 4th ed. New York: Teachers College Press.
- Shoffner, M. (2008) 'Informal reflection in pre-service teacher education', *Reflective Practice*, 9(2), pp. 123–134.
- Shukri, N. (2014) 'Second language writing and culture: Issues and challenges from the Saudi learners' perspective', *Arab World English Journal*, 5(3), pp. 190–207. Available at: www.awej.org.
- Shukri, N. and Studies, L. (2014) 'Female teachers' perception of reflective teaching as a teacher development tool in the Saudi context', *Advances in Language and Literary Studies*, 5(5), pp. 192–201.

- Sibahi, R. (2015) 'Exploring reflective practice among college EFL teachers in Saudi Arabia', *Arab World English Journal*, 6(2), pp. 337–351.
- Smith, K. and Lev-Ari, L. (2005) 'The place of the practicum in pre-service teacher education: The voice of the students', *Asia-Pacific Journal of Teacher Education*, 33(3), pp. 289–302.
- Solbrekke, T. D. and Englund, T. (2011) 'Bringing professional responsibility back in', *Studies in Higher Education*, 36(7), pp. 847–861.
- Spalding, E. and Wilson, A. (2002) 'Demystifying reflection: A study of pedagogical strategies that encourage reflective journal writing', *Teachers College Record*, 104(7), pp. 1393–1421.
- Spelman, B. J. and John-Brooks, C. S. (1972) 'Microteaching and teacher education: A critical reappraisal.', *Irish Journal of Education*, 2(2), pp. 73–92.
- Stokols, D. (2006) 'Toward a science of transdisciplinary action research', *American Journal of Community Psychology*, 38(1–2), pp. 79–93.
- Stronge, J. (2018) *Qualities of effective teachers*. 3rd edn. Alexandria: ASCD.
- Suzuki, A. (2013) *Reflective practice as a tool for professional development of in-service high school teachers of English in Japan*. Unpublished Ph.D. Thesis. University of London.
- Tan, J. (2013) 'Dialoguing written reflections to promote self-efficacy in student teachers', *Reflective Practice*, 14(6), pp. 814–824.
- The establishment of the Ministry* (2019) Ministry of Education. Available at: <https://www.moe.gov.sa/ar/about/Pages/MinistryDevelopment.aspx> (Accessed: 20 July 2019).
- Thomas, T. S. (2009) *Online vs face-to-face: Educator opinions on professional development delivery methods*. Unpublished Ph.D. Thesis. The University of Alabama.
- TIMSS 2015 international results in mathematics (2015) *TIMSS&PIRLS International Study Center*. Available at: http://timssandpirls.bc.edu/timss2015/international-results/wp-content/uploads/filebase/full_pdfs/T15-International-Results-in-Mathematics.pdf (Accessed: 9 May 2019).
- Toledano, N. and Anderson, A. R. (2017) 'Theoretical reflections on narrative in action research', *Action Research*, pp. 1–17.
- Tu, C.-H. (2001) 'How Chinese perceive social presence: An examination of interaction in online learning environment', *Educational Media International*, 38(1), pp. 45–60.
- Uyan Dur, B. (2014) 'Data visualisation and infographics in the visual communication design education at the age of information', *Journal of Arts and Humanities*, 3(5), pp. 39–40.
- Vanichvasin, P. (2013) 'Enhancing the quality of learning through the use of visual communication tool and learning tool delivered', in *International Conference on QA Culture: Cooperation or Competition*. Bangkok: The Office for National Education Standards and Quality Assessment, pp. 135–142.

- Vavasseur, C. B. and Kim Macgregor, S. K. (2008) 'Extending content-focused professional development through online communities of practice', *Journal of Research on Technology in Education*, 40(4), pp. 517–536.
- Walker, M. (2007) 'Action research and narratives: "Finely aware and richly responsible"', *Educational Action Research*, 15(2), pp. 295–303.
- Wang, H. (2006) 'Teaching Asian students online: What matters and why?', *PAACE Journal of Lifelong Learning*, 15, pp. 69–84.
- Weber, K. E., Gold, B., Prilop, C. N. and Kleinknecht, M. (2018) 'Promoting pre-service teachers' professional vision of classroom management during practical school training: Effects of a structured online- and video-based self-reflection and feedback intervention', *Teaching and Teacher Education*. Elsevier Ltd, 76, pp. 39–49.
- Webster, L. and Mertova, P. (2007) *Using narrative inquiry as a research method: An introduction to using critical event narrative analysis in research on learning and teaching*. Madison, New York: Routledge.
- Wenger, E. (1998) *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.
- White, B. C. (2000) 'Pre-service teachers' epistemology viewed through perspectives on problematic classroom situations', *Journal of Education for Teaching*, 26(3), pp. 279–305.
- Williams, M. and Burden, R. (1997) *Psychology for language teachers: A social constructivist approach*. Cambridge: Cambridge University Press.
- Xie, Y., Ke, F. and Sharma, P. (2008) 'The effect of peer feedback for blogging on college students' reflective learning processes', *Internet and Higher Education*, 11(1), pp. 18–25.
- Yang, S. (2009) 'Using blogs to enhance critical reflection and community of practice', *Educational Technology & Society*, 12(2), pp. 11–21.
- Yost, D., Sentner, S. and Forlenza-Bailey, A. (2000) 'An examination of the construct of critical reflection: Implications for teacher education programming in the 21st century', *Journal of Teacher Education*, 51(1), pp. 39–49.
- Zeichner, K. (1990) 'Changing directions in the practicum: Looking ahead to the 1990s', *Journal of Education for Teaching*, 16(2), pp. 105–132.
- Zeichner, K. and Liston, D. (1996) *Reflective teaching: An introduction*. Mahwah: Lawrence Erlbaum Associates Publishers.
- Zeichner, K. M. and Liston, D. P. (1987) 'Teaching student teachers to reflect', *Harvard Educational Review*, 57(1), pp. 23–49.

Zhang, M., Lundeberg, M., Koehler, M. J. and Eberhardt, J. (2011) 'Understanding affordances and challenges of three types of video for teacher professional development', *Teaching and Teacher Education*, 27(2), pp. 454–462.

Zulfikar, T. and Mujiburrahman (2018) 'Understanding own teaching: Becoming reflective teachers through reflective journals', *Reflective Practice*, 19(1), pp. 1–13.

Appendices

Appendix A

Course description of the junior primary classes teacher programme

قسم المناهج وطرق التدريس	البكالوريوس في التربية تخصص معلم الصفوف الأولى بالمرحلة الابتدائية
مسمى الشهادة المعنوحة	البكالوريوس في التربية تخصص معلم الصفوف الأولى بالمرحلة الابتدائية
القبول	طلاب
عدد ساعات الدراسة	١٢٤ ساعة
عدد سنوات الدراسة	٤ سنوات
نبذة عن التخصص	<p>يهدف البرنامج إلى: إعداد معلم صف وتأهيله أكاديميا وتربويا ومهنيا ، وإكسابه المهارات والقدرات التي تمكنه من تدريس المواد الدراسية (اللغة العربية، التربية الإسلامية، الرياضيات، والعلوم) في الصفوف الثلاثة الأولى بالمرحلة الابتدائية، من خلال التمكين من التعامل مع طبيعة الأطفال في الصفوف الأولى بالمرحلة الابتدائية.</p> <p>كما يهدف البرنامج إلى تخريج معلمين متميزين مؤهلين تربويا ومهنيا وثقافيا لتدريس الصفوف الثلاثة الأولى من المرحلة الابتدائية بكفاءة. ويطمح القائمون على البرنامج إلى تحقيق الريادة والتميز في إعداد معلمي الصفوف الأولية على المستويين الوطني والإقليمي .</p>
المعارف والمهارات الدراسية	<p>يعمل البرنامج على إكساب الطلاب المعارف في مجال علم النفس والتربية والمناهج وطرق التدريس في مجال تدريس اللغة العربية والرياضيات والعلوم والتربية الإسلامية، كما يهتم البرنامج بتتمة مهارات التعامل مع تلاميذ المرحلة الابتدائية بالصفوف الثلاثة الأولى واستخدام استراتيجيات التدريس المناسبة لهم.</p>
الفرص الوظيفية بعد التخرج	<p>يمكن للخريج الحصول على وظيفة في المدارس الابتدائية للتدريس في الصفوف الأولية (من أول ابتدائي إلى ثالث ابتدائي)</p>

م	فترة المقرر	نوع المقرر	عدد الساعات المعتمدة	مجموع الساعات المعتمدة
١	متطلبات الجامعة	إجباري	٨	٨
٢	متطلبات الكلية	إجباري اختياري	٥١ ٩	٦٠
٣	متطلبات التخصص	إجباري اختياري	٦٦ ٠	٦٦
عدد ساعات البرنامج			١٣٤	

المستوى الأول

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		المعمدة	النظرية	المعملية		
٢٧١ سلم	العقيدة والأخلاق	٢	٢	٠	ج (إجباري)	لا يوجد
١٥١ عرب	التحرير العربي	٢	٢	٠	ك (إجباري)	لا يوجد
١٠١ ترب	مبادئ التربية	٢	٢	٠	ك (إجباري)	لا يوجد
١٠٤ خاص	مقدمة في التربية الخاصة	٢	٢	٠	ك (إجباري)	لا يوجد
١٠٣ نفس	مبادئ الإحصاء التربوي	٢	٢	٠	ك (إجباري)	لا يوجد
١٠١ لؤل	لغة إنجليزية ١٠١	٣	٣	٠	ك (إجباري)	لا يوجد
١٠١ نفس	مبادئ علم النفس	٢	٢	٠	ك (إجباري)	لا يوجد
١٥١ بدن	الصحة والسلامة	٢	٢	٠	ك (إجباري)	لا يوجد
مجموع الوحدات الدراسية		١٧	١٧	٠		

المستوى الثاني

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		المعمدة	النظرية	المعملية		
٢٧٢ سلم	النظام الاجتماعي في الإسلام	٢	٢	٠	ج (إجباري)	لا يوجد
١٥٢ عرب	الاتصال اللغوي	٢	٢	٠	ك (إجباري)	لا يوجد
١٣٢ أدر	إدارة تربوية	٢	٢	٠	ك (إجباري)	لا يوجد
١٥٢ ترب	مهارات البحث	٢	٢	٠	ك (إجباري)	لا يوجد
١٦٢ نفس	علم نفس النمو	٢	٢	٠	ك (إجباري)	لا يوجد
١٤٢ نهج	بناء وتطوير المناهج	٢	٢	٠	ك (إجباري)	لا يوجد
١٥٢ تقن	تقنيات التعليم	٢	٢	٠	ك (إجباري)	لا يوجد
١٠٨ قرأ	علم التجويد (١)	٢	٢	٠	ك (إجباري)	لا يوجد
	الختاري (١)	٢	٢	٠	ك (اختياري)	لا يوجد
مجموع الوحدات الدراسية		١٨	١٨	٠		

المستوى الخامس

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		المتعمدة	النظرية	العملية		
٣٥١ ترب	حقوق الطفل	٢	٢	٠	ت (إجباري)	١٠١ ترب
٣٥١ رياض	معمل الرياضيات	٢	١	٢	ت (إجباري)	لا يوجد
٣٥١ كيم	أساسيات الكيمياء	٢	١	٢	ت (إجباري)	لا يوجد
٣٥١ عرب	الصوتيات	٢	٢	٠	ت (إجباري)	لا يوجد
٣٥١ نهج	تنمية المفاهيم والمهارات الإسلامية	٢	٢	٠	ت (إجباري)	لا يوجد
٣٥٢ نهج	طرق تدريس ١ (لغة عربية)	٢	٢	٠	ت (إجباري)	٢٣١ نهج
٣٥١ نفس	سيكولوجية اللعب عند الأطفال	٢	٢	٠	ت (إجباري)	١٦٢ نفس
	ساعات حرة	٣	٣		ك (اختياري)	لا يوجد
	اختياري (٢)	٢	٢	٠	ك (اختياري)	لا يوجد
مجموع الوحدات الدراسية		١٩	١٧	٤		

المستوى السادس

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		المتعمدة	النظرية	العملية		
٣٣٤ نهج	طرق تدريس خاصة (دراسات إسلامية)	٢	٢	٠	ك (إجباري)	لا يوجد
٣٦١ نهج	تنمية المفاهيم والمهارات الرياضية	٢	٢	٠	ت (إجباري)	٣٥١ نهج
٣٦٢ نهج	تنمية المفاهيم والمهارات العلمية	٢	٢	٠	ت (إجباري)	لا يوجد
٣٦١ عرب	ادب الأطفال	٢	٢	٠	ت (إجباري)	لا يوجد
٣٦١ فيز	أساسيات الفيزياء	٢	١	٢	ت (إجباري)	لا يوجد
٣٦١ رياض	أساسيات الجبر	٢	١	٢	ت (إجباري)	لا يوجد
٣٦١ ترب	قضايا تربوية معاصرة	٢	٢	٠	ت (إجباري)	١٠١ ترب ١٥٢ ترب
٣٦١ سلم	فقه العبادات	٢	٢	٠	ت (إجباري)	لا يوجد
	اختياري (٣)	٢	٢	٠	ك (اختياري)	لا يوجد
مجموع الوحدات الدراسية		١٨	١٦	٤		

المستوى الثالث

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		المعمدة	النظرية	المعملية		
٢٧٣ سلم	النظام الاقتصادي في الإسلام	٢	٢	٠	ج (إجباري)	لا يوجد
٢٠٣ نفس	علم النفس التربوي	٢	٢	٠	ك (إجباري)	١٠١ نفس
٣٠١ تقن	تطبيقات الحاسب في التعليم	٢	٢	٠	ك (إجباري)	لا يوجد
٤٠١ ترب	مهارات التفكير	٢	٢	٠	ك (إجباري)	١٠١ نفس
٢٣١ نهج	تعمية المفاهيم والمهارات اللغوية	٢	٢	٠	ت (إجباري)	لا يوجد
٢٣١ عرب	النحو الوظيفي (١)	٢	٢	٠	ت (إجباري)	لا يوجد
٢٣١ حيا	أحياء (١)	٢	١	٢	ت (إجباري)	لا يوجد
٢٣١ قرأ	التجويد والتلاوة المجودة	٢	٢	٠	ت (إجباري)	١٠١ ترب
٢٣١ تقن	مدخل إلى التربية الفنية	٢	٢	٠	ت (إجباري)	لا يوجد
مجموع الوحدات الدراسية		١٨	١٧	٢		

المستوى الرابع

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		المعمدة	النظرية	المعملية		
٢٧٤ سلم	النظام السياسي في الإسلام	٢	٢	٠	ج (إجباري)	لا يوجد
٣٠٦ ترب	التقويم التربوي	٢	٢	٠	ك (إجباري)	١٠٣ نفس
٣٠١ نهج	استراتيجيات التدريس	٢	٢	٠	ك (إجباري)	لا يوجد
٢٤١ عرب	النحو الوظيفي (٢)	٢	٢	٠	ت (إجباري)	لا يوجد
٢٤١ رياض	الرياضيات المدرسية	٢	١	٢	ت (إجباري)	لا يوجد
٢٤١ حيا	أحياء (٢)	٢	١	٢	ت (إجباري)	لا يوجد
٢٤٢ عرب	دراسات لغوية	٢	٢	٠	ت (إجباري)	لا يوجد
٢٤١ ترب	أخلاقيات مهنة التعليم	٢	٢	٠	ت (إجباري)	١٠١ ترب
٢٤١ سلم	فقه الطفولة	٢	٢	٠	ت (إجباري)	لا يوجد
مجموع الوحدات الدراسية		١٨	١٦	٤		

المستوى السابع

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		الممتدة	النظرية	العملية		
٤١٥ نهج	تصميم وتطوير الدروس	٢	٢	٠	ك (إجباري)	لا يوجد
٤٧١ نهج	طرق تدريس ٣ (علوم)	٢	٢	٠	ت (إجباري)	٣٦٢ نهج
٤٧١ عرب	الخط العربي	٢	٢	٠	ت (إجباري)	لا يوجد
٤٧١ رياض	هندسة مستوية	٢	١	٢	ت (إجباري)	لا يوجد
٤٧١ حيا	أحياء ٣	٢	١	٢	ت (إجباري)	لا يوجد
٤٧٢ عرب	الآداب العربية	٢	٢	٠	ت (إجباري)	لا يوجد
٤٧١ خاص	استراتيجيات التدخل المبكر والدمج	٢	٢	٠	ت (إجباري)	١٠٤ خاص
٤٧١ ترب	تربية الطفل في الإسلام	٢	٢	٠	ت (إجباري)	١٠١ ترب
٤٧٢ نهج	طرق تدريس ٤ (رياضيات)	٢	٢	٠	ت (إجباري)	٣٦١ نهج
مجموع الوحدات الدراسية		١٨	١٦	٤		

المستوى الثامن

رمز المقرر	مسمى المقرر	الوحدات الدراسية			نوع المقرر	المتطلب السابق
		الممتدة	النظرية	العملية		
٤٢٦ نهج	التربية العملية	٨	٠	١٦	ك (إجباري)	٣٣٤ نهج
مجموع الوحدات الدراسية		٨	٠	١٦		

Appendix B
Practicum programme description

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
Dammam University
College of Education



المملكة العربية السعودية
وزارة التعليم العالي
جامعة الدمام
كلية التربية
التربية العملية

أولاً: أهداف التربية العملية:

تمثل التربية العملية الركن الأساسي في مجال الإعداد التربوي والمهني والثقافي للمعلمين وتهدف إلى تحقيق مجموعة من الغايات منها:

- توفير الخبرات العملية التي تساعد المتدرب على اكتساب المهارات والاتجاهات المهنية للمعلم.
- إتاحة الفرصة للطلاب المعلم للتعرف على المناهج الدراسية في المرحلة التي يعد للتدريس بها.
- إتاحة الفرصة للطلاب المعلم لاكتساب المهارات الأساسية للتدريس .
- إتاحة الفرصة للطلاب المعلم لمعرفة قدراته وإمكاناته التدريسية .
- تنمية الميول الإيجابية نحو مهنة التدريس في المرحلة التي يعد للتدريس بها.
- توفير الفرص للطلاب المعلم للاتصال المباشر بالتلاميذ والمعلمين والعاملين في مدارس التطبيق .
- إعداد الطلاب المعلم للتعرف على واجبات المعلم ومسؤولياته.
- توظيف الطلاب المعلم لاستراتيجيات التدريس والتعلم المناسبة لطبيعة المنهج المدرسي .
- تعديل سلوك الطلاب المعلم التدريسي والتربوي وتحسينه.
- تدعيم سلوكيات الطلاب المعلم الحسنة وأدائه السليمة.

ثانياً: متطلبات التربية العملية:

توجد بعض المتطلبات السابقة اللازمة للطلاب المعلم لكي يسجل في برنامج التربية العملية وتتمثل هذه المتطلبات فيما يلي:

- أن ينهي الطالب مقررات التخصص والكلية
- ألا يسجل الطالب أكثر من مقررین صباحاً بواقع ست ساعات .
- أن ينهي الطالب دراسة المتطلبات السابقة لقسم المناهج وطرق التدريس.

ثالثاً: الخطة الزمنية لبرنامج التربية العملية في ضوء المراحل التالية :

يسير برنامج التربية العملية في ضوء المراحل التالية :

الأسبوع	المهام والأعمال
الأول	تهيئة واستلام الجداول
الثاني	مشاهدة للمعلم المتعاون
الثالث	مشاهدة للمعلم المتعاون
الرابع	تدريب فعلي
الخامس	تدريب فعلي
السادس	تدريب فعلي
السابع	تدريب فعلي
الثامن	تدريب فعلي
التاسع	تدريب فعلي
العاشر	تدريب فعلي
الحادي عشر	تدريب فعلي
الثاني عشر	تدريب فعلي
الثالث عشر	تدريب فعلي
الرابع عشر	تدريب فعلي
الخامس عشر	تدريب فعلي

رابعاً: النصاب التدريسي للطلاب المعلم:

يتم توزيع النصاب التدريسي للطلاب المعلم كما يلي:

- النصاب التدريسي للطلاب المعلم من ثماني حصص إلى عشر حصص أسبوعياً .
- للطلاب المعلم أربع حصص (حصتان انتظار، وحصتان نشاط)
- عدم تكليف الطالب المعلم بتدريس مناهج في غير تخصصه

رابعاً: أدوار المشاركين في التربية العملية:

نظراً لتعدد الجهات المشاركة في تنفيذ برنامج التربية العملية، فإنه من الضرورة تحديد

الأدوار المختلفة للمشاركين في تفعيل هذا البرنامج كما يلي:

(1) المشرف الأكاديمي:

للمشرف الأكاديمي العديد من الأدوار والمهام ومنها مايلي:

- حضور الاجتماعات وفق الخطة التي يقرها مكتب التربية العملية.

- عقد اجتماع مع طلابه في بداية برنامج التربية العملية وفقا للآلية التي يقرها مشرف التربية العملية.
- القيام بعدد من الزيارات العملية شريطة أن لا تقل عن النصاب الذي يحدده مكتب التربية العملية (أربع زيارات صفية وزيارتان لاصفية).
- يبدأ توجيه الطالب المعلم في الزيارة الأولى والثانية، ويقوم الطالب في الزيارتين الثالثة والرابعة.
- توجيه الطالب المعلم إلى الطرائق والأساليب التي تضمن له أكبر قدر من الاستفادة خلال فترة التربية العملية.
- متابعة الطالب المعلم في إعداد ملف الإنجاز الخاص به.
- رفع الغياب والتأخير عن المتدرب_ إن وجد_ إلى مشرف التربية العملية.
- الحصول على تقييم المدير والمعلم المتعاون ورفعهما مع باقي استمارات التقييم.
- تزويد مكتب التربية العملية بالتقييم والدرجة النهائية لأداء المتدرب في التربية العملية وهي عبارة عن متوسط الدرجات المقدرة لأداء المتدرب من قبل المشرف الأكاديمي مضافا لها الدرجات المقدرة من قبل مدير المدرسة والمعلم المتعاون.

(2) المعلم المتعاون:

يقوم المعلم المتعاون بالعديد من الأدوار:

- استقبال الطلاب المعلمين في مجال التخصص.
- تزويد الطلاب المعلمين بما يحتاجونه من أدوات ووسائل لعمل مسح شامل لتلاميذ المدرسة.
- تمكين الطالب المعلم من مشاهدة بعض الحصص في مجال التخصص.
- متابعة دفتر تحضير الدروس.
- زيارة الطلاب المعلمين داخل غرفة مصادر التعلم.
- التواصل مع المشرف الأكاديمي لمناقشة الملاحظات على الطالب المعلم.
- تقييم الطالب المعلم بنهاية فترة التطبيق من خلال استمارة معدة لهذا الغرض.

(3) مدير المدرسة:

أدوار مدير المدرسة تتمثل فيما يلي:

- استقبال الطلاب المعلمين وتعريفهم بأنظمة المدرسة.
- تسليم الطلاب المعلمين الجدول الرسمي (8 حصص تدريسية؛ حصتان انتظاري؛ حصتان نشاط).
- إتاحة الفرصة للطلاب المعلمين للمشاركة في الأنشطة المدرسية.
- متابعة الطلاب المعلمين في النواحي الإدارية.
- تقييم الطلاب المعلمين إداريا من خلال استمارة معدة لهذا الغرض.

(4) الطالب المعلم:

وتتمثل أدوار الطالب المعلم فيما يلي:

- التقيد بتعليمات المدرسة.
- الالتزام بتحضير الدروس.
- مشاهدة بعض الحصص عند المعلم المتعاون.
- القيام بما تكلفه به إدارة المدرسة من مهام مختلفة.

• المشاركة في الأنشطة المدرسية المختلفة.

- حضور الاجتماع الأسبوعي للمشرف الأكاديمي.
- حضور لقاءات مكتب التربية العملية.
- حضور المحاضرات والدورات التدريبية التي يوفرها مكتب التربية العملية.
- التواجد بالمدرسة من بداية اليوم الدراسي حتى نهايته.
- عدم إخلاء الطرف من مدرسة التطبيق إلا بعد الانتهاء من الاختبارات.
- الالتزام بإعداد ملف الإنجاز الخاص به.

خامسا: آلية الحضور والغياب في برنامج التربية العملية:

يجب على الطالب المعلم الالتزام بالضوابط الآتية للحضور في مدارس التطبيق الميداني:

- ضرورة الحضور في موعد الدوام الرسمي للمدرسة.
- ضرورة إبلاغ إدارة المدرسة في حالة الغياب عن الحضور.
- لا يسمح للطالب المعلم بالغياب عن المدرسة إلا بعذر طبي من مستشفى حكومي.
- يلتزم المتدرب بضوابط المدرسة وقوانينها ويسري عليه ما يسري على المعلم الرئيس بهذه المدرسة.
- كل تأخيرين يحسب بيوم كامل.
- للمشرف الأكاديمي الحق في توجيه الإنذار الأول للطالب المعلم إذا تغيب يومين متتاليين أو مفردين من دوام المدرسة.
- للطالب المعلم أربعة أيام غياب مفردة فقط وإذا تغيب أكثر من ذلك دون عذر - يحرم من التربية العملية.
- ينذر الطالب المعلم الإنذار الثاني بعد غيابه أربعة أيام، ثم يخبر بحرماته إذا لم يكن لديه عذر مقبول.
- يحرم الطالب المعلم من التربية العملية إذا غاب الطالب اليوم الخامس.

سادسا: تقويم الطلاب المعلمين في التربية العملية:

يتم تقويم الطالب المعلم وفق آلية محددة يشترك فيها كل من المشرف الأكاديمي، والمعلم المتعاون ومدير المدرسة وفق نماذج خاصة بذلك على أن توزع الدرجات على النحو التالي:

1- تسعون درجة للمشرف الأكاديمي (ثمانون للأداء التدريسي، وخمس درجات للأنشطة التعليمية، وخمس درجات لتوظيف الوسائل التعليمية).

2- خمس درجات للمعلم المتعاون.

3- خمس درجات لمدير المدرسة.

Appendix C
Pre-service teachers' interviews (English version)

Personal information	QUESTIONS
Student's field	
Student's age	
Student's GPA	
Student's epistemology	<ul style="list-style-type: none"> - Do you think that there is a 'right' solution to any problem you may face? (For instance, when you face a problem of difficulty to motivate students in your class do you think that there is one specific answer to motivate your students)? - When you face a teaching or learning issue, how do you think you will solve it? - Do you trust all authors? - Who do you trust to help you solve problems in your teaching?
Student's teaching and learning attitude	<ul style="list-style-type: none"> - Do you like to be a teacher? - Why did you choose to be a teacher? - What does teaching mean to you? <p>Questions regarding some learning and teaching attitudes (emphasised by Dewey)</p> <p>Open-mindedness</p> <ul style="list-style-type: none"> - Do you like to try new methods in learning or teaching practice? - Do you like considering new ideas when analysing teaching problems or when trying to solve them in new ways? - Are you willing to change your teaching practices or thought when you feel convinced of other ideas or other perspectives? <p>Whole-heartedness to reflection</p> <p>Are you enthusiastic to reflect on your teaching practice? By identifying your incidents and trying to address them and by evaluating the solutions to improve your teaching practice.</p> <p>Curiosity</p> <ul style="list-style-type: none"> - Do you usually like to discover new things regarding your teaching practice? Or about your learning and professional development in general?
Student's technology experience	<ul style="list-style-type: none"> - Do you have a personal blog? - Do you have an account on any other social media? List them, please? - How much time do you spend on social media a day? - Do you use technology to learn about teaching for professional development? Or for learning in general? If yes, how? - Do you read teachers' blogs? If yes, could you please provide me with some examples?

Interview questions (first phase)

Research question	Interview questions
The meaning and benefits from reflection	<ul style="list-style-type: none"> - Have you heard before about reflective practice? Where and from whom have you heard about it? - Tell me what do you think is the purpose of reflective practice? - Tell me about your initial expectations of reflective practice? - Could you please tell me if you expect that there will be any benefits of reflective thinking? - Tell me about your expectations of the impact of reflective practice on your teaching practice?
Reflective practice and your feelings	<ul style="list-style-type: none"> - Can you describe your feelings when you heard about this project (reflective practice)? - How do you feel regarding criticising yourself or your practice? - Do you welcome hearing criticism by others (peers, teachers, supervisor)?
Facilitators and impedimentary factors for reflection	<ul style="list-style-type: none"> - What do you expect are the facilitatory factors that would help with your reflection on your practice? - Tell me about other factors that you think would help you to think deeply when reflecting on your practice? - How do you think these factors will help you in your reflection? - What impedimentary factors do you expect to face when reflecting on your practice? - How do you think you will overcome them?
Technical challenges and opportunities when using electronic reflection	<ul style="list-style-type: none"> - Can you tell me about your expectations of using electronic reflective journals to reflect on your practice, including: <ul style="list-style-type: none"> o The main blog o Your individual personal blog - What do you think about using technology as a means to reflect on your practice? - What are the challenges that you think you may face when using technology to reflect on your practice? And how do you think you will overcome them?

Interview questions (second/third phase)

Research question	Interview questions
The meaning and benefits from reflection	<ul style="list-style-type: none"> - From your experience of engaging with reflection, could you explain what reflection means for you? What do you do in it? - Could you please tell me if there are any benefits of engaging with reflection? - Tell me about your teaching practice after engaging in reflective practice? Is there any change?
Reflective practice and your feelings	<ul style="list-style-type: none"> - Can you describe your feelings about reflection in this stage? - Do you find it hard to criticise yourself or your practice? - Do you welcome hearing criticism by others (peers, teachers, supervisor)?
Self-reflection improvement	<ul style="list-style-type: none"> - Can you tell me about any changes that you think have occurred in your ability to self-reflect? - How do you consider your previous experience? - Do you plan to reflect on your practice in the future?
Facilitators and impedimentary factors for reflection	<ul style="list-style-type: none"> - Can you tell me about your experience regarding the support that was available to you to help with your reflection? - Tell me more about the other factors that help you to think at a deep level when reflecting on your practice. - What impedimentary factors did you face when reflecting on your practice? - How did you overcome them?
Technical challenges and opportunities when using electronic reflection	<ul style="list-style-type: none"> - Can you tell me about your experience of using electronic reflective journals to reflect on your practice, this includes: <ul style="list-style-type: none"> o The main blog o Your individual blog - What do you think about using technology as a means to reflect on your practice? - What are the challenges that you have faced when using technology to reflect on your practice? And how do you overcome them?

Appendix D
Pre-service teachers' interviews (Arabic version)

معلومات الطالبة الشخصية	الأسئلة
التخصص	
العمر	
المعدل الدراسي التراكمي	
نظرية الطالبة المعرفية	<ul style="list-style-type: none"> - هل تعتقدين بأن هناك حلاً صحيحاً لأي مشكلة قد تواجهينها؟ مثلاً لو واجهتي مشكلة عدم القدرة على جذب انتباه الطالبات، هل تعتقدين بأن هناك حل معين واحد سيجذب انتباه الطالبات؟ - عندما تواجهين مشكلة في التدريس أو في التعلم، كيف تظنين بأنك سوف تقومين بحلها؟ - هل تثقين في آراء جميع مؤلفي الكتب؟ - بمن تثقين عادةً لمساعدتك في حل مشكلاتك التدريسية؟
اتجاهات الطالبة من التدريس والتعلم	<ul style="list-style-type: none"> - هل ترغبين في ممارسة مهنة التدريس؟ - لماذا اخترت مهنة التدريس؟ - ماذا يعني لك التدريس؟ <p>أسئلة خاصة بموقف الطالبة من التعلم والتدريس (أكد العالم ديوي على أهميتها للانخراط في عملية التأمل الذاتي)</p> <p><u>التفتح الذهني:</u></p> <ul style="list-style-type: none"> - هل لديك الرغبة في ممارسة أساليب جديدة في التعلم أو في التدريس بشكل عام؟ - هل لديك الرغبة في النظر إلى أفكار جديدة عند تحليل مشاكلك التدريسية أو عند رغبتك في حلها بطرق جديدة؟ - هل أنت على استعداد لتغيير ممارساتك التدريسية أو فكرك عندما تشعر بالافتقار بأفكار أو وجهات نظر أخرى؟ <p><u>إظهار الحرس والحماس للتأمل الذاتي:</u></p> <ul style="list-style-type: none"> - هل تشعرين بالحماس لممارسة التأمل الذاتي المهني؟ من خلال تحديد مشكلاتك التدريسية ومحاولة حلها و تقييم تلك الحلول للارتقاء بمستواك التدريسي <p><u>الفضول:</u></p> <ul style="list-style-type: none"> - هل تشعرين بالرغبة والفضول لتعلم ما هو جديد حول ممارسة التدريس أو حول التعلم والتطوير المهني بشكل عام؟
خبرة الطالبة التقنية	<ul style="list-style-type: none"> - هل لديك مدونة شخصية؟ - هل لديك أي حساب في مواقع التواصل الاجتماعية الأخرى؟ الرجاء كتابة قائمة بمواقع التواصل الاجتماعية المستخدمة. - كم من الوقت تستغرقينه يومياً لتصفح مواقع التواصل الاجتماعي؟ - هل تستخدمين التقنية لتعلم ما هو جديد حول التدريس لمساعدتك في النمو المهني؟ أو للتعلم بشكل عام؟ إذا كانت اجابتك بنعم، يرجى توضيح الكيفية؟ - هل تقرئين مدونات خاصة بالمعلمين؟ في حالة الإجابة بنعم يرجى إعطاء أمثلة؟

أسئلة المقابلة (المرحلة الأولى)

مجالات أسئلة البحث	أسئلة المقابلة
معنى التأمل التدريسي و فوائده المحتملة	<ul style="list-style-type: none"> - هل سمعت من قبل بالتأمل الذاتي ؟ - وماذا تتصورين من الممكن أن يكون الغرض من التأمل الذاتي؟ - أو ما هو الهدف حينما يقوم المعلم برصد بعض المواقف التي تحدث في الصف ومحاولة حلها - ما هي توقعاتك الأولية لممارسة التأمل الذاتي؟ - هل تتوقعين وجود أي فوائد لممارسة التأمل الذاتي؟ - ماهي توقعاتك حول تأثير ممارسة التأمل الذاتي على ممارساتك التدريسية ؟
مشاعر الطالبة والتأمل التدريسي	<ul style="list-style-type: none"> - صفي مشاعرك حينما سمعت بهذا المشروع (التأمل التدريسي) ؟ - هل يصعب عليك نقد ذاتك أو انتقاد غيرك ؟ - هل ترحبين بسماع النقد من الآخرين (زميلاتك ، المعلمات، المشرفات)
العوامل الميسرة و معوقات التأمل الذاتي	<ul style="list-style-type: none"> - ماهي العوامل الميسرة والتي تتوقعين بأنها سوف تساعدك في التأمل حول ممارساتك التدريسية. - أخبريني عن العوامل الأخرى التي تتوقعين بأنها سوف تساعدك للوصول الى التأمل الذاتي الناقد حول ممارساتك التدريسية؟ - كيف تعتقدين أن هذه العوامل سوف تساعدك على التأمل؟ - ما هي العوامل المعيقة التي تتوقعين أن تواجهينها عند ممارستك للتأمل الذاتي حول ممارساتك التدريسية؟ - لماذا تعتقدين أنها عوامل معيقة؟ وكيف تتوقعين تجاوزها؟
الفرص والتحديات التقنية عند استخدام مجالات التأمل الإلكترونية	<ul style="list-style-type: none"> - ماهي توقعاتك حول استخدام المجالات الالكترونية التأملية للممارسة التأمل الذاتي المهني ويشمل ذلك: <ul style="list-style-type: none"> • المدونة الرئيسية. • مدونتك الفردية الخاصة. - ماذا تتوقعين من استخدام التقنية كوسيط للتأمل الذاتي ؟ - ماهي التحديات التي تعتقدين أنك سوف تواجهينها عن استخدام التقنية للتأمل الذاتي؟ وكيف تعتقدين بأنك سوف تتغلبين عليها؟

أسئلة المقابلة (المرحلة الثانية و الثالثة)

مجلات أسئلة البحث	أسئلة المقابلة
معنى التأمل التدريسي و فوائده المحتملة	<ul style="list-style-type: none"> - من خلال تجربتك للتأمل الذاتي كمعلمة تدريب ميداني، هل بإمكانك اخباري ماذا يعني لك ممارسة التأمل الذاتي؟ كيف تمارس التأمل التدريسي ؟ - هل هناك أي فوائد للممارسة التأمل الذاتي؟ - أخبريني عن ممارساتك المهنية بعد انخراطك في عملية التأمل الذاتي ؟ هل هناك أي تغيير يذكر؟
مشاعر الطالبة و التأمل التدريسي	<ul style="list-style-type: none"> - صفي مشاعرك عن التأمل في هذه المرحلة من الدراسة ؟ - هل يصعب عليك نقد ذاتك أو انتقاد أدائك ؟ - هل ترحبين بسماع النقد من الآخرين (زميلاتك ، المعلمات، المشرفات) ولماذا ؟
مدى تطور التأمل الذاتي	<ul style="list-style-type: none"> - هل بالإمكان اخباري حول أي تغيرات تعتقدين بأنها طرأت على قدرتك في التأمل الذاتي؟ - كيف تتظرين لخبراتك السابقة ؟ - هل تنوين للتأمل التدريسي في مستقبلك المهني ؟
العوامل الميسرة و معوقات التأمل الذاتي	<ul style="list-style-type: none"> - هل يمكن أن تخبرني عن تجربتك فيما يتعلق بالدعم الذي توفر لك لمساعدتك في تأملك الذاتي؟ - أخبريني أكثر عن العوامل الأخرى التي تعتقدين بأنها ساعدتك للوصول الى المستوى الناقد عند تأملك التدريسي ؟ - ماهي العوامل المعيقة التي واجهتها عند ممارستك للتأمل الذاتي؟ - وكيف تغلبتي عليها؟
الفرص و التحديات التقنية عند استخدام مجلات التأمل الإلكترونية	<ul style="list-style-type: none"> - تحدثني عن تجربتك في استخدام المجالات الالكترونية التأملية لممارسة التأمل الذاتي ويشمل ذلك: <ul style="list-style-type: none"> • المدونة الرئيسية. • مدونتك الفردية الخاصة. - ماذا تتوقعين من استخدام التقنية كوسيط للتأمل الذاتي ؟ - ماهي التحديات التي واجهتها عند استخدام التقنية للتأمل الذاتي؟ وكيف تغلبت عليها؟

Appendix E
Supervisors' interviews (English version)

Interview questions
<ul style="list-style-type: none">• To what extent do you think Saudi pre-service teachers reflect on their practice during this study?• What do you think are the affordances of using electronic reflective journals as a method of learning?• What are the disincentives of using electronic reflective journals as a method of learning?• What do you think are the main challenges of adopting electronic reflective journals as a method of learning for pre-service teachers?• How do you think one can overcome these challenges?• What are the main factors that could facilitate reflection when adopting electronic reflective journals as a method of learning for pre-service teachers?• What do you think about using technology in general as a tool to prompt reflection ability?

Appendix F
Supervisors' interviews (Arabic version)

أسئلة المقابلة

- إلى أي مدى تعتقد أن المدرسات ما قبل الخدمة السعوديات تأملن في ممارستهم التعليمية خلال هذه الدراسة؟
- ما هو برأيك فوائد استخدام المجالات الإلكترونية العاكسة كوسيلة للتعلم؟
- ماهي مميزات استخدام المجالات الإلكترونية العاكسة كوسيلة للتعلم؟
- ما هي برأيك التحديات الرئيسية لتبني المجالات الإلكترونية العاكسة كوسيلة للتعلم لمعلمي ما قبل الخدمة؟
- كيف تعتقد أنه يمكن للشخص التغلب على هذه التحديات؟
- ما هي العوامل الرئيسية التي يمكن أن تساعد في التأمل عند اعتماد المجالات الإلكترونية العاكسة كوسيلة للتعلم لمعلمي ما قبل الخدمة؟
- ما رأيك في استخدام التكنولوجيا بشكل عام كأداة لتحفيز القدرة على التأمل ؟

Appendix G

Reflecting on the reflection requirement from pre-service teachers (English version)

N	Questions
1	What did the experience of participating in teaching reflection add to you?
2	What was your most enjoyable moment during your participation in the reflection project?
3	Did this experience change any of your perceptions? If so, how?
4	What did you learn about yourself during the reflection project?
5	How was the experience of reflective practice similar or dissimilar to what you expected?
6	What impact did this have on how you think and feel? And how?
7	Describe the specific contributions you made.
8	What unexpected difficulties did you encounter?
9	Identify the extent of your personal growth as a participant in the reflection project.
10	Describe the challenges, successes, failures and how you dealt with them?
11	Do you feel that participating in the reflection project makes a difference to you as a teacher? If yes, how?

Appendix H

Reflecting on the reflection requirement from pre-service teachers (Arabic version)

م	الأسئلة
١	ماذا أضافت لك تجربة التأمل التدريسي ؟
٢	ما هي أكثر اللحظات التي استمتعت بها خلال اشتراكك في مشروع التأمل ؟
٣	هل غيرت تجربتك التأملية شيئاً من تصوراتك ؟ إذا كانت اجابتك نعم, كيف ؟
٤	ماذا تعلمت عن نفسك خلال مشروع التأمل التدريسي ؟
٥	هل كانت تجربة التأمل مخالفة لتوقعاتك أو مشابهة لها ؟ اشرحي اجابتك ؟
٦	ما أثر ذلك على تفكيرك ومشاعرك ؟ وكيف ؟
٧	ما الإسهامات التي قمتي بها خلال مشروع التأمل ؟
٨	ما الصعوبات الغير متوقعة التي واجهتك ؟
٩	ما مدى نموك الشخصي كمشاركة في مشروع التأمل ؟
١٠	صفي التحديات, النجاحات والإخفاقات, وكيف تعاملت معها ؟
١١	هل اشتراكك في المشروع احدث لديك فرقاً كمعلمة؟ إذا كانت اجابتك نعم, كيف ؟

Appendix I

The main blog's components

Reflective Thinking

خطوات إنشاء وتعديل صفحات المدونة

الصفحات

- الصفحة الرئيسية
- ماذا يقصد بالتفكير التأملي ؟
- الفائدة من التأمل
- انفوقرالفك الممارسة التأملية المعتمدة على نموذج بي...
- الكتابة و التفكير التأملي
- التأمل باستخدام إطار بين الخماسي
- خطوات انشاء و تعديل صفحات المدون
- تطور أحد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجالات تأملية تركز على إدارة السلوك
- مجالات تأملية تركز على إدارة وتنظيم الصف
- أمثلة لمجالات تأملية حول التقييم

من أنا

عرض الملف الشخصي الكامل لـ shatha

المدونات التأملية للطلّابات

- المدونة الأولى
- المدونة الثانية
- المدونة الثالثة
- المدونة الرابعة
- المدونة الخامسة
- المدونة السادسة
- المدونة السابعة
- المدونة الثامنة
- المدونة التاسعة
- المدونة العاشرة
- المدونة الحادية عشر
- المدونة الثانية عشر

ماذا يقصد بالتفكير التأملي ؟

يعتبر التفكير التأملي جانباً حيوياً من جوانب التعلم المستمر والتطوير المهني في مجال التدريس ومجالات مهنة الرعاية الأخرى (رودجرز، 2002؛ كيلي أند مولوني، 2010؛ جونز وريان، 2014). ويمكن للتفكير التأملي أن يساعد المعلمين في التوصل إلى فهم جديد لممارساتهم الخاصة، وذلك عند استكشافهم و تأملهم في المعرفة الضمنية خلال ممارساتهم التعليمية (كوكران سميث وليتل، 1999؛ بود وآخرون، 2013؛ غاي، 2010).

ويحدث ذلك من خلال مبادرات الطالب المعلم المستمرة للتعلم في كيفية الاختيار بين الاستراتيجيات المختلفة، واتخاذ القرارات الحكيمة، والتفكير بشكل عقلاني عند البرهنة أو الاستنتاج ، من أجل تحسين ممارساتهم التدريسية (كوكران سميث وليتل، 1999).

ويعرف ديوي (١٩٣٣، ص ٩) (الذي يعتبر مؤلفاً رئيسياً في مجال التأمل) التفكير التأملي بأنه "الدراسة النشطة والمستمرة والدقيقة لأي اعتقاد أو شكل من أشكال المعرفة المفترضة في ضوء مسبقاتها ونتائجها".

ومن الضروري استيعاب أن التأمل ليس هدفاً في حد ذاته؛ بل هو وسيلة تُمكن المعلمين من التعلم أثناء ممارستهم.

يذكر رودجرز (2002، p.86) بأن "التأمل ليس غاية في حد ذاته بل هو أداة أو مركبة تُستخدم في تحويل التجربة الخام إلى نظرية غنية بالمعنى مستندة إلى التجربة، مستنبطة بالنظرية القائمة، بحيث تخدم الغرض الأكبر للنمو الأخلاقي للفرد والمجتمع"

ويُنظر إلى التأمل على أنه عملية تساعد على سد الفجوة بين النظرية والممارسة لأنها تساعد المعلمين - بمرور الوقت - من إبراز معرفتهم الضمنية بشكل صريح ، تلك المعرفة المتواجدة بشكل ضمني في تجاربهم الحقيقية (كوكران وآخرون، 2001؛ كوكران سميث وليتل 1999). ويتيح التأمل أيضاً للمعلمين المتدربين الحصول على معرفة جديدة وبصيرة من خلال ممارستهم الحالية بغرض تحسينها (غاي، 2010).

ليست هناك تعليقات:

إرسال تعليق

أدخل تعليقك...

التعليق باسم: shatha (G) تسجيل الخروج

إعلامي ☐ معاينة

الصفحة الرئيسية

الاشتراك في: الرسائل (Atom)

قائمة الكتب للتحميل

المبادرة في إدارة الصفوف

Several pages to articulate the meaning of reflection

Participants' individual blogs

الطلاب الجيدين . اخذ هذا الطفل في تنفيذ مهامه بمتعة ،على مدار اسبوع كامل أظهر خلاله سلوكيات جيدة . وكانت مهاراته القيادية واضحة للجميع. لقد سررت بنتيجة هذه التجربة ، ولكن تساءلت عما يجب القيام به في نهاية الاسبوع حينما يتوجب عليه التخلي عن دور المدير . تلقى هو والمديرون الآخرون تهانينا القلبية قبل تسليمهم مناصبهم إلى المدراء التاليين، ثم أخذوا الدور الثاني في مجموعاتهم بصفتهم "حفظة السلام" على طاولاتهم. ولكن دور "حفظة السلام" لم يكن مُحسناً فيما يبدو للطلاب المزعج.

مرة أخرى بحثت عن إجابة وفكرت في محاولة استخدام المنهج السلوكي، وذلك باستخدام المكافآت للسلوك المناسب. ولأن الأطفال كانوا قد اعتادوا الهيكلة الجماعية الجديدة ، فقد أعطيت نقاطاً للاتباع الجماعي الكامل والمشاركة النشطة. لقد وجدت أن الأطفال استجابوا جيداً لهذا من أجل الحصول على نقاط لمجموعاتهم كذلك تمكنت من استخدام التهديد بخضم النقاط عندما كنت أواجه أي مشكلة للحصول على اهتمامهم. استطعت القول على سبيل المثال "أنا أتطلع إلى إعطاء بعض النقاط هذا الصباح" وسأحصل على رد فوري. هذا عمل بشكل جيد لدرجة ما مع الصبي ذا السلوك الغير جيد ، ولكن هذه الطريقة أثارت شعوراً بالحسرة لدى الطلاب حيث أحسوا بأن التقرير لم يكن عادلاً، وكان الصف متوتراً بأكمله وساد جو غير ودي.

جعلني ذلك أعيد النظر في نهجي في إدارة السلوك وأدركت أنني قد انحرفت عن نهج التدريس المفضل لدي. ربما أجد وسيلة أفضل للحصول على السيطرة المباشرة على الفصل ، ولكن ماذا كنت لأفعل لرفع معنوياتهم و لرعاية شخصياتهم، التي لا تقدر بثمن، خلال هذه العملية؟ كنت أشاهد الأطفال ينتقلون من كونهم مسؤولين شخصياً عن أفعالهم و شعورهم بالقدرة على السيطرة على أنفسهم، إلى فئة من الأطفال يتنافسون بحسرة و بتوتر . وكانت المكافآت التي يتلقونها حالياً محفزاً خارجياً وليس جوهرياً . ولكي يتمكنوا من النمو داخلياً ، يجب أن يشعروا بقدرتهم على السيطرة على تصرفاتهم.

لقد أدركت من خلال تجربتي السابقة ، أن نهج تعديل السلوك لإدارة الفصول الدراسية ليست مرتبطة بنوع البيئة ونتائج التعلم التي كنت أسعى إليها . الفصول الدراسية المثالية تميل أكثر إلى تفعيل منهج علم النفس الاجتماعي للإدارة. وأعتقد أنه من خلال تعزيز القيادة المشتركة، والتواصل سيؤدي ذلك إلى فهم شعور الآخرين وأفكارهم، وسيؤدي إلى التماسك الاجتماعي والصداقة، وإلى مجموعة آمنة من التوقعات. ويعتقد النظريون جونسون ويبيبي أن مستوى معنويات الفصول الدراسية يؤثر بشكل كبير على إنتاجية المجموعة. إن فعالية المعلمين في تعزيز ما سبق، فضلاً عن قدرتهم على الحد من القلق وتخفيف التوتر، يعزز التعاون بدلاً من المنافسة.

ومع ذلك فإنني ممتن؛ لأنه أتيت لي تجريب طرق مختلفة للإدارة بحرية خلال فترة التدريب الميداني؛ حيث ساعدني ذلك على انشاء أسلوبتي الخاص وعزز ذلك الطريقة المفضلة لدي في التدريس والتعلم.

مرسلة بواسطة shatha في 4:57 ص
ليست هناك تعليقات:
G+    

الاشتراك في: الرسائل (Atom)
الصفحة الرئيسية
رسائل أقدم

قائمة الكتب للتحميل

- المبادرة في إدارة الصفوف
- خفايا و أسرار فهم السلوك
- المعلم الفاعل و التدريس الفعال
- استراتيجيات التدريس في القرن الحادي و العشرين
- إرشادات عملية لتعليم الصفوف ذات الأعداد الكبيرة

المتابعون

المتابعون (3)





إلغاء المتابعة

المظهر: بسيط. يتم التشغيل بواسطة Blogger.

Some e-books

Reflective Thinking

خطوات إنشاء وتعديل صفحات المدونة

الجمعة، 16 فبراير 2018

فيديو تعليمي لكيفية التأمل الناقد

اختاري الرابط للمشاهدة الفيديو
وقت ممتع

<https://www.youtube.com/watch?v=cgKQsA7vQ18>

مرسلة بواسطة shatha في 11:31 م

هناك تعليق واحد:

الخميس، 28 ديسمبر 2017

خطوات إنشاء وتعديل صفحات المدونة



مرسلة بواسطة shatha في 4:20 م

ليست هناك تعليقات:

الثلاثاء، 12 ديسمبر 2017

أمثلة لمجلات تأملية تركز على إدارة السلوك (بين و اخرون ، ٢٠٠٢)

أمثلة لمجلات تأملية تركز على إدارة السلوك (بين و اخرون ، ٢٠٠٢)

(مع ملاحظة انها مقتطفات من مجلاتهم التأملية بحيث بعضها لم يتناول الخمس مكونات كاملة)

المثال الأول

الطالب المعلم الذي كتب هذه المجلة التأملية كان يعاني من صعوبة في ممارسته التعليمية حيث كان يدرس عدداً من طلاب ذوي الاحتياجات الخاصة. ويعتقد هذا الطالب المعلم بقدرته على التعامل مع الطلاب المعاقين فكرياً، والتي تطورت من خلال تعامله مع أطفاله المعوقين فكرياً. ومع الأسف، فإن أسلوب الإدارة الذي اتبعه لم يكن فعالاً في الصف الدراسي، مما دفعه إلى اللجوء إلى الأدبيات للحصول على إجابات حول تساؤلاته.

يشير تشارلز (1996) إلى أن هناك أربعة مصادر رئيسية لأسباب سوء السلوك:

- 1 - أسباب متعلقة بمهام التعلم
- الشعور بالإعياء
- الشعور بالملل

الصفحات

- الصفحة الرئيسية
- ماذا يقصد بالتفكير التأملي ؟
- الفهم من التأمل
- انقور افك للممارسة التأملية المعتمدة على نموذج...
- أهمية التفكير التأملي
- التأمل باستخدام إطار بين الخماسي
- خطوات إنشاء وتعديل صفحات المدونة
- تطور أحد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجالات تأملية تركز على إدارة السلوك
- مجالات تأملية تركز على إدارة وتنظيم الصف
- أمثلة لمجلات تأملية حول التقييم

من أنا

shatha

عرض الملف الشخصي الكامل الخاص بي

المحتويات التأملية للطلاب

- الصفحة الأولى
- المدونة الثانية
- المدونة الثالثة
- المدونة الرابعة
- المدونة الخامسة
- المدونة السادسة
- المدونة السابعة
- المدونة الثامنة
- المدونة التاسعة
- المدونة العاشرة
- المدونة الحادية عشر
- المدونة الثانية عشر

A translated video to explain how to reflect at a critical level

A video to describe how to create pages in their blogs

Reflective Thinking

خطوات إنشاء وتعديل صفحات المدونة

الصفحات

- الصفحة الرئيسية
- ماذا يقصد بالتفكير التأملي ؟
- الفائدة من التأمل
- التفكير التأملي : المفاهيم الأساسية
- على نموذج بي...
- الكيفية و التفكير التأملي
- التأمل بأساليب ديام اطار بين الخماسي
- خطوات انشاء و تعديل صفحات المدونة
- تطورا أحد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجالات تأملية تركز على إدارة السلوك
- مجالات تأملية تركز على إدارة وتنظيم الصف
- أمثلة لمجالات تأملية حول التقييم

من أنا

shatha

عرض الملف الشخصي الكامل الخاص بي

المدونات التأملية للطالبات

- المدونة الأولى
- المدونة الثانية
- المدونة الثالثة
- **المدونة الرابعة**
- المدونة الخامسة
- المدونة السادسة
- المدونة السابعة
- المدونة الثامنة
- المدونة التاسعة
- المدونة العاشرة
- المدونة الحادية عشر
- المدونة الثانية عشر

التأمل باستخدام اطار بين الخماسي

كيف يمكنني تجاوز المستوى الوصفي للتأمل و الوصول الى المستوى الناقد؟

الممارسة التأملية ليست بالمهمة السهلة والتي يمكن أن تتحقق بسهولة من قبل معلمي ما قبل الخدمة، وبالتالي، فمن الضروري تأسيس أنشطة منظمة وتزويد الطلاب بتغذية راجعة بناءة مستمرة، فضلاً عن توفير الفرص لهم للتفاعل مع أقرانهم والمُدرِّسين عليهم.

يؤكد بين وآخرون، (2002، p.1) على أنه "مع توفر النماذج والأطر المناسبة للكتابة التأملية، ووجود التغذية الراجعة المناسبة والمستمرة يمكن للمعلمين الطلاب تعلم التفكير التأملي في مستويات متقدمة جدا."

الإطار RS 5 هو إحدى نتائج دراسة بحثية استمرت لمدة ثلاث سنوات، وكان البحث معنياً بكيفية تعزيز التفكير والكتابة التأملية للمشاركين (بين وآخرون، 1999؛ 2002). وقد أستخدم هذا الإطار في البداية لتقييم مستوى التفكير التأملية لدى الطلاب المعلمين.

ثم أستخدم الإطار لأغراض أخرى وهي: مساعدة المشاركين على فهم معنى التأمل، وتزويدهم بأداة لتساعدهم على تقييم كتاباتهم الخاصة من أجل تطوير مستوى التأمل المهني (باين وآخرون، 2002).

يحتوي الأدب البحثي على العديد من الدراسات التي استخدمت إطار 5Rs كنموذج لتشجيع ومساعدة معلمي ما قبل الخدمة عند تأملهم في ممارستهم المهنية حيث يساعدهم على تجاوز المستوى الوصفي لتأمل الوصول إلى التأمل الناقد لممارستهم التعليمية. (بين وآخرون، 2002؛ كارينغتون وسيلفا، 2010؛ ريان، 2011؛ ريان وريان، 2013).

ويمكن تحقيق ذلك عندما يستخدم معلمي ما قبل الخدمة هذا النموذج كمعبر للتحليل الذاتي لتقييم ممارساتهم الخاصة (بين وأخرون، 2002؛ كاريفتون وسيلاه، 2010). وعلاوة على ذلك، يمكن استخدام الإطار كأداة لتقييم مستويات التفكير التأملي لمعلمي ما قبل الخدمة من قبل المشرفين وذلك بغرض دعمهم من خلال منحهم التغذية الراجعة ذات الصلة لمساعدتهم على تطوير تفكيرهم التأملي (بين وأخرون، 2002؛ كاريفتون وسيلاه، 2010؛ ريان وريان، 2013).

شرح معنى المستويات المكونة للإطار الخماسي للتأمل

اقترح بين وآخرون (٢٠٠٢) مستويات متعددة للتأمل باستخدام اطر 5Rs والذي يتكون من اعداد التفكير، والاستجابة للحدث، توضيح العلاقة، والاستدلال وأخيرا إعادة التشكيل أو البناء . هذه المستويات تزداد تعقيدا حيث تبدأ بوضوح القضية أو المشكلة ثم الاستجابة الشخصية لها الي استخدام النظريات والخبرة لتشرح وفهم الموقف أو القضية بغرض تغيير الممارسة المهنية. يستخدم تحديد محتوى اطر (بين، ٢٠٠٢) علي تحديد المشكلات والمعضلات التي تواجه الممارس (ريان، 2002, p.10).

ويُتألف إطار (بين، 2002) من خمسة مستويات رئيسية للتأمل :

1 - اعداد التقرير : تقرير وصفي للحالة أو الحادث أو القضية.

3- الترتيب: رسم علاقة بين الفهم الشخصي الحالي أو الفهم المعتمد على النظريات مع الحالة، أو الحادث، أو القضية.

4- الاستدلال/ الاستنباط : استكشاف أو استجواب أو شرح للوضع أو الحادث أو المسألة.

5- إعادة البناء: استخلاص استنتاج ووضع خطة عمل مستقبلية على أساس فهم مسبق للحالة أو الحادث أو القضية.

تفاصيل حول محتويات المستويات المكونة للخمس أجزاء في إطار بين (٢٠٠٠)

اسم الجزء	المستويات
1 - اعداد التقرير	محتويات المجلة: تصف ماذا حدث أو ما هي القضايا المتعلقة بالمشكلة التي تم ملاحظتها
	المستوى الأول : وصف مبسط للمشكلة أو الحدث .
	المستوى الثاني : وصف مفصل للحدث ولكن مع محدودية التفاصيل لبعض الأحداث الهامة.
	المستوى الثالث : الوصف شامل والذي يسمح للقراء برسم

A blog page explains
how to reflect at a
complex level

Explaining Bain's
model of reflection in
detail (Bain,
Ballantyne, et al., 2002)

Reflective Thinking

خطوات إنشاء وتعديل صفحات المدونة

انفوقرافك الممارسة التأملية المعتمدة على نموذج بين



الصفحات

- الصفحة الرئيسية
- ماذا يقصد بالتفكير التأملي ؟
- الفائدة من التأمل
- انفوقرافك الممارسة التأملية المعتمدة على نموذج بين...
- الكتابة و التفكير التأملي
- التأمل باستخدام إطار بين الخماسي
- خطوات إنشاء و تعديل صفحات المدونة
- تطوير أحد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجالات تأملية تركز على إدارة السلوك
- مجالات تأملية تركز على إدارة وتنظيم الذات
- مجلة لمجلات تأملية حول التقييم

من أنا

shatha

عرض الملف الشخصي الكامل الخاص بي

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- المدونة التاسعة
- المدونة العاشرة
- المدونة الحادية عشر
- المدونة الثانية عشر

ليست هناك تعليقات:

إرسال تعليق

أدخل تعليقك...

تسجيل الخروج

shatha (G) التعليق باسم:

إعلامي ☐

معاينة

الصفحة الرئيسية

الاشتراك في: الرسائل (Atom)

قائمة الكتب للتحميل

Bain,
Ballantyne, et
al.(2002)
infographic

Reflective Thinking

خطوات إنشاء وتعديل صفحات المدونة

الكتابة و التفكير التأملية

إرشادات للكتابة التأملية



نموذج الكتانية الكلاسيكية الناعمة
(١٠١٢، ١٠١٢)

شركة النسيج	الموديل الكلاسيكي
-------------	-------------------

[illegible]

المصدر: المروعة لعمارة علي العزولي العربية - العنبر
والجوي و التاريخ الخلفاء ١١٠

١- انظر الى اعمالي في الآفاق، في سبيل السلام والعدل،
في العالمين، كما دعا، في كل عصر من العصور.....

٢- انظر الى السبيل في الفجر في سبيل السلام، الحرية والعدل،
في كل عصر من العصور.....

[illegible][illegible]

<p>Figure 4</p>	<p>Figure 4</p>
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اسئلة تستخدم لمعرفة كيف يمكن للغة

تحقيق الأهداف معية

فقر محمد (2011)

يتمثل الشك في بعض استراتيجيات التعلم كالمشاركة في بعض الأهداف معية على شكل أهداف

القرج ريان (2011:108) بعض الأسئلة التي يمكن استخدامها لتعديد كواب يمكن لقاعة أن تخلق الغرض المقصود من

الصفحات

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- الفائدة من التأمل
- انقور افك الممارسة التأملية المعتادة على نموذج بي...
- الكتبية و التفكير التأملي
- التأمل باستخدام اطار بين الخماسي
- خطوات الشاء و تعديل صفحات المونوة
- تطور اجد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجالات تأملية تركز على إدارة السلوك
- مجالات تأملية تركز على إدارة وتنظيم الصف
- أمثلة لمجلات تأملية حول التقييم


من أنا

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عرض الملف الشخصي الكامل الخاص بي

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- المدونة السابعة
- المدونة الثامنة
- المدونة التاسعة
- المدونة العاشرة
- المدونة الحادية عشر
- المدونة الثانية عشر



Ryan (2011)
infographic

Reflective Thinking

خطوات إنشاء وتعديل صفحات المدونة



مجلات تأملية تركز على إدارة وتنظيم الصف

المثال 1 (بين وأخرون، 2002، ص 53-52):

المجلة التأملية التالية سُجلت من قبل طالب معلم للمرحلة الابتدائية خلال الفترة التدريبية الميدانية الثانية. كان هذا الطالب محظوظاً لقدرته على التخطيط والتعليم والتأمل ثم إعادة تدريس نفس الدرس.

تم تطوير عنوان الوحدة "مراقبة المياه" إلى حد كبير من خلال المعلومات التي قدمها أستاذي المشرف (الوثائق التي تم جمعها من المجلس المحلي، والبريد الإلكتروني، والكتيبات وما إلى ذلك) أعطيت مخططاً عربياً، ونطاقاً كبيراً لاختيار تصميم الوحدة بأي شكل من الأشكال. وكان الهدف الرئيسي هو أن يفهم الطلاب مفهوم المياه كمورد. تجنب المحافظة عليه، وترشيد استخدامه وعدم الاسراف عند استهلاكه. وقد تم تصميم وحدة تستغرق حصتين بواقع 30 دقيقة للدرس الواحد. كان مخططاً لوحدة "مراقبة المياه" لاتباع المنهج الاستقرائي، حيث يقوم الطلاب باستقصاء المعلومات وجمعها بأنفسهم من منازلهم، ومن خلال عمليات الاكتشاف والمناقشة والتأمل، يتوقع منهم أن يكونوا قادرين على التعبير بوضوح عن أفكارهم وفهمهم حول نظرية الحفاظ على المياه.

ولعل الخطة نفسها تبدو جيدة من حيث مقصدها وإمكاناتها. ومع ذلك، فإن الدروس، كما نفختها، كانت إشكالية. في حين أن الدرس الصباحي (التوجيه والتعزيز في الخطة) نُفذ بشكل معقول إلى حد ما، وقد أتبعته ببعض أشكال المناقشة، لكن المشكلة ظهرت في الدرس الثاني في منتصف النهار (تعزيز وتوليف الدرس) الذي يفترض أن يركز على التأمل والتعاون والمناقشة.

بعد تنفيذ تسهيلات الوحدة في الدرس الأول من توجيه وتعزيز، شعرت شعوراً متزايداً "بالسطحية" من الطلاب، و حول الوحدة نفسها. بدأت أدرك أنه خلال الجزء الأكبر من الوحدة كان الطلاب "يستمعون إلي" و "يتبعون التوجيهات"، ولم يكونوا "ينبون" أي شيء بأنفسهم. وقد افترضت ذلك. أدركت أنه في حين أنني أعطيت الكثير من خلال التخطيط للوحدة من أجل تطوير عملية التفكير الاستقرائي "المفهوم وبعض الأفكار الرئيسية"، كنت قد أغلقت الحاجة إلى إشراك وإثارة رغبة الطلاب من خلال تصميم وحدة تشاركهم في بناء معنى لأنفسهم. ولكي يتمكن الطلاب من بناء المعنى بأنفسهم، يحتاجون أيضاً إلى معرفة ما الذي يجب عليهم القيام به؟ ومتى؟ ولماذا يفعلون ذلك؟ والذي لم يكن واضحاً خلال الدرسين. تأملتي التدريسي خلال الدرس كشف لي بأن الوحدة كانت سطحية المعنى "وغير شيقة بئناً"، ولم يكن الطلاب يشاركون فيها بشكل فعال.

حصلت على فرصة أخرى لتدريس نفس الدرس. وكنت قادراً على تعديل طريقي التدريسي، والمحاولة مرة أخرى. وقد ساعد التعاون الموجز مع معلمتي المتعاونة على التركيز على نهج مختلف، وكنت أعرف أن الطلاب لا يجدون صعوبة في المفاهيم التي تجري مناقشتها. بل إن المشكلة كانت في الاستراتيجيات وفي تصميم الوحدة نفسها. غيرت طريقة عرض جلسات النقاش، في محاولة لجعلها أكثر حيوية وأكثر تفاعلية. وبصفتي قائداً للمناقشة، بدأت "العب دور المتشكك، استخدمت طريقة الاستجواب، تاركاً العديد من "القضايا المفتوحة" ("هل أنت متأكد من أننا نسرف في استخدام المياه... لست متأكداً مما إذا كنا نفعل ذلك أم لا؟). كان ذلك التغيير مقبولاً وعمل بشكل جيد، حيث كانت القضية الأبرز هو كيف ينظر الطلاب إلى دورهم في العملية التعليمية.

وشملت المشاكل الأخرى تسلسل المهام، وتفسيرها وتركيزها، والحقيقة أنه في نهاية الدرس، ترك الطلاب مع مهمة واسعة جداً للمتابعة، وربما مع القليل من الحماس (نتيجة لاستراتيجيات التدريس الغير مركزة).

بعد ذلك، دار نقاشاً تعاونياً وتأملياً مع معلمتي المشرفة قدم لي الكثير من التوضيح والبصيرة لتطوير طريقة تدريسي ولفهم الوحدة التعليمية. وكان لتحليلاتي الذاتية ولتلك المعلومات أثر مهماً لتخطوتي التدريسي في المستقبل

بعض القضايا التي نوقشت هي الآتي:

- الحاجة إلى إعطاء اهتمام كبير عند تخطيط وتصميم الدروس لتفاعل الطلاب ومشاركتهم في الدروس. في حين أن ذلك كان في صميم فلسفتي التدريسية، إلا أنه قد تهمل هذه الجزئية عند التخطيط إذ كان التركيز الأكبر على "الخريطة المعرفية" من وجهة نظر المعلم، يمكن، أياً به ده، ذلك الدرس، مع ما تحمله من أسئلة المعلم.

الصفحات

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- الكتابة و التفكير التأملي
- التأمل باستخدام اطار بين الخماسي
- خطوات إنشاء وتعديل صفحات المدونة
- تطوير أحد المجالات بعد تلقي التغذية الراجعة المناسبة...
- مجلات تأملية تركز على إدارة السلوك
- مجلات تأملية تركز على إدارة وتنظيم الصف
- أمثلة لمجلات تأملية حول التقييم

من هنا

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عرض الملف الشخصي الكامل الخاص بي

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- المدونة الثانية عشر

Some examples of reflective journals in different topics such as managing classrooms, learning and teaching, assessing students

Appendix J

Online infographics of the 5Rs framework (Arabic version)



Online infographics of the academic reflective writing model (Arabic version)



Appendix L

Bain model to evaluate the RJs (Arabic version)

اسم الجزء + شرحه	المستويات + الرمز	الرمز + الوصف	أمثله
اعداد التقرير [ق] محتويات المجلة: تصف ماذا حدث أو ما هي القضايا المتعلقة بالمشكلة التي تم ملاحظتها) ماذا ؟ أين ؟ متى ؟	وصف الأحداث و الأحاسيس و تحديد المشكلة		
	ق ١: وصف مبسط للمشكلة أو الحدث .	ق ١: وصف مبسط م	
	ق ٢: وصف مفصل للحدث ولكن مع محدودية التفاصيل لبعض الأحداث الهامة.	ق ٢: وصف مفصل م	
	ق ٣: الوصف شامل و الذي يسمح للقراء برسم استنتاجاتهم الخاصة حول المشكلة.	ق ٣: وصف شامل م	
الاستجابة للحدث [س] محتوى المجلة يستجيب للمشكلة أو القضية وذلك عن طريق الملاحظة العميقة , أو التعبير عن المشاعر , أو عن طريق طرح أسئلة حول القضية.	ربط الأحداث بالمهارات و الخبرات و الأدب و توقع نتائج الحلول المخطط استخدامها		
	س ١: المحتوى يلفت الانتباه لجوانب مهمة في المشكلة أو يوضّح شعور الكاتب نحوها.	س ١: شعور , أهمية	أشعر
	س ٢: بالإضافة للمستوى الأول , المحتوى يبين حكماً أو رأياً حول القضية مثل الدرس كان جيداً. (ملاحظات, أهمية المشكلة)	س ٢: حكم , رأي حول الأهمية	أفهم و ادرك, أرى , أعتقد
	س ٣: بالإضافة الى المستوى الأول و الثاني , يسأل الكاتب أسئلة حول القضية أو يحدد المشكلة.	س ٣: التساؤل تحديد م	اتساءل أولا و ثم ,،، بعد ذلك
الترابط [ط] محتويات المجلة تربط بين القضية أو المشكلة و مهارات الكاتب أو خبرته أو معرفته وفهمه. لماذا ؟ كيف ؟	تقييم كل حل على حدة و أخذ العوامل الرئيسية بعين الاعتبار		
	ط ١: القضية أو المشكلة لها علاقة ب: نقاط القوة أو الضعف أو التعلم الشخصي للكاتب. أو له علاقة بالقضايا المهنية (طرق التدريس, المناهج الدراسية, التقييم) عرض معلومات حول القضية , نظريات (معلومات حول المشكلة من المراجع , مهارات الكاتب)	ط ١: معلومات عامه عن م أو من الكتب عن م , قوة وضعف الكاتب	أن رأيت ذلك بارات ،، على العكس, تماماً كما ...،، على النقيض من مطلحات التخصص لما أورده جونز (2005) ..."معلومات
	ط ٢: بالإضافة الى المستوى الأول , يوجد توضيح لعلاقة منطقيه ولكن سطحية أو نقاش محدود للعلاقة. (أسباب المشكلة معلومات فقط	ط ٢: سبب معلومات فقط	
	ط ٣: بالإضافة للأول و الثاني يوجد شرح مفصل و منطقي و فهم عميق للروابط المكتشفة (أسباب المشكلة معلومات مشروحه بالتفصيل)	ط ٣: أسباب المشكلة مع شرح	
الاستدلال [ل] محتويات المجلة توضّح بالتفصيل العوامل المهمة التي أدت الى المشكلة وتوضح لماذا هي مهمة لفهم ابعاد المشكلة أو القضية. لماذا ؟ كيف ؟	تقييم كل حل على حدة و أخذ العوامل الرئيسية بعين الاعتبار		
	ل ١: على الأقل تم تحليل عامل واحد له علاقة بالقضية بالتفصيل , مع إجابة التساؤلات التالية: (اكتشاف العامل خلال حل المشكلة) • لماذا هذا العامل مهم في هذه الظروف ؟ • كيف أثر العامل في الوضع الحالي ؟ • ماهي الأسئلة التي يمكن أن تُثار حول التدريس المستقبلي؟	ل ١: اكتشاف عامل خلال الحل م ولماذا هو مهم ؟	كنتيجة لذلك ...،، وعواقب ذلك ...،، ذلك بسبب ...،، لذلك، لأنه. دليلاً على --- على سبيل المثال "وفقاً لما أورده جونز (2005) ..." بعد الأخذ بعين الاعتبار ل- ---".
	ل ٢: بالإضافة للمستوى الأول , ولكن المناقشة تأخذ في الاعتبار التفسيرات البديلة أو العلاقات المتبادلة بين عدد من العوامل التي يمكن استخدامها لحل المشكلة ويمكن أن يتم المقارنة بينها أو قد يكون الجمع بين العوامل مهم في فهم المشكلة.	ل ٢: اكتشاف عوامل أخرى	
	ل ٣: بالإضافة للمستوى الثاني , المناقشة هنا تكون من وجهات نظر مختلفة مثل وجهات نظر شخصية , تعليمية أو نظرية أو وجهات نظر الطلاب.	ل ٣: اكتشاف عوامل من وجهات نظر أخرى	الأخلاقيات
إعادة التشكيل أو البناء أو الهيكل [ش] (يتطور الفهم من خلال الاستنتاج (العنصر الرابع) ويستخدم لإعادة تشكيل التعلم المستقبلي للتدريس). لماذا ؟ كيف ؟	افتراض حالات أخرى للمشكلة و للحلول و التفكير في الممارسة المستقبلية للوصول لفهم جديد		
	ش ١: تؤدي المناقشة الى نتيجة أو خطة مستقبلية للتعلم بناء على ما تم التوصل اليه في المرحلة السابقة. كيف يمكنني التعامل في المرة القادمة	ش ١: خطة ماذا سوف اعمل و لماذا	مستقبلية مثل أعتزم , سوف اضمن
	ش ٢: مثل المستوى الأول ولكن تحتوي أيضا على النتائج المتوقعة من تنفيذ الخطة. ما ذا يمكنني أن أعمل ولماذا	ش ٢: نتائج الخطة	
	ش ٣: مثل المستوى الثاني ولكن تأخذ أيضا في عين الاعتبار الآثار المحتملة للظروف المختلفة. مثل : ماذا يحدث لو حصل شيء معين تحت أي الظروف يمكن للخطة أن لا تعمل بشكل جيد . هل هناك خيارات مختلفة؟ ما الذي قد يحدث إذا ؟ ... ؟	ش ٣: أخذ الظروف بعين الاعتبار	" في ظل هذه الظروف قد يحدث -----"
	ش ٤: مثل المستوى الثالث ولكن الفهم الجديد يتكامل مع نهج الكاتب الشخصي أو نظريته في التدريس أفكار تؤيدها النظرية إجراء تغيير لصالح الآخرين	ش ٤: هل توجد نظرية تؤيد ذلك	

Appendix M

A sample of the two steps to evaluate RJs based on Bain's model (Arabic version)

- The first step is by colouring each journal with the match component based on Bain's model.

<p>ق ٣</p> <p>٣</p> <p>١</p> <p>٢</p>	<p>دخلت غرفة المعلمة و أنا حزينة جدا ومخبطة ما الذي حدث ؟ و اخبرت زميلاتي ما حدث معي أخبرتني بأن الحصة انتهت و أنا لم انهي درسي فسلطنتي لماذا ؟ فقلت لا أعلم . قد يكون الذي أخرني هو انتظارني للطالبة من فئة الصعوبات فهي تتأخر في نقل الإجابة و أنا انتظرها فافترحت على بأن استشير معلمة صعوبات التعلم التي معنا في المدرسة و أخبرتني ما الذي حدث معي فقلت : الطالبة تلك تحتاج لوقت أكثر من زميلاتها فلا تقومى بانتظارها أكملتي درساك و بعد الانتهاء منه أجابني تلك الطالبة عندك وقرمى بحل الأسئلة معها . شعرت بالارتياح بعد حديثي مع هذه المعلمة . شعرت بأنني عرفت المشكلة وسأقوم بحلها وينتهي الموضوع .</p> <p>طبقت هذه الإستراتيجية مرة أخرى في مكون أجيب طالبة تمثل دور ساعي البريد و تردد الأثوذة و الطالبات يرددن معها . ترسل سؤال و الطالبات يجبن .</p> <p>حان وقت نقل الإجابة و فعلت كما قلت لي معلمة الصعوبات لكن حدث ما حدث في المرة السابقة انتهت الحصة و أنا لم انتهى من هذا المكون و لم انتقل للمكون الذي يليه حقا ما الذي يحدث ؟؟؟؟؟</p> <p>إذا لم تكن تلك الطالبة هي السبب فما هو السبب ؟ فكرت مليا في هذا الأمر لماذا لا أستطيع أن انهي مكون أجيب في نفس الحصة ؟ فقلت هل من الممكن أن تكون الإستراتيجية التي اعتمدتها هي السبب ؟ فمكون أجيب يحتوي من 8 إلى 12 سؤال وعند كل سؤال ساعي البريد يتشد و يرددن الطالبات معه و يرسل السؤال و الطالبة تجيب و يكرر هذا الفعل 12 مرة . فحينما تذكرت ذلك فقلت لاشك بأن المشكلة هي في هذه الإستراتيجية التي اعتمدتها .</p> <p>ما حدث لي أثناء استخدامي لتلك الإستراتيجية كان أمر من المهم الوقوف عنده و محاولة فهم و معرفة سبب ما حدث لأنه قد تسبب في تأخري عن الخطة الزمنية الموضوع لإتهاء المقرر و لا ينبغي من المفترض أن اتناول مكونين في الحصة و أنا أخرج و أنا لم اتناول المكون الثاني و لم انهي المكون الأول . حقا أمر مزعج و ليس من السهل نقله .</p> <p>رجعت إلى إحدى كتب مقرر الإستراتيجيات للتدريس وهو كتاب (إستراتيجيات التدريس رؤية معاصرة لطرق التعليم و التعلم) للدكتور حسن زيتون وبحثت في موضوع كيف تختار الإستراتيجية الأفضل ؟ وكان من ضمن الخطوات المتبعة لاختيار الإستراتيجية المناسبة هي : التعرف على الإستراتيجيات التي يمكن تطبيقها في حدود الزمن المخصص للحصة . وضعت دائرة على " يمكن تطبيقها في حدود الزمن المخصص للحصة " . نعم تلك هي مشكلة الإستراتيجية التي استعملتها لا تتناسب مع الزمن المخصص للحصة فهي تأخذ وقت أطول فحينما عرفت السبب قمت بتغيير تلك الإستراتيجية و استخدمت إستراتيجية التعلم التعاوني فقامت بتقسيم المجموعات و تقسيم</p>
<p>١</p> <p>بعد التغذية الراجعة</p> <p>2</p>	<p>أسئلة مكون أجيب على عدد المجموعات بحيث كل مجموعة تأخذ سؤال أو سؤالين حسب عدد الأسئلة و أطلب من كل مجموعة حل السؤال المعطى لها . و وضعت زما محدا لانتهاء . وعند انتهاء الوقت اطلب من كل مجموعة ان تقرأ سؤالا و تذكر إجابتي بعد الانتهاء من جميع الاسئلة اطلب من الطالبات نقل الاجابات .</p> <p>مميزات تلك الإستراتيجية التي استعملتها و هي إستراتيجية التعلم التعاوني :</p> <ul style="list-style-type: none"> - توفير الوقت و الجهد . - تعاون بين أفراد المجموعة في حل السؤال وكتابه مما يختصر الوقت المخصص للكتابة . <p>كانت مشكلتي الحقيقة هي أنني لم اختر الإستراتيجية المناسبة لوقت الدرس وبعد معرفتي لتلك المشكلة أخذت بعين الاعتبار نقطة " أن تكون الإستراتيجية مناسبة للوقت المخصص للدرس " .</p> <p>فحرصت على اختيار الإستراتيجيات المناسبة لكل مكون في مقرر لغتي . و اعتمدت إستراتيجية التعلم التعاوني في مكون أجيب فاختصر على الوقت في حل الأسئلة و أضمنت أن الجميع قام بالحل .</p> <p>الآن أصبحت انهي مكون أجيب و أنمي لغتي في نفس الحصة و أغلق الدرس بمراجعة أفكار الدرس الرئيسية و أخرج من الحصة سعيدة ومطمئنة</p> <p>أخطئي المستقبلي بإذن الله هي التركيز و اختيار الاستراتيجيات المناسبة لزمن المخصص للدرس و المناسبة للمحتوى المادة العلمية حتى لا أقع في مشكلات مثل تحقيق وقت الحصة</p>

Appendix N
A sample of RJ evolution based on Bain's model (English version)

<p><i>At the beginning of my teaching experience, I felt nervous, but at the same time, I was happy when receiving my timetable... I thought at the beginning that I would be able to manage the classroom effectively if I rewarded the good behaviour by giving the students some gifts and sweets, which would encourage them and make them love my class.</i></p>	<p>Reporting (1)</p>
<p><i>So, I went to the class holding many gifts, showing them to the students to encourage them to commit to my class rules. When I started, after greeting them and telling them the class rules...chaos ensued in the class and I realised then that I was perhaps telling them too many rules and that I should adjust them and have only five rules at that time.</i></p>	<p>Reporting (2)</p>
<p><i>My anxiety began to increase and my inability to control in the first minutes drained me from the time of the session (especially since I had to start the maths lesson as well).</i></p>	<p>Responding (1)</p>
<p><i>I realised later that managing the classroom is not just about setting rules and bringing gifts to the students. I should first establish a good relationship with them by, for example, memorising their names and calling them by name...discussing the rules with them. Providing and maintaining a positive environment is vital.</i></p>	<p>Relating (1) Reasoning (1)</p>
<p><i>I also realised that I messed up when I encouraged competition among the student groups, which led to a wholly negative atmosphere. Furthermore, I noticed that my negative feelings (feeling down) when teaching were transferred to the students, meaning they become as bored as me! Thus, I should be aware of my feelings and attitude when teaching them and show my passion and enthusiasm for teaching them.</i></p>	<p>Relating (2) Reasoning (2)</p>
<p><i>In the future, I will consider the class atmosphere and my attitude when teaching my students by respecting them, noticing and caring about their feelings, preparing my lessons in an appropriate way to catch their attention, considering my movement and maintaining eye contact with the students. All of this will help me and will increase student participation and their excitement in the class (a summary of Marwa, RJ: 1).</i></p>	<p>Reconstructing (1)</p>

Appendix O
A sample of student journal transcripts (Arabic version)

مجلتي التأملية في التقييم :

عملية التقييم تعد ركنا أساسيا من أركان العملية التعليمية وجزء لا يتجزأ منها فهو الوسيلة التي يمكن من خلالها معرفة ما تم تحقيقه من أهداف وتحديد الجوانب الإيجابية والسلبية في العملية التعليمية و هي كذلك تحدد مستوى أداء المعلم في العملية التدريسية .

في نفس الوقت لم تكن عملية التقييم بالأمر السهل خاصة بالنسبة لطالبات متدربات .

حينما أخذت كشف تقييم المهارات من المعلمة المعاونة معي ذهلت ن كمية المهارات التي لابد من أن يتقنها الطالب فكان عددها 26 مهارة و لدي 30 طالبة . كيف سأقيم كل هذه المهارات على 30 طالبة ؟ لم يكن أمر سهل .

لم أكن أعرف طريقة التقييم أو ما الذي علي فعله و كيف سأقيم الطالبات جميعهم . فكننت احتاج لمن يرشدني للطريقة الصحيحة في تقييم المهارات .

جلست مع معلمي المعاونة و اخبرتني بأن هناك عدد من المهارات أستطيع أن أقيمها داخل الحصة الدراسية و تكون ضمن حصتي كمهارة ذكر احداث و شخصيات سمعتها الطالبة و علو الصوت بما يناسب الحاضرين , وهذا جا موافق لما ذكرته الدكتور غفت الطناوي في كتابها التدريس الفعال " بأن من معايير التقييم الجيد استمرارية التقييم أي يكون جزء متكامل من الخطة التعليمية في جميع مراحلها .

(الطناوي , 2016 , ص 229)

وهذا فعلا يسهل علي كثير حينما أقيم بعض المهارات داخل الحصة الدراسية بدلا من أن أقيّمها في اختبار اخر الوحدة .

حينما علمت بأن هناك بعض المهارات أستطيع أن أقيّمها في الحصة الدراسية شعرت بأن أمر التقييم أصبح هين سهل . فقممت بتحديد تلك المهارات و أدخلتها ضمن خطتي الدراسية . أما المهارات الأخرى فأدخلتها في اختبار تقييم الوحدة .

من إيجابيات هذه الطريقة :

- بأنها تتيح للمعلم تقييم بعض المهارات التي يصعب تقييمها في الاختبارات التحريرية و التحصيلية لأنها تعتمد على المهارات القدرات الشخصية فنقيّمها بالملاحظة و المشاهدة كالنوزيع النظر عند الحديث و علة الصوت بما يناسب الحضور .

أما عن سلبياتها :

- قد تكمن في عدم قدرة المعلم على تقييم عدد كبير من الطلاب في حصة واحدة .

Appendix P

A sample of RoR (Arabic version)

- ماذا أضافت لك تجربة الاشتراك في التأمل التدريسي ؟
- مشروع التأمل التدريسي أعطى لنا فرصة في التفكير في المشكلات التي قد تحدث داخل الحصة الدراسية وأن نأخذ لكل ما يحدث لنا بعين الاعتبار و حل تلك المشكلات و عدم تركها فأصبحت أتأمل لكل ما يحدث من حولي و البحث دائما عن الحل لكل مشكلة .
- ٢- ماهي أكثر اللحظات التي استمعت بها خلال اشتراكك في مشروع التأمل ؟
- هي لحظة مقابلة الأستاذة التي تتابع كتابة تأملاتنا و تلقي الملاحظات منها و الاستفادة من تلك الملاحظات .
- ٣- هل غيرت تجربتك التأملية شيئا من تصوراتك ؟
- نعم في بداية التدريب لم أفكر كثيرا ما الذي يجب علي فعله اذا حلّ مشكلة داخل الحصة الدراسية أو ما هي الطريقة التي سأقوم بها في حل المشكلات فقد سأمّر بعض المشكلات ولا أفق عليها لكن بعد التأمل تعلمت بأن يجب علي معرفة سبب حدوث هذه المشكلات والعمل على حلّها و الرجوع إلى الكتب التربوية و الإطلاع عليها وقد تجاوزت المشكلات التي واجهتني بهذه الطريقة ومن خلال التأملات .
- ٤- ماذا تعلمت عن نفسك خلال مشروع التأمل التدريسي ؟
- لم يغير التأمل في شخصيتي قد يكون زادتي قدرة على التفكير والتأمل والبحث عن أسباب المشكلات التي تواجهني .
- ٥- هل كانت تجربة التأمل مخالفة لتوقعاتك أو مشابهة لها ؟
- لم يكن لدي أي تصور عن هذا المشروع أو ماهي أهدافه وحينما بدأنا العمل فيه وتوضيح فكرة المشروع شعرت بأنني سأتمكن بالفعل من حل مشكلاتي التي قد تواجهني في حصصي الدراسية وهذا ما حدث بالفعل .
- ٦- ما أثر ذلك على تفكيرك أو مشاعرك ؟
- بعد التأمل التدريسي أصبحت كثيرة التفكير في المشكلات وطرق حلها و البحث دائما عن حل مناسب لكل مشكلة بالإطلاع على الكتب التربوية .
- ٧- ما الإسهامات التي قمت بها خلال مشروع التأمل ؟
- في مشروع التأمل التدريسي أنشئت مدونة خاصة وضعت فيها بعض القصص و المواقف التي حدثت معي وكيف تأملت فيها وكيف قمت بحل تلك المشكلات .
- ٨- ما الصعوبات الغير متوقعة التي واجهتك ؟
- إحدى المشكلات والصعوبات التي واجهتني هي تحديد المشكلة في البداية كان يصعب علي تحديد المشكلة ، فكنت أشعر بأن هناك مشكلة لكن لا أدري ما هي و بالمنافشة مع زميلاتي و الأهل توصلت لبعض مشكلاتي وبالتركيز في كل ما يحدث معي أستطعت أن أحدد أنا أيضا بعض المشكلات التي واجهتها .
- ٩- ما مدى نموك الشخصي كمشاركة في مشروع التأمل ؟
- مشروع التأمل التدريسي وما فعل فيه من بحث وقراءة الكتب والإطلاع عليها وحل المشكلات يساعدنا في الحصول على خبرة وإن كانت بسيطة نوعا ما فيها تتوسع مداركنا و نكون أكثر إدراك و وعي .
- ١٠- صفي التحديات ، النجاحات الإخفاقات وكيف تعاملت معها ؟
- تحدي الوقت كان إحدى التحديات لكن بالتنظيم وإدارة الوقت استطعت التغلب عليها ، النجاحات هي كانت في كتاباتي التأملية التي نالت إعجاب أستاذة المشروع و شعرت بالإنجاز بأنني قمت بالتأمل التدريسي كما هو بالفعل .
- ١١- هل اشتراك في مشروع التأمل أحدث لديك فرقا كمعلمة ؟
- كوني معلمة فهذا يعني بأنني سأواجه طالبات يختلفن في القدرات العقلية و مستويات الذكاء و المعرفة السابقة وقد تحدث مشكلات بسبب هذا الاختلافات و الفروقات ولكن بالتأمل و البحث عن سبب المشكلة وحلها يساعدنا كثير في تجاوزها .

Appendix Q
A sample of an interview (Arabic version)

www

<p>نموذج بين الخماسي اطلعت عليه لكن ما تعمقت فيه واستفدت من الانفوقرافك الكتابي من خلال استخدام الألفاظ الكتابية يعني اكتب بعدين ارجع اطلع عليه اكثر من مره لأتأكد من استخدامي للألفاظ الموجودة وللرقي بطريقة تعبيرية (تسهيل الكتابة)</p> <p>وبالنسبة لمدونتك الفردية هل تتوقعين بتسفيدين منها ؟</p> <p>أي كثير ،، كيف؟</p> <p>أولا حابه اكتب اسمي الحس اني فخوره بنفسي وأيضاً تعطي انطباع اني خبرتي موفقت اربع سنين بل حدود خبرتي أوسع و هذا الشيء إيجابي وهو الي شجعتني أتقدم فيها و اشترك في المشروع</p> <p>(من الفوائد التقنية تعزيز المشاعر الإيجابية و الفخر و اثبات الذات و إيصال الصوت)</p> <p>هل تتخيلين يكون فيه فرق بين الواجب التأمل الورقي او كتابة المدونة ؟</p> <p>الورقي لا يكون لها ظهور اكبر من المدونة</p> <p>بيكون منها الاستفادة بشكل شخصي و الناس يستفيدون</p> <p>الورقي ما راح يكون لها ظهور وحتى اواكب التطور المدونة افضل و حدودها أوسع</p> <p>حتى التدوينات الأخرى من الزميلات حاولت اطلع عليها</p> <p>هل استخدام التقنية يساعدك في تأملك؟</p> <p>أي استخدم التقنية في البحث ،، اكيد بيساعدني وغيرها ؟</p> <p>ممكن اشاركها لمن أكون مستعدة وبعد ما اكمل كتابة المشكلة الان انا غير مستعدة للمشاركة (كانت الطالبة في المرحلة الاولى من الكتابة)</p>	<p>فائدة استخدام المجالات</p> <p>الالكترونية التأملية للممارسة التأمل الذاتي المهني ويشمل ذلك:</p> <ul style="list-style-type: none"> - المدونة الرئيسية . (يشمل الانفوقرافك + الفيديو + التعليمات بشكل عام + الكتب الالكترونية) - مدونتك الفردية الخاصة. <p>هل تتوقعين أن استخدام التقنية سوف يساعدك في ممارسة التأمل الذاتي.</p>
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Appendix R

key questions to highlight the textual structure suggested by Ryan (2011, p. 108)

1. *What does the first paragraph do? (Identifies an issue and why it's important; may use theory to explain relevance; and outlines key themes that this piece of writing will address **reporting and responding**.)*
2. *What do subsequent paragraphs do? (Each paragraph introduces a new theme and provides evidence from practice or current literature/theory to explain this theme; introduces multiple perspectives; and considers the ethics involved **relating and reasoning**.)*
3. *What does the final paragraph do? (Re-states the issue; re-iterates key points; suggests new possibilities for the future; and may explore change that could benefit others **reconstructing**.)*

Appendix S

Probing questions suggested by Ryan (2011, p. 108)

- (1) How does the writer indicate that they are reporting on, and responding to, something that they were involved in or observed? (Use of personal pronoun 'I'; use of thinking and sensing verbs.)*
- (2) How does the writer indicate how the incident played out? (Use of temporal language, e.g. first, then, afterwards.)*
- (3) How does the writer show their knowledge of the discipline/subject matter? (Use of technical or subject-specific nouns and noun groups naming words.)*
- (4) How does the writer relate this incident to other similar incidents or personal experience? (Use of comparison/contrast language; draws on practical examples.)*
- (5) How does the writer reason and explain why it happened the way it did? (Use of causal language; adverbs and adverbial groups to explain when, where or how things happened; references to literature and practice as evidence.)*
- (6) How does the writer make judgements about things they observed? (Use of particular kinds of adjectives or describing words to describe the people or the task or the setting.)*
- (7) How does the writer use succinct language to get their ideas across? (Use of nominalization – verb into noun to say more with less words.)*
- (8) How does the writer show that they are thinking to the future and how they will reconstruct and apply their new knowledge? (Use of future tense; adverbial groups to describe conditions under which something could be done.)*