

**ERD 2019**  
**Education, Reflection, Development, Seventh Edition**  
**PRIMARY SCHOOL PRE-SERVICE TEACHERS' COLLECTIVE**  
**REFLECTIVE DISCOURSE ON REFLECTION**

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*Abstract*

Reflection is one of the most important processes that can be used to improve teaching. Even though pre-service teachers' attitudes toward reflection, specifically to written reflection, are unclear, teacher education programs specifically emphasize the importance of written reflection for the education and development of pre-service teachers. In order to explore their attitudes, a collective reflective discourse was conducted. The research question is: What are the attitudes of primary school, pre-service teachers toward reflection, especially written reflection, at the beginning of the first preparatory year? A small group of eight, first-year, pre-service students participated in a collective reflective discourse on reflection at one of the educational colleges in Israel. The research findings according to qualitative content analysis indicate that most of the pre-service teachers' attitudes toward reflection changed from negative to positive during the discourse session. In addition, the pre-service teachers' misconceptions about reflection were also altered during the discourse. This article presents a literature review on reflection, collective reflection, and pre-service teachers' attitudes toward reflection. A description of the small-group method, collective reflective learning discourse, and the resulting qualitative content analysis will follow. Finally, conclusions will be presented with recommendations to improve teacher education programs.

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**Keywords:** Reflection, written reflection, collective reflective learning, pre-service teachers.



## 1. Introduction

Reflection is an acceptable method for individual development and focuses primarily on improving problems and difficulties (Dewey, 1933). During their training process, pre-service teachers (PST) are encouraged to reflect on and learn from their in-school teaching experience (Jaeger, 2013; Le Cornu & Ewing, 2008; McClure, 2005). Beyond the importance of personal reflective learning for professional development, it is recognized that **Collective Reflective Learning (CRL)** is important to the development of teaching skills (Anderson, 2006; Lave & Wenger, 1991; Le Cornu & Ewing, 2008; Schechter & Michalsky, 2014).

Learning with others enriches reflection on experience (Rodgers, 2014). **Collective Reflective Learning (CRL)** of professional practices and approaches emphasizes the importance of PST learning from their teaching experience (Schechter & Michalsky, 2014). However, PST reflection is still primarily done through the traditional method of subjective, individual, written reflection or through discourse with a mentor and **Pedagogical Instructor (PI)**. Even when reflection is done in the reflective learning discourse framework with a mentor and peer(s), PST also need to write personal reflections on their learning that are not necessarily connected to the collective discourse content (Birenbaum, 2013; Dewey, 1933; Le Cornu & Ewing, 2008; Schön, 1987).

According to this literature review, the strength and advantages of applying CRL discourse as a methods of PST reflection, expressing and exposing PST attitudes, and promoting reflection had not yet been applied or studied. While researchers believe that reflection is one of the most effective tools and processes to promote teaching skills and professional development of PST (Kohen & Kramarski, 2018; Kramarski & Michalsky, 2009; Perry & Rahim, 2011).

The aim of this research is to expose PST attitudes toward reflection and determine if changes occur through CRL discourse. The research question is: What are the attitudes of primary school, pre-service teachers (PST) toward reflection, mostly written reflection, at the beginning of the first preparation year? Eight, first-year PST participated in the small group, CRL discourse research, at one of the educational colleges in Israel. First, a literature review on reflection in education, collective reflection, and PST attitudes toward reflection will be presented. Then a description of the CRL discourse method and a qualitative content analysis of the PST attitudes will be presented. Finally, conclusions will be discussed, and some recommendations will be suggested for teachers' education preparation programs.

### 1.1. Reflection in Education

Personal reflections are most acceptable in educational programs so teachers can learn from their experience and improve their teaching accordingly. Even though CRL is becoming common practice in educational preparation programs, its strength and advantages have not been used to evaluate and expose attitudes about reflection or to promote personal, written reflection on teaching experience. At the time this literature review was conducted, no research about the effect of CLR discourse on PST attitudes on reflection had been found.

Reflection is a type of retrospective introspection. In Latin, retrospection means a "turning back", which in this case refers to turning back and looking at actions, occurrences, or events. It is also an experience of deliberate, internal observation that promotes the description, analysis, and evaluation of thoughts, assumptions, beliefs, feelings, theories, and actions to be expressed and exposed consciously. It includes options to simultaneously contemplate the future, the present, and the past based on self-awareness, openness, and willingness to internalize new insights (McClure, 2005).

Furthermore, experience is the inert starting point of reflection, and understanding how they work together increases the value. Reflection replays an experience over and over and reconstructs it from new points of view while simultaneously searching for meaning (Dewey, 1938; Rodgers, 2014). Reflective learning through free and associative reflection, structured reflection, or chronological recollection is an important learning stage that develops independent learners. Structured learning reflection is a major tool that stimulates recollection of the past to enable the construction of comprehensive insight about an experience. It can be done through speech, writing, or creative activities that allow a person to reconstruct and reveal hidden information such as descriptions, thoughts, and feelings about an experience. Reflective learning also promotes professional development. Throughout teacher training, knowledge displayed through thought patterns, assumptions, theories, and facts were revealed in a different way, reexamined, transformed, and constantly reorganized through reflective learning (Schön, 1987; Schön & Rein, 1994).

Personal reflection has been a long-standing, acceptable tool for improving teaching. It is individualized and focuses on problems or difficulties specific to the individual (Dewey, 1916, 1933; Rodgers, 2014). During the teacher training process, students are encouraged to reflect on their student-teaching experiences so they can increase their learning during the practicum phase. This process emphasizes their self-learning instead of only focusing on their teaching (Le Cornu & Ewing, 2008). At its basic, reflection is subjective, applied to individual experience, and relates to actions, new knowledge, emotions, or interpersonal interaction. It is used for learning consciously in order to improve future performance and effectiveness in similar situations (Dewey, 1933, 1938; Schön, 1987; Shulman, 1987). Reflecting with deep, practical, and applied insight into future educational processes requires a certain level of awareness that is enhanced through post reflection, reflection-in-action, and reflection-on-action. Reflection-on-action is most frequently used in education. It is carried out after the lesson, includes references to classroom implementation, and contains conclusions and recommendations for the future (Jaeger, 2013; Schön, 1987). However, despite the proven importance of personal reflective learning on the development of student teachers, there is now significant and influential support for the importance of collective reflective learning on teacher development.

## **1.2. Collective Reflective Learning**

Collective Reflective Learning is defined as a collaborative learning process during which learners systematically reflect on behaviors that have led to past performance outcomes. Cognitive development of information about an experience promotes their awareness, the collection of information, the production and reorganization of professional knowledge, and finally, the necessary changes needed in their behavior (Ellis & Davidi, 2005). Through reflectively processing actions after an event, participants deliberately

reflect on specific aspects of their experiences and the effects of their actions in their environment (Jaeger, 2013; Schön, 1983).

Learning with others enriches reflection on experience in most classes as documented by descriptive feedback and reflective conversation between teachers and students. By learning together, students have support as they try to figure out how to improve (Perry & Rahim, 2011; Rodgers, 2014). To this end, CRL on teaching is not only important for the development of PST teaching skills but also promotes self-regulation in learning. Moreover, developing the practice of CLR is becoming more valuable because teachers are increasingly encouraged to support reflection as a shared learning experience that takes place in the framework of group participation rather than in the mind of the individual (Anderson, 2006; Jaeger, 2013; Lave & Wenger, 1991; Le Cornu & Ewing, 2008).

These reflective processes have been focused on the collaborative learning of future teachers through peer discourse, thus creating an emotional impact that is reflected in the emerging explanations of collegial learning, sharing relationship rather than hierarchical, one-way learning from top to bottom (Anderson, 2006; Le Cornu & Ewing, 2008). In spite of Manouchehri's (2002) findings that indicate peer discourse and collaborative reflection help PST develop competence and ability to adopt new perspectives, Krainer (2003) argues that there is much more to explore and learn about collaborative processes and their impact on how future teachers reflect on their teaching experiences.

From a professional practice approach, CRL emphasis that PST approach their teaching as students so they can learn from their experience. During the collective learning, PST reflect on their teaching processes, practices, and results. This is a widespread application in teacher preparation programs around the world (Schechter & Michalsky, 2014). However, even still, the widely accepted way to develop PST skills is through personal subjective reflection of the PST following teaching. This traditional approach is done by the individual through writing or through discourse with a mentor and pedagogic instructor. It is only occasionally practiced in the framework of CRL with mentor and peer(s) (Birenbaum, 2013; Dewey, 1933; Le Cornu & Ewing, 2008; Schön, 1987).

Educators, lectures, and researchers still agree that the reflection process in PST preparation programs is one of the most important metacognitive processes that promotes and contributes to instruction improvement. As a result, PST usually learn from their teaching experiences in the framework of CRL in order to improve and develop their teaching by learning from problems and difficulties through the course of their preparation program. But they are still required to write personal reflections after the CRL session (Birenbaum, 2013; Kohen & Kramarski, 2012, 2018; Shulman, 1987).

Even though the literature review revealed that researchers and educators held positive attitudes toward reflection, there is no attribution to the PST point of view. In fact, their attitudes toward written reflection are unclear or completely unknown (Cardullo, Finley, Burton, & Tripp, 2017; Jaeger, 2013). There were a few attributions in the literature review where negative perspectives were noted. PST resistance to written reflection due to poor content knowledge in the relevant subject-matter domains was noted as well (Cardullo et al., 2017; Kohen & Kramarski, 2018). However, the reasons behind their resistance to reflect on each of the different subject-matters (science, mathematics, literature, linguistics) were left unexplained.

The researchers focus on the idea that most of the PST are not self-regulated learners. They conclude that because they present poor metacognitive pedagogies and are poor, teaching-centred, student learners, they lack the skills needed to promote their students as self-regulated learners, using metacognitive processes such as reflection. Construction of this predisposition is based on previous research findings which are primarily concentrated in PST professional development as self-regulated learners and on their metacognitive teaching processes. They did not focus on exposing their attitudes toward reflection (For example, see: Kohen & Kramarski, 2018; Schechter & Michalsky, 2014; Zimmerman, 2008; Zimmerman & Schunk, 2011).

In summary, while it seems conclusive that researchers and educators maintain a positive attitude toward reflection as being one of the most significant processes to promote teaching, it seems to only be a hypothesis from the PST point of view. According to the literature review conducted for this research, PST attitudes toward reflection influence PST proactivity in reflective processes and need to be study in practice. The aim of this research is to expose and explore PST attitudes toward reflection, especially written reflection, and determine if changes occur through CRL discourse.

**Table 01.** Examples of Pre-Service Teachers' (PST) Negative Attitude Toward Reflection

Phase 1- The Discourse Beginning	Phase 2- Resistance Discourse	Phase 3 –Constructive Promotive Discourse
<p><b><u>Discourse Content- Explicit Level</u></b>  <b>Ex. 1</b>                      According the PI Question in the beginning of the session about: What are you defined as "reflection"? The following discourse took place:  <i>Omer: "Learning from failures and successes. ... You are passing through all the things that you did and you learn from yours' failure, from yours' successes'. To the proceeding Learning."</i>  <i>PI: "How many reflections did you write till now?"</i>  <i>Omer: "In my life?"</i>  <i>PI: "In teaching, in life"</i>  <i>Omer: " I don't have a number."</i>  <i>PI,: " Many, Few, Zero, two?"</i>  <i>Omer: "A lot."</i>  <i>PI.: "What did you learn from them?"</i>  <i>Omer: "There are (reflections) that I learned from them and there are (reflections) that I didn't learn from them anything."</i>                      [...]<i>PI: "Can you share with us</i></p>	<p><b><u>Discourse Content Explicit Level</u></b>  <b>Ex.4</b>  <i>Moses: "That's exactly what I'm going to say. I don't think there is a difference between a reflection in teaching and any other reflection that you do on a day-to-day basis .Only it just you are here and you are a student and you need to do a reflection for you, as if this is to say ("Keilou" in Hebrew) to show you" (All the PST are laughing, without the PI.)</i>   <b>Ex.5</b>  <i>Omer: "So, "Keilou" I say that someone who saw it (the lesson) from the outside should say his opinion (on your teaching) and then you take it on yourself (on your responsibility)."</i>   <b>Ex.6</b>  <i>Omer: "Yes and it is something that... you think about it. "Keilou" I agree that (someone professional - like the PI ,or the platoon commander in the army)</i></p>	<p><b><u>Discourse Content Explicit Level</u></b>  <b>Ex. 14</b>  <i>Omer:" So half of my service was after every lesson I passed I had to say two things that were good (in my teaching), two things that were not good, and at some point, I already threw the same things."Keilou" I said to myself:" well it doesn't matter if ... In the end, she'll say her points. I'll learn from that". "Keilou" saw that I just throw away (things) without meaning. I...really feel that when I need to tell you two things like that, "Keilou" as that side, on this side, I ... "Keilou" it might be different, there may be sides, things that are helping to the other person. I personally feel, believe much more in criticism from the outside to me and to learn (from it) than to stir in myself and to look in force for what to improve."</i>   <i>PI: "But to look for (things to improve) in force, it's not the purpose. The goal is to be connected. The goal is that it</i></p>

<p>what did you learn (from them)?                  For example: What was a reflection that was meaningful for you?"                  Omer: "There wasn't <b>any</b> (reflection) that was significant as long as I remember."</p> <p><b>Ex. 2</b>                  The PI asked: "Why a written reflection is required during the preparation pried?" Moses's answer is: "So that at the end of the year we can look at the improvement process. I don't know. It's (these are) things that you are look (at/on them)".                  [...] "It is <b>not</b> clear. I do <b>not</b> know. This is what came up to my mind. I'm trying to get into your head".</p> <p><b><u>Discourse Content</u></b>  <b><u>Implicit Level</u></b>  <b>Ex. 3</b>                  Moses: "Is this is a reflection in teaching?"                  (Another pre-service teacher talks in the background.  <b>Laughter and incomprehensible talking</b> are heard at the same time.)</p>	<p>has to be with you and analyze. I do <b>not</b> agree that (when) you write down the points this the thing that you are learning from it (about your teaching)."</p> <p><b>Ex. 7</b>                  Marry: "Yes. But when you write it to someone else, it's <b>not</b> exactly a personal reflection."</p> <p><b>Ex. 8</b>                  Marry: "To write half sentence it's not OK. To write more than a half sentence it's OK."</p> <p><b>Ex. 9</b>                  Moses:1 " It depends on who I do it for. If I do it to myself I <b>don't</b> have to write what I feel about it, since I know what I feel."                  [...] "I'm not going to do it. If I was writing (a reflection now) and (then) after a year I'll read the reflection that I wrote I would have known that I had lied."                  [...] "I have a resistance to the writing."</p> <p><b>Ex. 10</b>                  Omer:... "When you know that you have to write it's like a task. You don't quiet really exactly... write your reflection (for yourself)".</p> <p><b>Ex. 11</b>                  Moses: "We received (tasks) to write five reflections and all of them only in your course."</p>	<p>really will be authentic and loyal and original (to you)". ... "That it will be as authentic and loyal as possible to your personal place. If it is harder for you to write it, so let's think what can optimize it? What do you write? It's not the goal to force."</p> <p><b>Ex. 15</b>                  Moses: "I tried. Maybe I do not know how to write (reflection)."</p> <p><b>Ex. 16</b>                  Tom: "Oh. So now I know how to write. That's how I do it."                  PI: "It seemed to me the most basic things. Excellent" (in response to the pre-service student words).                  Tom: "I wrote a description of the (lesson) process, a description of feelings and thoughts and conclusions."                  PI: "So, what wrong in that?"                  Tom: "You did not tell me it was all right."                  (PST and PI <b>Laughing</b>)</p> <p><b>Ex. 17</b>                  PI: ... "I suggest to add recommendations for my teaching at the end (of the reflection) in order to continue so that you have the (reflection) as a leverage to your teaching in the future."                  Michael: "The description - a description of a process, a description of feelings and conclusions ".                  ... Moses: "A description of the feeling is just what I think that I need to improve? What do I think to change ?"                  Omer: "No. How did I feel ?"                  Moses: "In order that I will understand, what "Keilou" is needed?"                  PI: "There's more than that. If you feel that this writing is the thing that blocking you, you can record it for me I have no problem. I'll</p>
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		<p>hear it from here.  <i>(PST Laughing)</i>                  Moses: "Not I ... won't. I will write".  <i>(PST' with the PI Laughing )</i></p> <p><b>Ex. 18</b>                  Omer: " It was beautiful for me to know ah ... how much to each one helps a different kind of reflection."                  PI: "Eamm... I had a student who even painted a bird of paradise (the flower) when she wrote about her educational vision and through it, she described her educational approach. It was amazing."                  [...] PI: "Her name is Bird of paradise ("Eden" in Hebrew)."                  [...]Moses: "No. It interests me. I find it interesting."                  [...]Moses: "She draw the plant, bird of paradise "Keilou"."                  [...] PI: " Yes and she showed through it how her educational perception is expressed." ...                  Moses: " It's interesting. That's interesting."                  [...] Marry: "You are very excited about the paintings. Do you want to paint?" (She is asking with a smile)                  Moses: "God forbid! ("Has vehalila" in Hebrew)." <i>(PST laughing, with the PI.)</i></p>
<p><b><u>Laughter - Implicit Level</u></b>                  PST' laughter, without P I.                  See, implicit level <b>Ex .3</b> above remarked in bold.</p>	<p><b><u>Laughter - Explicit Level</u></b>                  PST' shared laughter, without PI.                  See, explicit level <b>Ex .4</b> above remarked in bold.</p>	<p><b><u>Laughter - Explicit Level</u></b>                  PST' and PI shared relief laughter.                  See, <b>Ex. 16, 17</b> above remarked in bold.</p>
<p><b><u>Attribution to Past Experience - From Implicit Level to Explicit Level</u></b>                  See <b>Ex.1</b>, and <b>EX. 2</b> above.</p>	<p><b><u>Attribution to Past Experience - Explicit Level</u></b>  <b>Ex. 12.</b>                  Omer: "When I was a platoon commander... I had to do to everyone of main class commander the entire cycle (of feedback conversation) twice professional (evaluation) over guidance of "dry-subject". "Keilou", so that my class</p>	<p><b><u>Attribution to Current Experience - Explicit Level</u></b>                  See, <b>Ex. 14</b> above – attribution to PST past experience.</p> <p>See, <b>Ex. 16, 17, 18</b> above, attributing to present experience - asking for the PI guidance and approval in reflection writing.</p>

	<p><i>commanders, they learned only from my feedback (in her word "neto") from me, at the end they had a very small part that they had to write down. I don't think that they alone could reach to that and as a platoon commander (command) on mine class commanders (I think) they couldn't reach to the same points like those that you are reaching from the outside. I don't think that alone you can get to it."</i></p> <p><b>Ex. 13</b>  <i>Moses: "As for us, in education in the kibbutz, we didn't have a written reflection, "Keilou". But we always had staff meetings, but we sat and talked, let's say about the activity that I transferred and that the guider transferred. Now if we say that she is (was) the leader and I talk (talked) to her and she says (said to me): 'Listen here, you should notice next time that the children ...' or I say to her: 'You hear, you need a little more ... in the activity next time' "Keilou" there isn't any structure of reflection ... (we just) talking about (the) activity".</i></p>	
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## 2. Problem Statement

The literature review conducted for the purpose of this research mostly exposes general, negative attitudes of PST toward reflection in connection to subject matter domains. In addition, it has been determined that PST attitudes toward reflection are unclear and need to be investigated further. While most of the researchers in the field of education have a positive attitude toward reflection, they emphasize positive thinking and the benefits of reflection for PST professional development in teaching. In addition, researchers emphasize the CRL discourse as a useful method to learn from teaching and thus promote it for PST teaching. However, in the research literature review, no CRL discourse on reflection occurred during the preparation period of the program. It is important that PST attitudes will be exposed and evaluated in order to promote professional development in teaching.



In addition, when the researcher guided first-year PST, she encountered huge resistance to reflection writing. As a result, she decided to add CRL discourse sessions on reflection, as part of her doctoral research in order to understand PST attitudes toward reflection.

### **3. Research Questions**

What are the attitudes of primary school, pre-service teachers (PST) toward reflection, especially written reflection, in the beginning of the first-year preparatory program?

### **4. Purpose of the Study**

The purposes of the study are:

1. To explore PST attitudes toward reflection, mostly to written reflection.
2. To provide recommendations to pre-service preparatory programs regarding teaching and learning from reflection in an innovative way.

### **5. Research Methods**

#### **5.1. Research Paradigm**

The research is based on a qualitative-constructivist research paradigm which assumes the use of an interpretive-interactive epistemology in the study (Denzin & Lincoln, 2011). This paradigm is based on the social construction of reality, the intimate relationship between the researcher and participants, the topic of study, and the contexts that shape the inquiry (Creswell, 2015). For this research, it is most suitable to explore PST attitudes toward reflection in this socially constructed paradigm built on the contextual relationship of a CRL discourse group consisting of PST and a PI.

#### **5.2. Data Analysis**

Discourse categorical content analysis has been conducted in order to reveal the latent knowledge of the research participants (Creswell, 2012, 2015; Shkedi, 2011). Content analysis of common themes have been used in order to reveal PST attitudes towards reflection in the discourse at the beginning of the first preparatory year (Denzin & Lincoln, 2011). However, since the researcher in this study is also the PI in the research, she refers to herself from the researcher's role as a PI in the data collection phase because this was her role during the CRL discourse session, and while she analyzed the data.

#### **5.3. Research Tool**

Audio recorded, Collective Reflective Learning (CRL) discourse session of 43:38 minute was used in the research to explore PST attitudes about reflection. CRL discourse occurs when a group of learners share and reflect through a systematic procedure on their previous behaviours that led to performance outcomes (Ellis & Davidi, 2005; Michalsky & Schechter, 2013; Schechter, Sykes, & Rosenfeld, 2008; Schön, 1983; Perry & Rahim, 2011).

Using the CRL discourse method allowed the study to first focus on discussing reflection before the PI opened the topic through guided, clarification questions and arguments pertaining to reflection. The PI began the session with a set of gradual questions: What does reflection mean to you? What do you

know about reflection? What do you mean when you say "reflection" in academic study? What do you mean when you say "reflection" in reference to your instruction? In order to answer the questions seriously, with high-level metacognitive thinking, the PST was given time to think on and answer each question. They received strips of paper and were asked to write down one detail on each strip, and after a few minutes to think and to write their answers, the PST participated in the CRL discourse about reflection.

#### **5.4. Research Population**

Eight, first-year PST studying in the special education track of the same educational college in Israel participated in the research. The research was conducted in one session of CRL discourse with a PI at beginning of the 2017 academic year. All of them practiced their teaching in the same primary school classes and were guided by the same PI. In order to preserve privacy and anonymity, all participants have been assigned a pseudonym.

## **6. Findings**

Generally, there were two, unequal PST subgroups identified through the discourse. One group had a negative attitude, and the other group had a positive attitude toward reflection. However, changes did occur in the negative PST subgroup during the discourse. Findings according to each subgroup will be presented.

### **6.1. PST Negative Attitude Toward Reflection**

Most of the PST presented a negative attitude toward reflection, especially toward written reflection. Five PST expressed their negative attitude through resistance and revealed their misconceptions about reflection, specifically regarding its purpose, who it is intended for, and how to do it. Three out of five of this subgroup were clearly heard and consistently presented and articulated their negative attitude though resisting loudly, even if they were not explicitly overt from the beginning of the discourse. Their suppressed, negative attitude in the beginning of the discourse was seen by clues in their overt behaviour. They explicitly expressed their negative attitudes as the CRL discourse continued under guided questions from the PI. However, as the discourse progressed, these PST changed their negative attitude to a more positive attitude, especially regarding written reflection.

#### **6.1.1. Resistance**

The data analysis presented PST resistance to reflection according to three phases identified during the discourse: Phase 1- beginning of the discourse; Phase 2- resistance discourse; and Phase 3- constructive promotive discourse. They expressed their resistance to reflection, particularly to written reflection, in two levels, the explicit level and the implicit level. However, changes in their attitude and reduction of the resistance can be seen in the transformation between these two levels. These changes were noticed through the content of the discourse, the variety of laughter, and in the PST attributions to their past and current experiences.

The content in the first phase of discourse was characterized in the explicit level through answering the PI's questions about reflection based on previous knowledge and according to how they thought the PI expected them to answer. In addition, the resistance was characterized in the implicit level through the PST suppressing laughter and in the content in the implicit level, through negative small-talks between PST that expressed opposition to reflection. However, as the PI asked more questions, their negative attitudes moved from the implicit to explicit level through deeper and more detailed questions. In addition, the PST used a few negative sentences when the PI began asking deeper questions to explore their implicit attitude toward reflection. Furthermore, they attributed to the general uselessness of reflection, specifically of the written reflection, in their past experience (See examples, in Table 01. - Phase 1).

The discourse continued in the second phase as resistance discourse with shared laughter between the PST without the PI, at the explicit level. In this phase, the PI was able to reveal that most of the PST held negative attitudes toward reflection, specifically written reflection. They explained their perception of written reflection as being written suggestions on how to improve teaching practices. In addition, they used more negative language and detailed examples to express the uselessness of written reflections compared to the value of specific verbal feedback received from a commander or colleague when they explicitly and directly pointed out needed improvements for their teaching. In addition, they accused the PI for being the only one how gave them these tasks to write useless reflection (See examples, in Table 01. - Phase 2).

The third phase discourse content was characterized by a constructive promotive discourse to help the PST understand reflection writing by focusing on their present experience and practice in teaching. In this phase, they wanted to understand how to write a reflection, its advantages, the requirements, and the components of good reflection writing. In addition, they shared relief-laughter with the PI (See examples, in Table 01. - Phase 3).

During the session changes occurred in the discourse content, from resistance discourse in the implicit level (phase 1), to resistance discourse in the explicit level (phase 2), to constructive promotive discourse on reflection (phase 3). Additionally, transformation was seen in the kind of laughter used during the discourse, from hidden laughter (phase 1), to PST shared laughter without the PI (phase 2), to PST relief laughter with the PI (phase 3). Furthermore, changes in the attribution to their experience in teaching took place during the discourse. Their general attribution to the uselessness of reflection, especially written reflection, in their past experiences in guiding or educational roles (phase 1) turned to specific examples in their past experience attributing to its uselessness (phase 2), to intention to promote their present experience in teaching in a student-teacher role by understanding how to reflect, specifically in writing (phase 3).

### **6.1.2. Misconceptions About Reflection**

The PST resistance to written reflection was based on misconceptions that were constructed according to their past experiences. The main misconceptions identified during the CRL discourse referred to the reflection content, its purpose, to who it is intended, and to ways of writing reflection.

#### **6.1.2.1. Misconceptions About the Reflection Content**

PST misconceptions about the reflection content were mainly centered on the idea that reflection only includes improvement points, is a "digging" act, and that its content is solely useful to the PI's evaluation of their teaching. As a result, they misunderstood that the length of the reflection is a determinate factor in the PI evaluation. Even though the PI taught them about reflection in explicit instruction and demonstrative teaching as necessary metacognitive process as self-regulated learners in the prior didactic lessons about reflection, they didn't know how to reflect or write reflection. These research findings suggest that their misconceptions stem from further gaps in their content knowledge about reflection (CK) and strategic and pedagogical knowledge (PK) how to apply it practically (Moos & Ringdal, 2012; Perry, Phillips, & Hutchinson, 2006; Perry & Rahim, 2011; Shulman, 1987; Zimmerman, 2008; Zimmerman & Schunk, 2011).

In addition, they didn't feel confident in their ambiguous position of a student-teacher. They felt as though they had low status in the fragile role of a student-teacher. They were also experiencing high levels of emotional uncertainty and fear of being evaluated. However, they began to feel more confident after the resistance discourse and ventilating enabled by the PI, in the second phase. Afterward, in the third phase of the discourse, they admitted their lack of knowledge about writing reflection, asked the PI for more details to elaborate upon the components of written reflection, and to guide them through the writing process (See examples, in Table 02. - Phase 3).

#### **6.1.2.2. Misconceptions About the Ways of Reflection Writing**

The PST misconceptions about the ways to write reflection were expressed through their emphasis that the structured framework of reflection writing based on the process of guiding question is useless to them. Even though the PI presented the components, and they received them in writing, they didn't know who to write reflection and didn't understand its components. When they argued that spoken discourse with a commander, supervisor, or colleague helped them improve their teaching in the past, the open attitude of the PI allowed her to offer several kinds of reflection. She first presented the process of spoken discourse, as the PST suggested. This method had already been done following lessons taught under the PI's observation and were later committed to writing; open, authentic reflection written in continuous text, not with separated attributions to each guiding question. She also suggested other, non-traditional, reflective strategies like drawing, but the PST preferred to write their reflection according to the formal structured framework of guiding questions (See examples 17 and 18, in Table 02. - Phase 3).

As the CRL discourse continued, the findings revealed that PST negative attitudes were primarily based on misconceptions about reflection, especially written reflection. However, through the CRL discourse, most of the PST in the negative sub-group began to view written reflection with a more positive attitude and changed their misconceptions to promotive metacognitive thinking processes, mainly in the third phase of the constructive promotive discourse, that was combined with relief, sharing laughter with the PI.

The pre-service teachers' misconceptions, mainly about written reflection, exposed from the implicit level to the explicit level of the discourse driven from their desire to fully understand reflection writing were: (1) The purpose of the reflection is to acknowledge the PI in their teaching state and that the

PI can evaluate their improvement in teaching. (2) The reflection is intended for the good of the PI, and the demand for reflection is certainly not intended for their own good. (3) According to their past experience, reflection content only contains points of improvement. However, these improvement points were not useful to the PST development and could be untruthful due to their subjective nature. (4) Receiving explicitly stated improvement points from a person of significant influence, such as an instructor, commander, manager, or colleague in verbal feedback, is the best and only useful way to improve teaching and develop their teaching skills.

The pre-service teachers' misconceptions changed to the following promotive metacognitive thinking conceptions: (1) The aim of the reflection is to help PST learn about their teaching, thus empowering them to improve and develop their teaching skills by teaching themselves. (2) The reflection is intended for their own good, and the PI interaction and guidance is intended to assist their professional development as students and teachers. (3) The reflection content should include more than points of improvement, and should include thoughts, feelings, strengths, and abilities. (4) There are a few different ways to successfully write reflections. However, the PST prefer to operate according to the structured framework of answering guided question in open, continuous text, or by answering each guided question separately.

## **6.2. PST Positive Attitude Toward Reflection**

The data analysis revealed that three out of eight PST expressed positive attitudes toward reflection. These PST attributed advantage to written reflection in a constructed framework of reflection, including constant components as scaffolding. In the first phase, the PST with positive attitudes verbally expressed their positive thinking on reflection in one or two sentences but mostly listened to the negative subgroup and remained silent at the explicit and implicit levels. However, only one of them presented a stable, solid attitude toward reflection. She felt confident enough to articulate and express her attitude aloud, mainly in the third phase of the discourse (See examples in the Phase 3 column of Table 02).

One of the PST with a positive attitude toward reflection emphasized the advantages of reflection and explained how written reflection improved her teaching. First, she described how reflection writing with a structured framework of guided question helped her scaffold ideas and experiences which then helped her learn about her teaching and improve it in future lessons. Secondly, the PST shared that the written reflection assisted her development of deeper, metacognitive thinking processes which also contributed to developing her skills even further.

### **6.2.1. Assistance and Scaffolding to Learn About and Promote Teaching**

Through the CRL discourse, all of the PST who presented positive attitude remained mostly silent. However, in the last phase of the discourse, one of them referred to the advantages of writing a reflection guided by a constructed framework which includes consistent scaffolding components. According to her words, the guided questions made her think about what did and did not work in her teaching of the lesson. In addition, this constructed framework assisted the PST to write a reflection while developing deeper metacognitive thinking processes that contribute to teaching improvement and development by analyzing actions and procedures. This process allowed the PST to question the aspects of her delivery that were

ineffective and evaluate what she could do to improve in future lessons (See examples 19, 20, 23, in the Phase 3 column of Table 02).

One of these PST also expressed both negative and positive advantages of reflection writing. She shared her honest feeling about writing reflections, while still emphasizing her positive attitude toward reflection. She expressed understanding that it takes time to prepare the writing and that it's a "digging" act. Finally, she declared that the reflection improved her teaching (See examples 19, 20, 23, in the Phase 3 column of Table 02).

### **6.2.2. Metacognitive Processes Development on Teaching**

Among the PST with positive attitudes toward reflection, mostly toward written reflection, development of metacognitive thinking processes occurred. One of the PST stressed that the reflection contributed to internal speech development, greater reflective thinking while teaching a lesson, and increased ability to learn from her teaching after a lesson.

The internal speech development as a high level, self-regulated learner can be seen in one of the PST's explanations about the metacognitive process that she presented in the CRL discourse (Vygotsky, 1962, 1978). She shared about how she was sitting with the intent to write a reflection, and that she thought deeply by "digging" into the process. Her dialogue revealed her internal speech which activated metacognitive thinking processes about teaching, including self-questions and articulation of thoughts through an inner voice. Furthermore, she self-reported that she often sits and thinks about what happened and was important to her. In her words, "What worked?", "What didn't work?", and "Why didn't it work?" She described the action of "digging" and detailed these processes too. She added that additional reflective thinking processes take place in the lesson, and she stressed that it causes her to be more intent and aware, to really sit and devote time to write reflection. Furthermore, when she continued her reflections writing on a regular basis, she mentioned that the process became more natural. Therefore, she was able to improve and change her teaching as a result of the reflection because she was more conscious, aware, and reflective while teaching lessons in practice.

Last but not least, during the third phase, it became clear that the PST who had negative attitude didn't know how to write reflection, but they asked for the PI for guidance, explanation, and clarification. Furthermore, it was apparent that the PST wanted to learn how to properly write a reflection because they sought the PI's approval. During this same phase, one of the PST with the positive attitude opened up by sharing her writing content, intentions, writing process, and even added additional components by sharing her metacognitive thinking processes. Finally, the PI clarified and explained reflection writing according to the content, constructed framework, and the reflection components. At the end of this phase, the PST with the negative attitudes and misconceptions transitioned to more constructive metacognitive processes and to a more positive attitude toward written reflection.

**Table 02.** Examples of Pre-Service Teachers' (PST) Positive Attitude Toward Reflection

Phase 1- The Discourse Beginning	Phase 3 - Constructive Promotive Discourse
<p><b><u>Discourse Content - Explicit Level</u></b></p> <p><b>Ex. 18</b>                      Eden: <i>"To give myself a feedback what is (was) good? What was not good? From what it can be learned? What does not teach? I also wrote things that I felt. "</i></p> <p><b>Ex. 19</b>                      Ora: <i>"I wrote:" reflection of the emotions". I wrote:" a process description". "</i></p>	<p><b><u>Discourse Content - Explicit Level</u></b></p> <p><b>Ex. 19</b>                      Eden: <i>[...] "I don't know maybe it is also related to consciousness and how open you are with yourself and such. I learn a lot more is "Keilou") from what I learn alone from what I transfer ( instead of "teaching") I learn a lot more "Keilou" I learn from that after I'm pass through it, "Keilou" I'm thinking to myself "Keilou" what was? How it was?"</i></p> <p><b>Ex. 20</b>                      Eden: <i>"I do understand the part that (you) need to write because I'm "Keilou" I'm giving to it time, really I'm sitting down, thinking about what I should write down, what really had been (happened) for me?"Keilou" I were digging more and more in it (she emphasize the word and the movement of "digging" by showing it in her hand). Yes it digs and bothers, but you do sit down more and think (more) and you give it time and place. In the end, yes, It is more in your awareness."</i>  <i>[...] "(At the end) It was natural. I tell you this is something that happened I know."</i></p> <p><b>Ex. 21</b>                      Eden: <i>" If you were. Now you think you have to dig and do it, forcing the reflection. But if we will say that you have been giving to this soldier (teacher commander) a-ll of the time (extension of the word "all") to write a reflection on her lessons, in the end there was a huge improvement, I think. ..."</i></p> <p><b>Ex. 22</b>                      PI: <i>"Let's just say that when we are reflective to ourselves and writing a reflection, let distinguish between two kinds of reflections within us, in the teaching: One, reflection after a lesson - its purpose really is to improve and progress from lesson to lesson and also to better understand what has occurred and what has happened? The goal is that it will be authentic, that it will be original. ... The goal is really that you will be lead forward from it (from the reflection) and you will have the ability to develop and advance in addition in specific points, even with a particular child. For example..."</i>                      The PI continues to refer to this example broadly in this issue with this child who has ADHD reflectively and then, the discourse between the PI and the PST continues on talking on the reflection aims.</p>

	<p><b><u>Attributionn to past experience - Explicit level</u></b>  <b>Ex.23</b>  <i>Eden:.. "I got into the army "Keilou" I had not thought about these things either. "Keilou" I did not hate "Keilou" to thinking about myself what did I do? What's good? What's not good? It also seemed to me a digger. Excavation is what they want (from us) and "Keilou" in three months of the course and the novice period every week we had to submit (a report) "Keilou" what we are (were) feeling? What have we learned? How was it? What have we improved? What to improve? Every week we ground it. It was the most digging thing in the world and everyone did not like it, but in the end, it was" Keilou" ... "Keilou" in the end it had become more natural. You do it naturally."</i></p> <p><b><u>Attributionn to current experience - Explicit level</u></b>  <b>Ex.24</b>  <i>Ora: "Is that also in a table?"                  PI: "No. It's open. You can also write the reflection completely open. The main thing is that there will be (in the reflection) components that really allow progress and development. That's the (important) thing".                  Liza: "So, what are the components?                  PI: "That's exactly the question that will guide us further (from which we will continue) . Right now "...                  Tom: "No. We want to know now."                  [...] PI: "The reason for the existence of this third is that the lesson does not exactly happen as we planned. That, there is a gap between planning and implementation. So, third (of the reflection is a) description of the lesson. Up to third what happened in the classroom? From here, my feelings and my thoughts about what happened in the lesson, what worked? What did not work? And what will I do to improve it? That's what it should be at this point. that's it."                  [...] Tom: "I wrote a description of the process, a description of feelings and thoughts and conclusions ."                  [...] PI: "I suggest to add at the end recommendations for my teaching in the future so that you will have the leverage to continue in the proceeding (teaching)".</i></p>
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## 7. Conclusion

Researchers focus on improving PST personal and collective reflections in order to promote metacognitive thinking processes in learning about teaching because it is one of the most important processes for improving PST teaching (Kohen & Kramarski, 2012, 2018; Michalsky & Schechter, 2013; Schechter & Michalsky, 2014). The current research focuses on CRL discourse in order to talk



collaboratively about reflection, to expose PST attitudes toward reflection, and activate metacognitive thinking processes. According to the research findings, the CRL discourse method was useful for exposing PST sub-group attitudes toward reflection. The majority group consisted of PST with negative attitude and the other included a few PST with positive attitude toward written reflection.

Moreover, during the CRL discourse, PST with negative attitude shifted to a more positive attitude toward reflection. It can be concluded that CRL discourse has the strength to promote sharing, correct misconceptions, and develop PST reflection processes and practices, while activating metacognitive thinking processes. CRL discourse was found to be a method of learning that accommodated PST understanding and misunderstanding. It was sensitive to their unconfident, fragile status position in-between roles of student-teacher and a teacher, in addition to their emotional and cognitive state of mind. Furthermore, learning through CRL discourse was not only relevant to PST, but it was also sensitive and significant to their competence and willingness to develop and improve teaching skills through reflection (i.e., metacognitively learning from their teaching). Collective learning was researched among PST in early childhood, primary, and secondary schools but was primarily attributed to the shared-regulation potential derived from this type of collaborative learning. However, they did not focus on the strength of learning provided through reflective discourse (Foong, Nor, & Nolan, 2018; Michalsky & Schechter, 2013; Perry, Phillips, & Hutchinson, 2006). Four different methods of PST CRL from problematic events in secondary school sciences improved PST teaching to promote self-regulated learning strategies and organizing learning environments (Schechter & Michalsky, 2014). In addition, collective learning in primary schools involves taking action and performing tasks to promote shared learning regulation and to achieve common goals. These research findings indicated that the PST tasks and practices resembled those of their mentors, and the task complexity was strongly predictive of opportunities for students to develop and engage in SRL (Perry, Phillips, & Hutchinson, 2006; Perry & Rahim, 2011).

On the contrary, the current research focused specifically on CRL discourse to exposed PST attitudes toward reflection, especially written reflection. The research findings indicated that most of the PST resistance to written reflection was a result of their emotional and cognitive state and were based on misconceptions constructed through their past experiences. The CRL discourse gave them the opportunity to decrease negativity and transform their attitude about reflection by using the strength of reflective discourse. When the PST negative attitudes were exposed, the PI could understand the roots of the misconception, particularly about the purpose of the reflection, to who it is intended, its value and effectiveness, and that there is only one way to write reflection, she could correct them, and to lead them toward positive and metacognitive thinking processes.

Furthermore, the third phase of the discourse revealed gaps in knowledge regarding the aim, components, and strategies for writing reflection. It is reasonable to assume that this type of pedagogical knowledge is missing at the beginning of the first preparatory year (Shulman, 1987; Schechter & Michalsky, 2014). However, the CRL discourse gradually provided an understanding of the misconceptions constructed on partial knowledge, past experience, and gaps in knowledge. After sharing their resistance, the learning experience was more relevant and connected to the PST. It accommodated to their emotional and cognitive states and to their student-teacher status and had more potential to grow them into reflective practitioners in their learning and teaching (Schön, 1987).

In contrast, the minority subgroup of PST expressed positive attitudes toward reflection from the beginning of the CRL discourse, especially toward written reflection. However, only one of them presented a solid attitude toward reflection during the discourse. She emphasized that reflection writing assisted her metacognitive thinking processes while she was teaching. As a result, she pointed out that the constructed writing reflection framework helped her develop internal speech on her teaching (Vygotsky, 1962, 1978). She applied and developed a reflective, metacognitive thinking processes for her teaching from three kinds of reflection recognized by Schön (1987) in the following order: on action - reflection after teaching the lesson, in action - while teaching the lesson, and pre-action – before teaching, in planning the lesson, however it can be understood as post reflection, since she applied it in planning the next lesson (s), instead of planning the current taught lesson, as Schön meant (Schön, 1987).

One of the most significant findings is the PST's unconfident state of mind resulting from their in-between roles during the first preparatory year (Jaeger, 2013). Their fragile status and emotional state integrated with misconceptions, gaps in knowledge, and fear of being evaluated is understandable in this stage of professional development. Previous research further revealed that PST experience feelings of astonishment and anger more than fear in the first year (Kupferberg, 2010a, 2010b; Kupferberg & Gilat, 2005). There are other studies that have exposed gaps in reflection content knowledge and in strategic knowledge regarding integrated reflection as a metacognitive process of self-regulated learning (Kramarski & Michalsky, 2009; Kohen & Kramarski, 2012, 2018). However, the knowledge gap exposed in the current research is more in pedagogical knowledge than in content knowledge (Shulman, 1987). This is contrary to prior research findings which attribute PST attitudes to their gaps in subject-matter, content knowledge (Cardullo et al., 2017; Jaeger, 2013).

The connection between the PST's emotional and cognitive state of mind and their attitudes can be explained by the research literature review of PST during their preparatory program (Kupferberg & Gilat, 2005). While the teacher "I" identity is just beginning to form during the preparatory teacher education period, the findings suggest that the fragile state of in-between professional identity at the beginning of the first year is the most powerful since the PST are experiencing a transformation between roles. Most of the PST are experiencing transitions from management, leadership, or other educational roles to a student-teacher status in the first-year educational preparation to be in a teacher role (Jaeger, 2013; Kohen & Kramarski, 2018; Kupferberg & Gilat, 2005). According to the literature review, this stage is characterized by fear, astonishment, anger, low self-esteem, and low self-efficacy of SRL processes, especially metacognitive ones, because of their fragile transformational status (Kohen & Kramarski, 2018; Kupferberg & Gilat, 2005).

In order to understand this transition deeper, discourse analysis using the "four worlds" system model as an interactive process is used to position participants' self-construction and self-contextualization between the past, present, future, and interpretative worlds in the discourse (Kupferberg, 2010a, 2010b; Kupferberg, 2016). However, PST's previous knowledge and experience are ignored by the lecturers and the instructors (past world) and they don't determine what the PST already know (present world). It is very important to understand their prior knowledge, consider it, relate to it, and even include it when teaching subjects, issues, strategies, and practices as part of the teachers' role and professional development (future world) in the context of PST preparation program teacher

education. While the interpretative world refers to their role and emotional and cognitive states, emphasizing their strengths and abilities prepares them to be Self-Regulated Teachers (SRT) from a metacognitively reflective point of view.

The PST try to handle their in-between position and status in two ways. One way is by raising their status to be equal to the PI through attributions from past experience. Since they feel unconfident and their self-efficacy is low, they try to increase it by equalizing their status with the PI's because they feel unable to be self-regulated learners. Another way is by accusing the PI and undermining her authority by stressing the uselessness of written reflection. They actually expressed this in the second resistance discourse phase by saying that she is the only one giving them these useless tasks of reflection. At the end, after the expression of resistance thinking and ventilating occur, they felt confident to admit explicitly that they don't know how to write a reflection. The PI plays a significant role in guiding them in the discourse up to this point. Her significant role in this stage is confirmed by research findings of early childhood PST who participated in dialogic reflective group sessions between the PST, mentor, and college supervisor on the practicum experience. The findings indicate that the PST expressed higher levels of reflective thinking when influenced by different facilitators' styles. These conclusions support previous research citing positive outcomes when PST are provided with guided reflection and additional support to enhance their reflection (Foong et al., 2018). As Schon predicted, it can be understood that the PI role needs to give academic support for enhancing the reflective skills of educators in the practicum phase, as a facilitator of "first class faculty" and involved as a "coach, advisor, consultant, tutor" (Schön, 1987).

The PI's new understanding helps PST build gradual clarification through metacognitive thinking processes and not only facilitates the construction of positive thinking toward reflection but also inspires their motivation to participate in reflection. Understanding how to write reflection as a way to learn about their teaching and improve their skills gave them the self-confidence of a self-regulated learner which helped them accept the need to grow and develop their teaching. Specifically, in the last phase of the discourse, actual changes in misconceptions exposed during the discourse transitioned to metacognitive thinking processes based on their present teaching experiences in their first preparatory year. The transition occurred when the PI accepted the resistance, asked guiding questions, and offered declarative explanations to correct misunderstandings. Her primary goal was to increase PST learning about their teaching as self-regulated learners through her perception of what it means to be a good teacher (Mazor Cohen, 2018). This growth in self-regulated learning contributed to the change from misconceptions based on negative thinking to metacognitive constructive thinking based on positive thinking about reflection.

Finally, the CRL discourse enables the combination of knowledge, with sensitivity to the emotional and mental state of mind, and develops PST attitudes as self-regulated learners while positioning self-construction in the discourse between the past, present, and future experience in the context of Self-Regulated Teaching (SRT) interpretative worlds according to the "four worlds" system interactive model (Kupferberg, 2010a, 2010b, 2016). In response to the desire of researchers to advance PST reflection, the current research contribution from a theoretical perspective highlights the urgency of exploring the honest and overt opinions of PST regarding reflection, especially written reflection, in

accordance with their state of mind and emotions (Jaeger, 2013; Kohen & Kramarski, 2018). From a practical perspective, the research contribution promotes positive attitude toward reflection. The CRL discourse exposes PST resistance and the origin of their misconceptions about reflection in a safe place, allows for gradual correction, and encourages PST to become self-regulated reflective teachers, which ultimately constructs good teachers (Jaeger, 2013).

### **7.1. Recommendations**

The following recommendations are suggestions for teacher education preparation programs:

- (1) The PI should operate and speak with a proactive attitude that stems from a belief that the PST are capable of giving themselves feedback and conducting internal reflection on their teaching. The PI should believe that the PST are able to improve their teaching through ongoing learning.
- (2) It is important for the PI to create an accepting, encouraging, and empowering learning environment in the CRL discourse. This environment allows the PST to express their attitude in resistance discourse and constructive promotive discourse, which then allows them to express their thoughts and feelings about reflection honestly, without judgment.
- (3) There should be room for in-depth and detailed discourse on reflection, and other topics, that takes place in several CRL discourse group sessions at least three times during the year (beginning, middle, and end). It is recommended to use the CRL discourse potential to expose all PST perspectives and not just the dominant majority.
- (4) It is recommended that each discourse on reflection begin with the PST's previous knowledge and past experience with reflection. The PI should then ask guided questions in order to expand PST answers and expose their hidden attitudes, misconceptions, and metacognitive thinking processes, moving them from the implicit to explicit level of the discourse. To this end, the PI should ask deeper guiding questions and encourage them to ask questions to promote their learning on teaching, improve their teaching, and fill their knowledge gaps while accommodating their needs.
- (5) It is important to suggest more than one way of writing a reflection while still maintaining the key structure and content components of the reflection. The PI should emphasize the importance of writing openly. It is also worthwhile to develop new, alternative ways to write reflections in addition to the methods recommended by the PST and the PI, in order to maximize the strength of reflection and to promote learning, learning about teaching, and teaching.

Further research of CRL discourse in different preparatory years' groups with different PI styles in other topics is recommended. This research can improve CRL discourse strengths and improve PI instruction and guidance in the discourse and might expose and explore more of the pre-service teachers' attitudes. This research will greatly assist in the articulation of the proximal CRL discourse components and characteristics which improve and motivate PST to write better reflections, to activate more metacognitive thinking processes and to increase their ability to plan, to think metacognitively by themselves after teaching and to teach, effectively.

## References

- Anderson, B. (2006). Using the Online Course to Promote Self-Regulated Learning Strategies in Pre-Service Teachers. *Journal of Interactive Online Learning*, 5(2), 155-177.
- Birenbaum, M. (2013). Conditions that Support Formative Assessment: Assessment for Learning (AfL) in Teacher Preparation Programs. *Bimat Diun*, 51, 6-12. (Commissioned paper) (Hebrew)
- Cardullo, V., Finley, S., Burton, M., & Tripp, O. L. (2017). Attitudes, Perceptions, and Knowledge – Academic Language and Academic Vocabulary of Pre-Service Teachers. *Journal of Higher Education Theory and Practice*, 17(9), 21-35.
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4<sup>th</sup> ed.). Merrill Education.
- Creswell, J. W. (2015). *30 Essential Skills for the Qualitative Researcher*. Thousand Oaks, CA: Sage.
- Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE Handbook of Qualitative Research*. California: Sage
- Dewey, J. (1916). *Democracy and Education*. New York: Free Press.
- Dewey, J. (1933). *How We Think*. Buffalo, NY: Prometheus Books.
- Dewey, J. (1938). *Experience and Education*. New York: Collier Books, Macmillan Publishing Co.
- Ellis, S., & Davidi, I. (2005). After-Event Reviews: Drawing Lessons from Successful and Failed Experiences. *Journal of Applied Psychology*, 90(5), 857-871.
- Foong, L.Y. Y., Nor, M, B. M., & Nolan, A. (2018). The influence of practicum supervisors' facilitation styles on student teachers' reflective thinking during collective reflection. *Reflective Practice*. <https://doi.org/10.1080/14623943.2018.1437406>
- Jaeger, E. L. (2013). Teacher Reflection: Supports, Barriers, and Results. *Issues in Teacher Education*, 22(1), 89-104.
- Kohen, Z., & Kramarski, B. (2012). Developing Self-Regulation by Using Reflective Support in a Video-Digital Microteaching Environment. *Journal for Education Research International*, 3, 10. <https://doi.org/10.1155/2012/105246>
- Kohen, Z., & Kramarski, B. (2018). Promoting Mathematics Teachers' Pedagogical Metacognition: A Theoretical-Practical Model and Case Study. In Y.J. Dori, Z.R. Mevarech, & D.R. Baker (Eds.), *Cognition, Metacognition, and Culture in STEM Education: Learning, Teaching and Assessment* (pp. 279-305). Cham: Springer.
- Kramarski, B., & Michalsky, T. (2009). Investigating Preservice Teachers' Professional Growth in Self-Regulated Learning Environments. *Journal of Educational Psychology*, 101(1), 161-175.
- Kupferberg, I., & Gilat, I. (2005). Emotion and Coping in Pre-Service Teachers' Narrative. In: I. Kupferberg, & E. Olstein (Eds.), *Discourse in Education: Researching Educational Events*. (pp. 49-76). Tel-Aviv: Mofet Institution. (in Hebrew)
- Kupferberg, I. (2010a). Interpretative Construction and Deconstruction of Online Text by "The Four Worlds" System Analysis. In I. Kupferberg (Ed.), *Researching Text and Discourse: A Rashomon of Research Methods* (pp. 65-80). Beer Sheba, Israel: Ben Gurion University of the Negev Press. (in Hebrew)
- Kupferberg, I. (2010b). "The Four Worlds" System for Interactive Discourse Analysis. In L. Kacen, & M. Kromer- Nevo (Eds.), *Qualitative Research Methods* (pp. 155-180). Beer Sheba, Israel: Ben-Gurion University of the Negev Press. (in Hebrew)
- Kupferberg, I. (2016). *Touching the Sky: Text and Discourse-Oriented Figurative Language Analysis*. Tel-Aviv: Mofet Institute Press. (Hebrew)
- Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: University of Cambridge Press.
- Le Cornu, R., & Ewing, R. (2008). Reconceptualizing Professional Experiences in Preservice Teacher Education: Reconstructing the Past to Embrace the Future. *Teaching and Teacher Education*, 24(7), 799-812.
- Krainer, K. (2003). Teams, Communities and Networks. *Journal of Mathematics Teacher Education*, 6(2), 185-194.
- Manouchehri, A. (2002). Developing Teaching Knowledge Through Peer Discourse. *Teaching and Teacher Education*, 18(6), 715-737.

- Mazor Cohen, I. (2018). SRL-Theories or Pedagogies. *The European Proceedings of Social & Behavioural Sciences*. Retrieved from <https://doi.org/10.15405/epsbs.2018.06.87>
- McClure, P. (2005). Reflection on Practice: Making Practiced-Based Learning Work. A resource commissioned by the Making Practice Based Learning Work project. *An educational development project funded through FDTL Phase 4 Project Number 174/02 and produced by staff from the University of Ulster*, 1-22.
- Michalsky, T., & Schechter, C. (2013). Pre-Service Teachers' Self-Regulated Learning: Integrating Learning from Problems and Learning from Successes. *Teaching and Teacher Education*, 30(1), 60-73.
- Moos, D. C., & Ringdal, A. (2012). Self-Regulated Learning in the Classroom: A Literature Review on the Teacher's Role. *Education Research International*. Retrieved from <https://doi.org/10.1155/2012/423284>
- Perry, N. E., Phillips, L., & Hutchinson, L. (2006). Mentoring Student Teachers to Support Self-Regulated Learning. *The Elementary School Journal* 106, 237- 254.
- Perry, N. E., & Rahim, A. (2011). Studying Self-Regulated Learning in Classrooms. In Barry J. Zimmerman & Dale H. Schunk (Eds.), *Handbook of Self-Regulation of Learning and Performance* (pp.122-136). New York: Routledge Madison Avenue.
- Rodgers, C. (2014). Doing Dewey. *Occasional Paper Series*, 32. Retrieved from <http://educate.bankstreet.edu/occasionalpaper-series/vol2014/iss32/8>
- Schön, D. (1983). *The Reflective Practitioner*. New York: Basic Books.
- Schön, D. A. (1987). *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey Bass.
- Schön, D. A., & Rein, M. (1994). *Frame Reflection: Toward the Resolution of Intractable Policy Controversies*. New York, Basic Books.
- Schechter, C., & Michalsky, T. (2014). Juggling Our Mindsets: Learning from Success as a Complementary Instructional Framework in Teacher Education. *Teachers College Record*, 116(2), 1-48.
- Schechter, C., Sykes, I., & Rosenfeld, J. (2008). Learning from Success as Leverage for School Learning: Lessons from a National Program in Israel. *International Journal of Leadership in Education*, 11(3), 301-318.
- Shkedi, A. (2011). The Meaning Behind the Words. *Methodologies of Qualitative Research: Theory and Practice*. Tel Aviv: Ramot, Tel Aviv University. (in Hebrew)
- Shulman, L. S. (1987). Knowledge and Teaching: Foundations of a New Reform. *Harvard Educational Review*, 57, 1-22.
- Vygotsky, L. (1962/1989). *Thought and Language*. Cambridge, MA: MIT Press.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Zimmerman, B. J. (2008). Investigating Self-Regulation and Motivation: Historical Background, Methodological Developments, and Future Prospects. *American Educational Research Journal*, 45(1), 166–183.
- Zimmerman, B. J., & D. H. Schunk, D.H. (2011). *Handbook of Self-Regulation of Learning and Performance*. New York, NY: Routledge.