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Reflective Writing in Pre-Service Teachers' Teaching: What does it Promote?

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Abstract: In this study, we examined changes in levels of pre service teachers' reflective writing and tried to identify links between these changes and pre service teachers' success in teaching. Participants were two groups of pre-service special education teachers that taught in two different special education settings: learning difficulties classes and multiple and profound intellectual disabilities classes. Data collection was performed during two consecutive academic semesters, including a monthly structured journal about teaching events during field experience and summative grades, assessing pre service teachers' teaching activities for each semester. Journal analysis referred to three reflective levels of explanations, descriptive, comparative and critical. Results indicated that both groups improved in descriptive levels of explanations, but only one group improved in higher levels of reflective (comparative and critical) explanations. Differences between the two groups were explained in context of different settings in field experience, lack of former knowledge and experience in one group, participants' characteristics and different supervisor's responses to the journals. These differences explain the higher levels of reflective thinking in one group.

A positive correlation was found between grades in field experience and descriptive and comparative explanations in the first semester for both groups. In the second semester, field experience grades correlated only with critical explanations, meaning that only those who reached critical level of explanations also improved their teaching acts correspondently. These results point towards a professional developmental relation between reflective writing and teaching during teacher education process.

Introduction

This study is the result of an ongoing dialogue between us, two supervisors, in a special education department of a teacher education college in Israel. The term supervision in teacher education refers to all college/university guided activities that take place in field experience during teacher training. The college/university supervisor is professionally accessible to the pre service -teacher. (Cohen, Hoz and Kaplan, 2013). Our experience as supervisors with reflective journals indicated that pre service teachers did not improve their levels of reflection despite prolonged and intensive processes of writing. This result was supported in similar studies (such as Zuckerman & Rajuan, 2008; Bain et al., 2002), in addition to ambiguous links between reflective activities and pre-service teachers' teaching (Breuer & Korthagen, 2005).

We planned and performed this study as an attempt to test links between reflective activities and teaching acts. As such, our leading perception was that writing is a powerful medium, mediating between the pre service teacher's existing and new knowledge, promoting meta-cognition thinking, increase awareness to tacit knowledge, while encouraging self-reflection in order to propose solutions to problems. This activity needs continuous practice.

Still, reflection tasks are common in teacher education field experience and seen by many as a tool that promotes professional development (such as Burton, et.al., 2009). Accordingly, pre service teachers are required to reflect and report on diverse aspects of their practice, such as promotion of professional development ,peer instruction, as well as on personal issues, such as, their teaching dispositions , attitudes and awareness towards their ethnic, status-related and individual identity. The most frequent tasks are reflective journals (e.g., Perry et al., 2006; Almarza, 2005; Blasi, 2002; Brush et al., 2003; Colby & Stapleton, 2006; Deal & White, 2006; Doering et al., 2003; Richards & Brumfield, 2003; Santoro & Allard, 2005; Tsang, 2003; Weinberger, 2006). It seems that tasks of reflection match field experience objectives of promoting pre-service teachers' reflective abilities, but none of them show proven links between reflective acts and pre service teachers' planning and teaching acts. Since reflective writing is a demanding task for students and supervisors alike, (involving time, effort and personal exposure) we thought it important to examine changes in reflective writing of pre service teachers' teaching during one year and connections to their level of teaching. We tried to design a "wide" research context, using different field experience settings and different responses to the participants journals. These different settings of field experience will be described and discussed intermittently in the article.

Journal writing in teacher education

Reflective writing in teacher education is an ongoing and developmental process, performed before and after teaching episodes. The power of writing journals as a learning tool is perceived as mediating between existing and new knowledge, "breaking habitual ways of thinking, enhancing the development of meta-cognition, increase awareness of tacit knowledge, facilitate self-exploration and work out solutions to problems " (Kerka, 2002, p.1).

Journal reflective writing, ranges from the open and free format to the structured one, assuming that different kinds of journal affect reflective levels of thinking. Hence, various ways to enhance reflective writing can be found, such as Hatton & Smith's (1995) hypothetical situations, writing a letter to a person. Moon's (1999), flexible process, enabling practitioners to choose topics, test new ideas, present materials in other forms (through graphics or dialogue), comment on personal behavior, describe feelings. Bain, et.al. (2002) conducted an instructional demonstrative dialogue through journal writing, aimed to show their students how to write about events and examine them in their journals. They also (Bain, et al. 1999) compared free and personal writing reflection (self-analysis) to reflective dialogue in which the pre-service teachers wrote about events in the practicum and examined them, but found no significant differences between self-reflection and dialogue reflection. Results showed that (66%) of their subjects improved their reflections from reporting to reasoning.

Achieving higher levels of reflective thinking are one of the major aims of reflective writing. Grimmet & Crehan (1987) and Clark, (1994) suggested that initiating dialogues based on questions may lead to different and higher levels of thinking. Ben Peretz (1998) emphasized analytic reflections, encouraging writers to analyze acts and learn from it. Davis (2003,2006) encouraged pre-service teachers to write integrative reflections, reflect on multiple aspects of teaching, hoping to develop through these practices a more complex view

of teaching. She stated that pre-service teachers need support and practice in reflective writing or else they write “unproductive reflections”, mainly descriptive, without much analysis: “listing ideas rather than connecting them logically” (Davis, 2006, p. 282b). Again, the above examples indicate that reflective writing in teacher education is perceived as a goal for better teaching, without examining a direct link between them. A similar tendency is seen in teacher's professional development where reflection is seen as an instrument for change, involvement in research, and self-assessment (Avalos, 2011).

Our study tried to link between: ongoing reflective activities, teaching acts, context of field experience and the dialogue between the pre-service teacher and the supervisor.

Our research questions were: 1) Will an ongoing process of writing a structured journal improve the pre-service teachers' reflective writing, in terms of numbers of explanations and higher levels of reflection? 2) Will changes in reflective writing correlate with summative assessments of pre-service teachers' teaching practices?

Method

The study was longitudinal, using quantitative and qualitative methods, examining changes in reflective writing during one year of pre-service teachers teaching experiences.

Participants and Setting

The participants were 24 pre-service teachers in their third year of training in a special education program for primary and secondary schools, in a teacher's education college in Israel. They experienced teaching in two special education settings: multiple and profound disabilities classes in special schools and kindergartens (Group A -15 pre-service teachers) and in learning difficulties classes, in regular schools (Group B-9 pre-service teachers).

Although both settings had special education characteristics, they differed in substantial ways. Group A (15 pre-service teachers) taught pupils with multiple and profound disabilities (moderate and severe intellectually disabled and autistic pupils) in special education schools and kindergartens, which were new to them, they had no previous teaching experience within the teacher education program. They were asked to plan and teach as similar as possible to their mentor teacher, because of the pupils' needs and their lack of previous experience.

Group B (nine pre-service teachers) taught pupils with learning disabilities, in regular schools, an experience they had encountered the previous year. They were encouraged by their mentor teachers and supervisor to suggest and implement creative new and personal teaching ideas.

The two groups differed in their field experience and in their first language competencies; In group A, eight were second language Hebrew speakers, meaning that they had difficulties in writing in Hebrew. In group B, all were native speakers and regular pre-service teachers. The two groups also differed in the kind of responses they got following their journal submission. Group A got only confirming responses from their supervisor (it was done in order to encourage them to write in Hebrew) while group B conducted a responsive journal with their supervisor.

In this college (as in many similar colleges in Israel), the preceding requirements to enroll in a special education program do not demand former academic background (on subject matter), or former teaching experience. Four years of special education program include theoretical courses, workshops and field experience. About 60% of the courses focus on teaching and planning. The field experience emphasizes different issues each year: In the first year, the pre-service teachers observe and teach in regular classes, usually in the third

and fourth grade. In the second year, they plan and teach reading and math in first and second grade, mainly pupils with learning disabilities, sometimes in special education settings in a regular school. In the third year, they choose their field experience, either teaching pupils with learning difficulties in fifth and sixth grades in regular schools, or teaching in special education schools and kindergartens, pupils with multiple and profound disabilities.

The field experience in the second and third year of the program includes planning and teaching for two days each week, during two semesters, in one classroom / kindergarten. Each pre-service teacher has a teacher mentor (who is the home teacher in the field experience class) and a college supervisor, who helps the student plan, teach and reflect about her teaching experiences. The pre service teachers teach lessons based on units (10-20 lessons) they planned with the mentors and supervisors' assistance. Both groups participated in team discussions, with their teachers' mentors and school therapy staff, mostly about teaching, adapting and developing individual objectives, implementing learning strategies and various therapeutic procedures, according to pupils' needs.

In college, each group attended a weekly pedagogical workshop, taught by their supervisor, which was also a supportive environment and created opportunities to share experiences with both peers and supervisor and study together pedagogical issues. The pedagogical journal was one of the tasks each pre-service teacher had to perform during her field experience.

Data sources

The data sources for each participant included a personal, structured reflective journal (submitted each month) and two summative grades in field experience at the end of first and second semester, based on their teaching acts in class.

- a) A structured journal (Appendix A) developed by Zimmet, Roznau & Verner (1999), meant to enhance self-awareness and reflective writing abilities. It consisted of 14 questions, focused on reflective writing, by describing and explaining planned and taught events. The questions directed the pre-service teacher to describe a lesson that s/he had planned and taught, such as *"Describe the activity as it happened: participants, place, beginning and end, methods of teaching, questions, which arose during the teaching activity. Please try to give a detailed description."* (q. 3), explaining *"What did you want the child to learn: a principle, a process, a concept, information, control of a skill, a moral/ social value"?* (q. 4).

Questions 8, 10-13 directed pre-service teachers to express their opinion and examine options (comparative and critical reflection) such as: *"Did you learn anything new (that you did not know before) about one of the pupils or about their relationships?"*

- b) Field experience assessments – The pre-service teachers performed and submitted two tasks:
 - **Acquaintance tasks** with the school - describing school characteristics following a meeting with the school principal; describing class characteristics based on mentor's information; writing about pupils' different needs based on reading and class observations.
 - **Planning and teaching three teaching units** - this was the central task, including the self reported pre-service teacher's learning process,

followed by detailed planning, such as choosing teaching goals and central concepts, identifying difficulties within the content, adapting and implementing teaching strategies, planning evaluative tools and teaching and assessing the teaching acts. The pre-service teacher submitted the planned units several times during the planning process, until approved by the supervisor, and then taught in class. At the end of the unit the pre-service teachers wrote a detailed summary assessing the teaching unit and presenting their insights.

Procedure

Writing and Submitting Journals

The pre service teachers wrote journals and submitted them to the supervisor from November to June (not including semester vacation and holidays). Each wrote 8-10 monthly journals about a lesson that s/he had planned and taught.

Each supervisors responded to the journals, in group A the responses were mainly confirmations and encouraging feedbacks, mainly because of their writing difficulties. In group B, the supervisor wrote comments, posed questions, wrote her own opinion, corrected students' writing and suggested additional reading.

The field experience assessment was formative during the semester and summative at the end of each semester. Teacher mentors gave formative assessments about the pre service teachers planning and teaching activities during both semesters based on observations, planning acts and discussions about pupils' needs and progress.

Summative assessments were grades, given twice a year, at the end of each semester. The assessments consisted of written feedback of the teacher mentors (20%), self-evaluation of the pre service teacher (10%) and the supervisor's assessment (70%).

Lesson Observations

The teacher mentor observed her pre service teacher twice a week for at least one lesson and discussed her assessment with the pre service teacher, suggesting improvements. The supervisors observed the student two-three times each semester, each observation followed by a feedback discussion.

1. The assessments were based on 6 elements;
2. Planning and performing teaching acts with whole class, groups and individuals;
3. Emphasizing interaction between teacher-pupil on caring and empowerment while encouraging pupil learning;
4. Encouraging literacy activities and communication between children;
5. Adapting sequenced actions planned to elicit pupils' responses, (foreseeing and coping with difficulties, success and non-responding problems);
6. Variety of instructional acts aimed to attract pupils' attention; and
7. Performing evaluating acts during the lessons linked to the lessons' plan and pupils' performance.

Journal analysis coding

Both researchers read all the journals performed content analysis, identified explanations about teaching acts and teaching events. The procedure revealed explanations centered on teaching acts and pre service teachers' concerns following pupils' reactions.

Our aim, to identify changes in levels of reflective thinking, lead us to adopt Jay & Johnson's typology (Jay & Johnson, 2002) which referred to three levels of reflection, implemented by three types of explanations. This typology enabled us to identify and examine different levels of reflection, and distinguish between them.

The descriptive explanations included:

- Description of pupils behaviors, such as:
"The child refused to cooperate because of restless behaviour, caused by a head injury".
- Instructional acts:
"The meaningful activity in this lesson was the worksheet that each pupil worked on by himself/herself. In this activity, I could notice the knowledge and understanding of each pupil and offer my help".
- Pre service teacher's feelings:
"I felt the mentor teacher guided me, and I thanked her in my heart".
- Saliency of the subject they taught:
"It is important to teach these subjects because geometry is all around them and they should know how to differentiate between forms and perform acts successfully."

Comparative explanations

Were identified by presenting different points of view, indicating the pre-service teachers' ability to perceive options in her teaching acts.

These explanations were identified by:

- Sentences that raised questions, presented an issue from different points of view, thinking again in a different way about things, such as:
"The main need of the group was for my approval to their answers. When I saw that it had become a habit, I stopped. I informed them that I will check their answers with them only at the end of the lesson. On second thought, maybe I should have prepared the answers on paper, which would have enabled them to read it and decide if they were right. This may decrease their dependency on me. I see this as a problem, and would like to talk to you about it during our meeting".
In this example, the pre-service teacher identified an instructional issue, changed her teaching behavior in order to minimize it and remained with an open question.
- Changing point of view:
"If I had to teach this lesson again, I would have changed the order: first, oral reading and then individual reading because, at the beginning of the lesson, they are more focused".

Critical explanations-

The highest level of reflective writing, expressed an attitude based on professional knowledge:

- *“Structured lessons and well-defined ones, such as reading lessons, do not enable flexibility. I noticed that I enjoy more teaching less structured lessons.”*
- *“I have learned as a teacher and as a person, that the educator’s role is to express empathy and to honor each student. I have to show love and warmth without renouncing my right for respect.”*

The journals were analyzed by a four steps process:

- a) Arranging each group's journal according to their monthly submission and read again by both supervisors.
- b) Analyzing one journal by both supervisors in order to consolidate the analysis. We identified problems and reached agreements.
- c) Each of us analyzed her groups' journals, identified explanations and coded them. Each explanation was marked, and classified according to one of the three mentioned kinds of explanations.
- d) A second shared reading was performed in order to strengthen reliability coding. Disagreements were solved by reading explanations in their context.

Each identified explanation got one point. The points were summed up for each participant every month for all types of explanation. Data analysis was performed first by content analysis for the three types of explanation, followed by frequency and covariance.

The first research question, "will an ongoing process of writing a structured journal improve the pre-service teachers' reflective writing, in terms of numbers of explanations and higher levels of reflection?" was analyzed through ANOVA. Although the sample was small, the data consisted of 844 explanations from 24 participants. Factor analysis was performed for main and interaction effect in order to identify the effect and interactions of the different variables (time, group and type of explanations) and analyze the differences between the groups in order to clarify significance. The analysis of variance answered the following questions: (1) did time cause changes in reflective writing beyond group differences? (2) Were the changes in reflective writing connected to a specific type of explanation? (3) Was there an interaction between time, group and type of explanation?

The second research question, relating the changes in reflective writing in correlation with summative assessments of pre-service teachers' teaching practice, was analyzed through Pearson correlation test of the variables.

Qualitative analysis of four cases:

In order to identify content differences we performed two steps: first, a sample of explanations from several journals from each group was chosen and analyzed. As a result we identified different characteristics in the explanations of each group. In order to illustrate these differences, each researcher chose two detailed cases and analyzed them from November to June.

Results

The results present levels of written explanations followed by correlations between pre service teacher teaching grades and their levels of explanations, and qualitative analysis of the explanations.

Based on the journals' readings, we expected to find an increased number of explanations, higher levels of reflective writing at the end of the year and a positive correlation between teaching grades and levels of reflective writing.

Levels of Written Explanations of Each Group

Journal content analysis identified 844 explanations in both groups. Group A (15 participants) contributed (374) 44% explanations, while group B (9 participants) contributed (470) 56% explanations. Increase in descriptive explanations during the year was substantial in group B. Comparative and critical explanations were less frequent. Table 1 presents a summary of monthly reflective written explanations of each group (The low numbers in April are due to spring holidays.)

Table 1: Data collection of the groups: Sum of different levels of explanations in the two groups

Data collection for group A (teaching learning disabilities children) (N= 15)									
Typology of reflection	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total %
Descriptive	53	39	51	13	20	31	51	46	304(78.43%)
Comparative	9	5	8	1	2	4	8	11	48 (12.63%)
Critical	0	2	3	1	2	2	7	5	22 (8.94%)
Total	32	28	37	11	13	17	52	56	374 (100%)
Data collection for group B (teaching learning disabilities children) (N= 9)									
Typology of reflection	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total %
Descriptive	0	12	50	36	46	9	69	106	328 (61.7%)
Comparative	0	2	5	12	22	5	17	22	85 (22.9%)
Critical	0	2	2	4	5	1	13	30	57 (15.4%)
Total	0	16	57	52	73	15	99	158	470 (100%)

Analysis of the differences between the groups

Typology	Group A (N=15)		Group B (N=9)	
	First semester Mean ±S.D (N)	second semester Mean ±S.D (N)	First semester Mean ±S.D (N)	second semester Mean ±S.D (N)
Descriptive reflection	12.00 ±8.48 (N=13)	10.57 ±5.89 (N=14)	10.88 ±7.32 (N=9)	25.55 ±11.56 (N=9)
Comparative reflection	2.87 ±2.10 (N=8)	2.08 ±1.44 (N=12)	2.37 ±1.84 (N=8)	7.33 ± 2.95 (N=9)
Critical reflection	1.12 ±0.64 (N=8)	2.50 ±1.41 (N=8)	1.60 ±0.89 (N=5)	5.44 ± 3.71 (N=9)

Table 2: Averages and standard deviation for three types of reflections during two semesters

The factor analysis showed four results: a. A main effect of time was found, ($f(1,24)=11.59$; $p<.00$), meaning that the majority of the participants improved in reflective writing over the year beyond group. b. A main effect for type was found, ($f(1, 24) =54.74$; $p<.00$), meaning that types of explanation affected the results, both groups wrote more descriptive explanations and fewer comparative and critical reflections. c. Interactions were found between time and group ($f(1, 24) =13.76$; $p<.00$), pointing towards significant differences between the groups that occurred within the year. At the beginning, group A started similar to group B but ended behind group B in all three levels of explanations. In order to control the language variable in group A, (eight were SL Hebrew speakers), we excluded this group and performed factor analysis for Hebrew speakers only, getting similar results. These results pointed towards an increase in descriptive explanations in both groups, while differences between the groups were found in the increase of comparative and critical explanations, identified mainly in group B.

Correlation Between Student Teaching Grade and Level of Explanations

The relationship between level of explanation and grades of field experience performance (mainly planning and teaching) in each semester was analyzed through paired Pearson correlation test. Results pointed towards a positive moderate level of correlation between grades in field experience and descriptive and comparative explanations in the first semester. Average for grades in practice was $N=24$ $\bar{X} = 84.83$ (9.09) for the first semester and $N=24$ $\bar{X} =85.65$ (10.26) for the second semester. The correlations between pre service teachers' grades in teaching and their explanations were as follows: Descriptive explanations $N=22$ $r=.45$ Comparative explanations $N=16$ $r=.58$ and Critical explanations $N=13$ $r=.09$ level of significant was ($p<.05$).

At the second semester the correlations between grades in practice and levels of explanations were lower: Descriptive explanations $N=21$ $r=.28$ n.s.; Comparative explanations $N=21$ $r=.16$ n.s. The Critical type of explanations correlation was $N=16$ $r=.51$ and the levels of significant was: $p<0.05$.

At the beginning of the year, assessment of pre-service teachers' level of teaching, matched their levels of written reflections. At the second semester, students improved their written reflections but did not improve their teaching respectively. Field experience grades in

the second semester correlated only with critical explanations, meaning that only those who improved their written reflections and reached critical level also improved their teaching level or vice versa.

Qualitative Results

First we examined the journals according to the questions that guided their writing and we found that although the journal had 14 questions, pre-service teachers ignored questions no. 7,8,9 that asked about relations and interactions within the classroom. They added to their journals concerns that they had about their professional position in the classroom. A majority of the pre-service teachers expressed their concerns:

(1) *"The most important thing is that I feel confidence in front of the class and the teacher, I feel that I have control of what is going on in the class".*

(2) *"I think the children took advantage of the teacher's absence and were less attentive, but I felt free to conduct the lesson and talk with the children because I was alone."*

Similar examples appeared in many written reflections in different journals.

The most frequently used explanations students wrote in their journals explained their teaching difficulties with individuals and small groups and explained their instructional objectives:

a. Explanations about difficulties they had in teaching individuals and groups usually were explained by the pupils' difficulties and not by their own difficulties, for example:

a.1 "One pupil had severe difficulties writing, since his fine and gross motor skills were badly damaged, therefore he erased and wrote again and again."

a.2. "There were difficulties in understanding the homework assignment, I had to go back and teach again concepts that I had taught before and explain the assignment again and again."

b. Explaining their instructional objectives:

b.1. I wanted the pupils to learn the notion that when we have a problem in the family or with a brother, we solve it by talking, by persuasion till we reach agreement...."

b.2. I wanted the children to learn the concept of exposition and its importance to the story. I wanted them to know that the exposition is an introduction to the story. It positions us in the story's environments. Through the exposition we get to know the characters and the whole background of the story.

The third step was a longitudinal analysis (each journal was examined in relation to time of submission, expecting changes along the year). This analysis revealed differences between groups: Group B (who had previous field experience and taught in classes with learning difficulties) explained their teaching acts at the beginning of the year through concerns to their status in classroom, but later they changed their explanations to a more professional point of view. Their explanations changed to subject matter knowledge, knowledge about learning and moral /value issues. Group A (who taught pupils with severe difficulties and had no previous experience with these pupils) explained their teaching acts mainly by describing their attempts to cope with the new situation.

Case 1 – Orr (Group A)

I had difficulties keeping the children's attention. I tried touching them or turning their faces towards me but I pondered between the silence or losing them because of anger outbursts. (Orr, December)

I was more focused on the process of teaching the activities and less on the children's abilities and their progress. (Orr, May)

In both examples Orr is concerned with basic problems of teaching. Since she had never before taught children that are so young and have multiple developmental problems she is very much at loss.

Case 2- Beth (group A)

\The children had difficulties waiting for their turn. We decided to insist since we perceived waiting for their turn as learning to postpone satisfaction. We also saw the importance of looking at other kids, as an additional way of learning by imitation, from their peers. (Beth, December)

Working with a prepared structure, given to me and trying to change it is not an easy task. Now I understand better how difficult it is to accept a planned curriculum and teach it as if it were mine. In order to do it well you have to agree with it. (Beth, May)

Beth wrote about two different issues, the first about the importance of choosing an educational topic that is very clear to a kindergarten teacher but not to a pre-service teacher in special education that lacks former knowledge on kindergarten curriculum. The second issue is a professional one, the link between acceptance or agreement of a planned curriculum and successful teaching. Beth raises an issue that is rarely spoken about, the pre service teacher's difficulty to act according to a planned curriculum. These examples reflect the challenge of the "new landscape" of field experience in severe difficulties settings which impose unfamiliar patterns of teaching for pre service teachers.

Case 1 – Korin (Group B):

I wanted to explain the Ballad content in an interesting way with the cooperation of the pupils and to reduce their anxiety from the text's high level. I wanted the pupils to learn a way of understanding literature. This explanation (descriptive level) based on children's difficulties expressing her concern to cope with their deficiency in vocabulary and the need to explain many words from one text (Korin, November).

I wanted the children to learn what exposition in a story is and what its contribution to the text. I wanted them to know that it presents matters like introduction to the story. Exposition let us feel the mood of the story; we get to know the characters and the background of the story (Korin, December).

In this explanation (descriptive level), anchored in subject matter knowledge, she explained what exposition is and it seemed that she valued the exposition as part of the process of comprehending the story.

Several pupils had difficulties to transfer the information that was discussed orally in the class to writing. Several reasons could explain it: the pupils forgot what has been said, they did not understand the written instruction, or they could not understand the connection between the writing assignment and what had been said in the class (Korin, January).

This explanation (comparative level) shows her attempt to understand the difficulty she identified and her uncertainty about this behavior. She proposes three options to explain the behavior, which make sense and could be anchored in the theory of learning.

I think that this experience was very important for me, because this is the first time that a child turns to me in a personal matter. I heard the child and I did not turn to the other child that hurt her, because I think that I would have lost the trust of the children and so lose my ability to promote their learning. (Korin, June)

This (critical level) explanation revealed her ability to determine her role about bullying, she reached understanding about the connection between trust and learning. Concluding this case we can say that Korin demonstrated development of reflective writing, from concerns to her difficulties in teaching high level texts to a more professional stance explaining her aims in teaching literature. She continued asking questions about children's learning behavior ending her journal by saying that she must help avoid bullying but at the same time she needs to keep children's trust in order to achieve their cooperation in learning.

Case 2 – Gal (group B)

I do not know the sign language and thus I cannot understand the children when they speak fast. It could be due to the age of the children, maybe I can handle myself better with younger children than with these grown up (Gal, January).

This explanation (comparative level), due to her failure to attract the children's attention exposes her concerns relating to communication with the hearing impaired children although she is trying to find another explanation, the age of the children.

Now I know, when my help is really needed and when it is just laziness of the child so I can demand from the child to work harder (Gal, May).

This explanation (critical level), is connected to her former writing regarding the dilemma about how to respond to children's constant demands for help. She recognized the problem as over dependence. She made a standpoint "I know when my help is really needed". *I wanted to see what is left from what I taught, to see how much words they remembered from those they learned and to what extent they improved their synthetic compatibilities, did learning of new words succeed? I was surprised by the good result, but it evoked the question of the value of this learning: is it just a visual learning or is it more than that and how can I evaluate it? I can feel that it is an achievement but I cannot evaluate it (Gal, June).*

This explanation of teaching act (comparative level), is anchored in her knowledge about learning. In spite her success to teach reading and writing of new words she questioned this success and doubt its value.

I wanted the children to know that things can be bad and good simultaneously. I wanted them to know that things we do have advantages and also disadvantages and that they will understand it in the story we read (Gal June) .

In this explanation (critical level), she explained her teaching acts via her values, she recognized the value in the story and decided its importance for the children.

In this case, we can see again like in the other case above, that she starts with her concerns of her ability to communicate in sign language, and continues with her determination that she knows how to recognize children's real need for learning support. In June, she questions her success in teaching and continues with her determination on the important value of the text she taught.

Looking at these explanations the differences between the two groups are clearer. Group A struggles to teach in an unknown territory that sometimes is opposed to what they thought they knew about learning and teaching, while group B progresses in a "Known path". The differences also illustrate how setting can promote or hinder reflective activity and its relation to professional knowledge.

The study has two limitations. First, although we had a large number of journals explanations (844, see table 1), The study has a small number of participants, which differed in prior teaching experience ,mother tongue and supervisor's response, therefore

generalization requires more research. Second, even though both supervisors emphasized prior knowledge of pre service students in the domain they teach and detailed lesson planning, they differed in their conceptions about teaching, and in their responses to the reflective journals. These might have caused differences in assessing the participants' teaching and in the journals levels of reflection.

Still, this study tries to cope with a much referred to issue, but rarely researched, the contribution of reflective assignments to pre-service teachers' professional development, by trying to find links between longitudinal reflective assignments and teaching grades. As we showed, the results open issues that should be studied more.

Discussion and Conclusions

In this study, as we wrote in the introduction, we started with doubts regarding the contribution of reflective activities to teacher education, and pre-service teachers' ability to improve their writing in a way that will affect their understanding about their own teaching. Our study created an environment that encouraged pre-service teachers to think about their teaching and write about it guided by a structured journal aimed to channel the reflective thinking to higher levels. Then we examined changes in levels of their reflective writing trying to identify links between these changes and their teaching assessment.

Following the research questions, the discussion will focus on three claims: reflective writing needs practice; the context of field experience is a powerful factor in writing reflective journal and there can be an improvement in reflective writing without improvement in teaching and vice versa.

Question no. 1- Will an ongoing process of writing a structured journal improve the pre-service teachers' reflective writing, in terms of numbers of explanations and higher levels of reflection?

The first result, related to our first research question showed that pre-service teachers in both groups wrote mainly descriptive explanations about their teaching events in both semesters, more so in the second semester, indicating that reflective writing requires practice. This result partly matches previous opinions like, Moon's, (1999) and Carroll's, (1994) suggesting that practice, time and space are important conditions for reflective writing. It seems that the prolonged process of writing structured journals contributed to the pre-service teachers' written reflections, although the majority did not reach higher levels of reflection. Similar explanation to guided writing reported by Marshall & Regenia (2007), and Lee's (2008) recommending prolong process as a catalyst for higher levels of reflective thinking in writing journals.

Analysis of the descriptive explanations showed that most of them focused on pupils' difficulties and their own concerns to keep control in the classroom. Although descriptive reflection is not always accepted as reflective thinking (Hatton & Smith, 1995; Lee 2008), it is often seen as an "opening level", used by teachers and pre-service teachers as a basis to higher future performances in reflective writing.

The concerns of pre-service teachers about their control in the class, matches the beginning of professional developmental stages in teaching described as "self- focused" (Kagan, 1992). Therefore, these findings can be explained by the professional stage of the pre service teachers, namely that they are still unsure of themselves and tend to justify their acts and look for approval of the supervisor. Our result also indicates that the descriptive level included reasoning/explanations. Similarly, Lee (2008) interprets descriptive reflection as events, situations or issues based on personal judgment and experience, without asking questions about the described event. Likewise Davis (2003, 2006) explains similar results and

claims that pre-service teachers tend to abstain from generating alternatives to their decisions, question their assumptions or provide evidence for their claims. Our examples of pre-service teachers' descriptive level showed an inclination toward justification, linking pupils' difficulties and their teaching acts. It might be that the structured journal that we used caused a more sophisticated explanation. Davis also claims that pre-service teachers need support and practice in reflective writing or else they write "unproductive reflections" (Davis, 2006, p. 282b), this study supports this notion, by using a structured journal and by indicating the need for prolonged practice.

The second result related to our first research question indicated that group B was significantly higher than Group A, and wrote more comparative and critical explanations. The disappointing result of group A remaining in the descriptive level of reflection supports indirectly similar findings, such as Bain et.al. (2002), showing that pre-service teachers do not reach higher levels of reflection during their training.

However, what caused the difference between the two groups in our case? We suggest two explanations: the supervisors' reaction to the written journal: In group A, the supervisor acknowledged receiving the journals and gave mainly encouraging feedback, but did not respond to its content. In Group B the supervisor responded by praising the pre service teachers for their insights or openness, posed questions, wrote her opinions, or suggestions for problems they described and added comments in order to correct pre service teachers writing.

The second explanation can be the context of field experience in which Group A acted, mainly in a modeling environment. They had less prior teaching knowledge, fewer opportunities for initiative and less freedom to choose their teaching acts, which might have affected their reflective level. As opposed, group B had prior teaching knowledge in their second year field experience. The group was involved as equals with team members, discussing and implementing possibilities, acts and goals. It may be that these different conditions explain part of the differences between the two groups. This result may also indicate that the context in which the field experience takes place has a significant role on reflective thinking (Brouwer & Korthagen, 2005; Knoblauch & Hoy 2008) and the different context in special education schools could create meaningful differences in pre service teachers' teaching experiences and reflective writing.

Ben-Peretz (2011) in her TATE (Teaching and Teacher Education) review refers to Yee Fan Tang's (2003) three aspects of context: action context, social professional context and supervisory context that offer different sorts of challenges and support, aimed to foster the professional growth of pre service teachers. Ben Peretz emphasizes the importance of different "landscapes" of education in which pre service teachers' experience. Therefore, it seems that in group A, the "landscape" of experience was new, different to their prior knowledge about schooling and challenging, hindering reflective activity.

Question no. 2- Will changes in reflective writing correlate with summative assessments of pre-service teachers' teaching practices?

The result indicated that the link between levels of student teaching and levels of reflective writing is not clear. The intensive reflective writing improved the levels of reflection in one group, but did not improve their teaching acts correspondently. Still, pre-service teachers that reached critical levels of reflection also improved their teaching acts. These results may indicate that there can be an improvement in reflective writing without improvement in teaching but the critical level seems to be linked to teaching. Since it is preliminary and new finding, this conclusion needs further research.

In teacher education programs reflective writing is a central part usually assessed by students' abilities to make relevant connections between theory and practice, change attitudes,

develop understandings about teaching processes and pupils' interactions and develop critical thinking. Reflection is usually not analyzed in propensity to pre service teachers' teaching; therefore it is not clear if there is a link between reflective writing and teaching. We expected the latter to improve through the reflective process. While acknowledging the importance of the reflective process, as part of developing understandings, beliefs and attitudes in education and teaching, we think it is time to examine this aspect of retrospect thinking regarding field experience.

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Appendix A

Guided reflective writing translated from Zimmet, G., Rosnau, S.& Verner, S., (1999)

1. What is the subject of the teaching unit? Why did you choose it? Why is it important to teach?
2. What are the main objectives of the subject and of the particular activity you have chosen to write about? Please explain your choice.
3. Describe the activity as it happened: participants, place, beginning and end, methods of teaching, questions, which arose during the teaching activity. Please try to give a detailed description.
4. What did you want the pupil to learn (a principle, a process, a concept, information, control of a skill, a moral/ social value)?
5. In your opinion, did the pupils encounter difficulties? How did it manifest and how did you react?
6. What needs emerged during the activity? How were those needs expressed and how did you react?
7. Did you identify any kind of resistance from the pupils during the activity? If you did, how was it expressed and how did you deal with it?
8. Did you learn anything new (that you did not know before) about one of the pupils or about their relationships?
9. What did you do to encourage interactions between pupils, and between you and them?
10. Please relate to your initial planning, did you change anything; and if you did explain the reason for this change.
11. If you had to teach this lesson or the activity again, how would you act? Explain.
12. What did you like about the activity? Explain.
13. What did you learn about yourself as a teacher/ educator?
14. What else would you like to say/write/report about this instructional event?