



Reflection in the Pre-service Education of Preschool Teachers: A Comparison of the perceptions of Czech and Israeli students

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Abstract

This study examines the development of preschool student teachers' reflective skills in two countries representing two different cultures and social-organizational settings. The study sought to compare pedagogical and learning related approaches in the development of reflective skills of third-year students of a teaching College in Northern Israel and second-year students of the Faculty of Education in a large University in the Czech Republic. We examined what students in these respective programs reflect upon and what level of reflection they attained. Both settings, although based in different cultural traditions and methods, consider the development of reflective skills enhancing major component of the students' professional skills. Respondents were 18 students from the Faculty of Education in the Czech Republic (CR) and 40 students from Israel (IL), who completed courses focused on the development and implementation of preschool education projects. Data consisted of students' written narratives which were analyzed in terms of the quality and content of their reflection. The results indicate that Czech students focused on aspects of their educational reality/ experience while Israeli students focused on their learning process and the benefits of practice. Moreover, most of the Israeli students reached the critical level of reflection, while only 11% of the Czech students also did so.

Keywords:

pre-service education of preschool teachers, reflection, reflectivity, preschool, student, focusing attention

1. Introduction

In the last 20 years, the perception of the teacher as a reflective practitioner has taken root in both academic and practice oriented settings (Kasáčová, 2005; Schön, 1987; Syslová, 2017; Wubbels & Korthagen, 1990). However, there are many different definitions and conceptualizations of reflection. In the realm of pedagogy, reflection is discussed in the context of experience (Kolb, 1984; Korthagen, Kessels, Koster, Lagerverf, & Wubbels, 2011), reflective practice (Gibbs, 1988; Schön, 1983), and professional lifelong learning (Finlay, 2008; Shulman, 1987). The understanding of 'reflection' in this article intersects all three areas mentioned above. In our approach we base our understanding and implementation of the concept upon Hatton and Smith (1995, p. 40), who describe it as "deliberate thinking about our actions with a view to improving it".

Temporal or spatial axes of reflection are detailed in the literature: In examining its quality three levels are most frequently mentioned - technical, practical and critical (Day, Sammons, Stobart, Kington, & Gu, 2007; Farrell, 2004; van Manen, 1977). The technical level is usually a description of the work in response to the question of 'what' is going on. The practical level contains an additional component of evaluation of a process or an event, and relates to questions of 'what' and 'how'. The critical level relates to 'what', 'how' and 'why'. A detailed definition of this approach appears in the methodology below. Reflection, academic-education context is predominantly about analyzing phenomena in connection with social contexts or scientific theories. There are of course other typologies in the literature such as that of Larrivee (2008), who presents four levels: pre-reflective, surface, pedagogical and critical, but this study focuses on the model and levels described above. The ability to achieve the critical level of reflection seemingly requires more time and effort, as well as practical experience while taking into account personal attitudes as well as the prevailing social, institutional and political context (Fook & Askeland, 2006; Pollard, 2008).

Marcos and Tillema (2006, 2011) conducted a meta-analysis of studies on reflection and indicated that most studies are oriented towards determining the level or types of reflection (e.g., Farrell, 2004; Hatton & Smith, 1995; Loyens, Kirschner, & Paas, 2012) or ways of thinking (King & Kitchener, 1994; Magolda, 2004). Few of these provide information on the processes and techniques of reflection and their use to improve pedagogical practice.

For this reason, it is of added value to explore the outcomes of different approaches in the development of students' reflective skills in terms of content and level of reflection. In this study we compare two such specific settings: A mid-sized teaching college located in northern Israel and a faculty of education in a large university located in the Czech Republic.

1.1 Pre-service education of preschool teachers in a reflective approach

Reflection has become a staple of pedagogical theory and practice in recent decades, and in the area of teacher education, this term has become so widespread that many authors use it frequently as a synonym for learning, or consider reflection a necessary part of learning and career development.

Anyone involved in exploring reflection has probably come across a vast array of concepts, equivalents, or similar terms such as reflective thinking (Dewey, 1933), experiential learning (Kolb, 1984) reflective teaching (Korthagen et al., 2011; Pollard, 2008), and reflective practice (Schön, 1983). What the various definitions of reflection have in common are the following core components: 1. Extraction of meaning, 2. Focus on experience and action, and 3. Focus on content as important attributes of reflection. In other words, the core subjects of reflection are goals, content, and process (Svojanovský, 2017). We perceive deliberate reflection as a means to supporting the learning process while at the same time cultivating spontaneous reflection, as is the case with expert teachers (Pířová et al., 2013) and developing skills we could describe as reflective. At the same time, it is also a way of learning that can integrate practical experience with theory. Reflection structures thought, learning, and learning about oneself within the processes experiences by a learning being.

Pre-service education of preschool teachers has been the subject of numerous discussions within the framework of cooperation between the two faculties involved in the current study. We perceive it as a turning

point that enables students to develop their whole personality, not just their cognition. Reflectively conceived pre-service education is based on socio-constructivist theories and is tied to cooperative learning. Reflective education is also closely related to the principle of isomorphism (Tomková, 2018), meaning that students can only apply practices they have experienced, which in turn helps shape their professionalism and on-going professional development. Professional teachers do not behave intuitively and cannot rely only on routinely learned practices, rather as reflective practitioners they are active, independent, creative and responsible in complex pedagogical situations based on their sufficiently broad knowledge of educational phenomena and contexts, experience, critical reflection, and self-reflection.

In the reflective approach to pre-service education, the belief is that reflection must be specifically integrated into programs and practices through functional strategies, methods, techniques and tools so that students are able to autonomously assess their progress and learning outcomes, and be able to further manage their professional development in the future. Direct support of reflection is described in texts as facilitating reflection (Hmelo-Silver & Barrows, 2006), coaching for reflection (Schön, 1988) or mentoring (Lazarová, 2010) and supervision (Korthagen et al., 2011). We will attempt to describe approaches to supporting reflection in both the academic environments of this study as two examples of programs seeking to develop future educators' reflective practices, with which readers will be able to identify to various degrees.

1.2 Development of Reflective Skills, within the Czech University Program

The pre-service education of preschool teachers in the selected Faculty of Education in the Czech Republic applies constructivist approaches in its reflective pre-service education (Syslová et al., 2018) that is consistent with Korthagen's realistic approach to teacher education (Korthagen et al., 2011). There are hands-on practicum sessions in each of the six semesters of the undergraduate program, which are complemented by reflective seminars and linked to a theoretical course given within the program. These practicum sessions develop gradually. First, students learn to perceive the educational reality and find as much detail as possible in the interactions between teacher and children by using descriptive language in their interpretations. Then they work with one child or a group of children and learn to search for important aspects education related processes. From the fourth semester on, there are ongoing practicum sessions, one week in the fourth semester, three weeks in the fifth semester and five weeks in the sixth semester.

The ALACT model (Korthagen et al., 2011)¹ is used in reflective and theoretical seminars (e.g., Preschool pedagogy, Didactics of Preschool age, Pedagogical diagnostics) to guide work with the students. The use of the ALACT model continuously supports students' deeper reflection on educational processes and their actors. This reflection leads to better understanding of the students' own decisions and thus also develops their critical thinking about evidence-based educational reasoning.

Various reflective techniques are used in these courses (for example, group interaction, a reflective diary, reflective writing) and there is work with the student's portfolio.

The current study involved students attending a course entitled "The preschool education curriculum"², the aim of which is to enable familiarity with the basic curricular documents of preschool education and with the requirements for the creation of a school and class program. Students become familiar with the challenges of class management, which they then implement and experience in the practicum. The course includes the theory of curriculum development, familiarization with basic legal documents (Charter of Human Rights and Freedoms, Convention on the Rights of the Child, Decree on Preschool Education, School Act, Teaching Staff Regulations, Teaching Workers Act), and with school and class documentation and formalities. The main theme is the creation of a class curriculum linked to the school curriculum and to the interests and

1 In detail, the reflection process used at the Faculty of Education is described in the book *The preschool teacher as a reflective practitioner* (Syslová, 2019, now in print).

2 For the course syllabus see: <https://is.muni.cz/auth/predmet/ped/jaro2020/XPPK10?lang=en;setlang=en>.

needs of the children. In this context, students learn the principles of project based learning and teaching (Dewey, 1933) and integrated thematic lessons (Kovalik, 1989). The theoretical foundations are linked to pedagogical practice - a practicum that takes place one week at the end of the semester. During this week, students implement the project, record their work, and present a summarizing video documentation of the process in the colloquium along with self-reflection.

Before students begin their practical work, they present the chosen topic, goals and activities of the projects they created in groups of three. Other students evaluate the consistency of the goals and the chosen program and processes. The evaluation also focuses on selected strategies with support for constructivist theories, as well as theories of learning that are appropriate to the specifics of preschool education. In practice, students were required to describe their project (the class curriculum they planned), record their work and then edit the video into a five-minute presentation made at a supervisory group meeting with five other students at which their ways of interacting, the organization of the activities and the attainment of educational goals are evaluated.

At the end of the process, students wrote a paper with the simple instruction: "Evaluate your experience throughout the practicum".

1.3 Development of reflective skills at The Israeli College of Education

The approaches adopted by this program are based on the principles of Constructivism and Self-Regulated Learning (SRL), chosen for their importance as core issues and their contribution to developing the 21st-century learner (Kramarski & Michalsky, 2015; Mevarech & Kramarski, 2014; OECD, 2010; Shelly-Huber, 2017; Zimmerman & Schunk, 2011). According to the existing literature, SRL is a dynamic, cyclical process in which students set goals, plan, review, and assess their work, while referring to cognitive, metacognitive, motivational and behavioral context components. One of the behavioral outcomes of SRL is the ability to acquire skills of reflection. The method chosen to promote those skills is Project-Based Learning (PjBL).

More generally, as Shelly-Huber and Maciejowska (2017) claimed, PjBL may be treated as an example of 'learning by doing', in which students put theory into practice.

Types of projects may include:

- Research (small-scale or large projects - thesis, dissertation) - a review of literature on a topic of their choice, assessment and evaluation of programs designed, and implemented by the learners.
- Design of an intervention program the students intend to implement in the field; program assessment and evaluation with peers using various methods and outcomes.
- Professional work in real-world context (Harmer, 2014) - the project must be relevant, authentic and linked to the needs of preschool education and the specific institution in which the students are conducting their teaching practice. This requires discussion with the preschool teacher or an expert in this field and testing of the relevance and real need to create the initiative or project in the preschool.

The Israeli students in this study attending a course entitled "Self-awareness in Learning" in the Department of Early Childhood Education, a program, developed and detailed by Huber (2010). Participants in the course are required to accomplish various tasks resulting in different products such as models, a presentation, policy documents, etc. The students are also required to present their product to an audience, describing it, explaining the rationale and reflecting on their learning process (Barzilai & Zohar, 2014). The course components include: Introduction to basic principles of PjBL and its dilemmas; Learning about learner development and the complexity of various factors that affect learning; Meta-Cognitive processes: Learning to identify the process that generates learning through understanding; Application of the processes that affect learning.

One of the major goals in this course is to enable the preschool student teachers to apply self-regulation and reflection skills via PjBL principles. These include: formulate a genuinely motivating question that correlates to self-regulated learning, raise real-life issues that require treatment, offer a solution and encom-

pass the ideas and questions they have to create a project, ask for (and receive) assistance from other students and faculty to improve the project, while documenting the process in academic writing format, and finally, present the project in class and on campus in an effective communicative manner.

The course is based on two models (a) self-awareness of learning processes and (b) self-regulated learning. Students can select one of the models by defining the project subject. Once the topic has been selected, the students have to write a rationale for the project based on the relevant materials read, describing the stages of the process selected and detailing the goals for each stage. After completion of the project, they write a reflection on the learning process according to rubrics, addressing the six “How” questions for reflection on a successful project carried out in the preschool:

- How does the project address key learning concepts, standards or help students develop habits of mind and work associated with academic and professional disciplines?
- How does the project use a real-world context, (e.g., community and workplace problems) and address issues that matter to the students?
- How does the project engage students in solving semi-structured problems calling for competencies expected in high-performance work organizations (e.g., teamwork, problem-solving, communication, etc.)?
- How does the project extend beyond the classroom and connect to work settings, field-based investigation and the community?
- How does the project connect students with adult mentors and coaches from the broader community?
- How does the project engage students in presentation and assessments of their work?

Students are required to integrate writing the reflection by including the components of SRL (cognition, metacognition, motivation, and behavioral-motivational factors) and the personal process undergone during the course.

1.4 The study rationale

To test how different cultural assumptions and approaches shape different processes cultivating reflection among budding educators, we look at the course curricula and the different ways in which they conceptualize and shape reflection as products of given cultural, organizational and pedagogical characteristics prevalent at each of the settings chosen. Thus we compare both courses in terms of their content and processes of developing students’ reflective skills. These are examined in two areas: (1) the content of the reflection (what the student took from the experience in the practicum or from seminars [theory]), (2) the level of reflection (depth and way of thinking about topics). Consequently, the main research questions are what similarities we find in the concepts of both courses and what reflective skills the students show.

Thus the main research aim was operationalized into these research sub-questions:

- a. What are the commonalities in both courses?
- b. What is the content of students’ reflection within each setting?
- c. What levels of reflection do students achieve within each setting?
- d. How are resulting reflections similar and different from each other across the two courses?

2. Method

2.1 Sample

As mentioned above, this research involved third-year students of a teaching College in Israel and second-year students of the Faculty of Education in a large University in the Czech Republic.

Respondents were 18 Czech students (CR) and 40 Israeli students (IL), who completed courses focused on the development and implementation of preschool education projects. The 18 Czech students were 21 -23 years old girls, mostly from the South Moravia region, with some students from other regions of the Czech Republic.

Israeli students were 20-23 years old girls, 10 of whom were Druze, Christian and Muslim Arabs.

2.2 Data and Analysis

Data collection and coding was based on the analysis of documents and processes (syllabi, study materials etc.) and analysis of reflective essays the students wrote at the end of the course, in May 2018.

In the first phase we analyzed documents as mentioned above. We named the categories we focused on and created the categorical system of course analysis (see Table 1).

Table 1. Categorical system of course descriptions

Category	Defined content
Scope of course	Number of hours taught per semester, (the number of hours is divided into lectures, seminars and time spent in preschool)
Course content and outcomes	Refers to the scope of course materials, the main purpose of the course, outputs expected and main student take away points.
Interaction	Refers to faculty's modes of work with students, the main characteristics of their interaction with learners (e.g.: whether he/she gives room for discussion, sharing and feedback, asks open questions supporting higher levels of thinking (see Bloom).
Essay assignment	Written assignment assessment.

In the second phase we analyzed the written essays using qualitative methodology, using open coding (Denzin & Lincoln, 2008). Two categorical systems arose, one focused on reflection content (Table 3). The second categorical system focused on reflection quality and level (Table 2), noting the three levels of reflection as described by Day, Sammons, Stobart, Kington and Gu, (2007) and Farrell (2004). The first is the technical level at which students only describe their experiences. The second is the practical-analytical level, at which students are able to analyze important aspects of their experience, e.g., What is happening and how? How did the child/ren react? What was the aim of the activity? Analytical assessment of various components of the experience while employing professional judgement. The third is the high level critical reflection, at which students are able to think about what action would be more effective and propose alternative solutions. Students at this level are able to compare their own ideas with those of experts and synthesize and formulate more general principles based on their own experience with educational reality.

Students are able to demonstrate meta-cognition in the process of reflection: they explore their own thought processes and action patterns.

To ensure the trustworthiness of the data and its analysis, this category system was verified by two researchers at 10% of the sample. Between the two researchers, direct agreement was reached at 87%.

The students' reflections underwent a process of validating extraction (Creswell & Miller, 2000), saturation (Bowen, 2008) and reliability in each of the countries individually and also between countries (Braun & Clarke, 2006).

The researchers not only read the reflections of the students from their own country, they then read and analyzed those of the students from the other country in order to validate the comparisons. The reflections were then passed on to a field expert with 15 years of experience working with students' reflections in faculties of education.

In addition, the article writers met twice to ascertain the process in each country and ensure accurate wording of the definitions and categories.

2.3 Procedure

In both countries, the reflection essay assignment was given at the end of the semester (April 2018). The text of the assignment was presented at the end of the chapter of the course and after the practicum. The wording of the assignment was: "Evaluate your experience throughout the practicum".

Czech students uploaded their essays to the course platform during May 2018, while Israeli students did so in June 2018.

3. Results

The results are organized according to the order of the research questions.

3.1 What are the commonalities between the two courses?

We analyzed both courses for the categories of course scope, course content and outcomes, interaction, and essay assignment. The similarities were far greater than the differences. The scope of the courses was almost identical: the Czech course consisted of 12 hours of lectures, 24 hours of seminar work, and 1 week of practicum. The Israeli course consisted of 10 hours of lectures, 16 hours of seminar work on the project and 1 week of practicum. Both courses focused on a classroom curriculum and both used reflective techniques such as small group (3-6 students) interaction (e.g., discussion, peer and/or lecturer feedback) and questioning leading to deeper understanding. In both courses, the lecturers played a key role in guiding the students through their work processes. Both courses ended with a written reflective assignment, although they were somewhat different in structure: The Czech students were asked to produce a non-structured essay of no more than five pages with the instruction: "Evaluate your experience of the practicum". The Israeli students, on the other hand, were not limited in the length of their written reflection, but were instructed to specifically address the six "how" questions mentioned earlier.

3.2 What content units characterize students' reflection?

The reflection content was structured via open coding categorization. The final categories of reflection content are shown in Table 2 below. For better reader orientation, the results are summarized in Table 3 in percentages, showing the number of Czech and Israeli students who mentioned each concrete category.

Table 2. Categorical system of reflection content

Category	Defined content	Czech Example	Israel Example
Expectation	What can happen in practice, what they can develop, what they can learn, what they are worried about.	<i>I went into the practice in preschool with the expectation of trying to work with children this year.</i>	<i>During planning of various activities with students in class, I had questions and concerns such as: Is the manner of delivery and planning compatible with their age? Can I bring the children of the group to be empathetic? Will the children in the group succeed in doing self-reflection and identifying their feelings? Will a fruitful discussion be created while solving problems?</i>
Teacher approaches	Relating to teachers' work and giving feedback to students etc.	<i>Thanks to the support of the instructor I and my colleague could implement our own project focused on nature protection and waste sorting.</i>	<i>We want to thank the instructor who was attentive to our needs for the new idea and gave us support and guidance along the way.</i>
Children	Statements focused on children, their activities and their behavior.	<i>Children always came very willingly and helped their friends.</i>	<i>In fact, while implementing the activities, I was thrilled to see the children's sensitivity and attentiveness to their friends. The discussions and thoughts raised by the group were relevant and the children were active and involved.</i>

Learning	Statements focused on learning processes and experiences (in theory and in ways of concrete learning).	<i>Later I realized, it was something new for me. Maybe I should have done it the other way round; first they should try it and then skeletons.</i>	<i>It is important to mention that the exposure to the various models and concepts, the independent work and the participation of the group and the classmates contributed to significant and practical learning in the preschool during the implementation of the various activities.</i>
Self-esteem	Thoughts about themselves, their findings from the practice, and fulfilling their aims, etc.	<i>Often I left a description of a situation I had seen and I used praise. Often it happens to me in moments of surprise, when I do not expect anything, after it I say to the children you are so skilled, etc.</i>	<i>In class students had different opinions about the ability of the preschool teachers to deliver this kind of project, But our findings showed that experimenting with this kind of project can be fruitful. The power of collaboration between professional peers is undoubtedly effective.</i>
Reality	Statements regarding the process of practice, running the class (without focusing on teacher or child).	<i>Implementation of my project started on the second day. Some activities were good, some were not. Sometimes it was my fault, sometimes it was the teacher's fault. Unfortunately, agreement was not easy and that's why some days didn't go well.</i>	<i>The preschool I practice in significantly needs to deal with this issue since the preschool children live in the periphery and come from a low socio-economic status, so the process of regulating and finding solutions, ways to learn self-control through discourse, songs and recitations was relevant and close to their world.</i>
Benefits of practice	<i>Feelings about the practice, what it involves (but not what students learn during it), feelings about fulfilling the practice aims .</i>	<i>I am glad about the practice, because we learn from mistakes. For next time I have a lot of experience about planning educational processes and a lot of points what not to do.</i>	<i>At the end of applying activities, I felt the goals I set for myself were achieved because I saw the cooperation between the preschool children and the contribution of the objects and accessories that I left during the delivery of the activities.</i>

Table 3. Summary results of quantitative content analysis

Category	Expectation	Teacher approach	Children	Learning	Self-esteem	Reality	Benefits of practicum
% of Czech respondents	94%	50%	94%	22%	94%	100%	22%
% of Israeli respondents	75%	83%	88%	90%	85%	88%	90%

As we can see in Table 3, all Czech students paid attention to the **reality** in the preschool. Students described a process of realization of their project (e.g., *we, me and my colleague, created a project together and divided activities between us so that everybody had an activity developing one kind of intelligence or we tried*

to divide them). 88% of the Israeli students related to the **reality** category as the second highest importance and connected the category of **children** and reality in the preschool; the two categories connected via how children felt and behaved and how student behavior related to their practice. *We saw that the children were given the challenge of project planning as they began to ask deep questions about the topic. We were afraid we would not be able to handle the answers.*

Nearly all Czech students (94%) wrote about their **self-esteem**, which we differentiated into four subcategories: 1) students spoke about successful management of activities (e.g., *I cannot forget positive feelings like joy, which I felt when I saw kids' joy and they had fun during my prepared activities.*); 2) students described their weaknesses (e.g., *the biggest problem I encountered, was that I miscalculated the time for an activity. Sometimes I planned too many activities and children could not finish them in time.*); 3) students mentioned communication with children (e.g., *I would like to be better in communication. I know that praise and appreciation are important and I tried it in the practice.*); 4) students spoke about the skill of improvisation (e.g., *my challenge for the next practice is to be better at improvisation. I would like to solve unexpected changes and situations.*)

Most students related to the aim of the process they chose to deliver in the preschool and to their expected measure of success at the end, such as motivation to ask questions, the ability to solve problems, developing a sense of efficacy in joining in work group (e.g., *The goal at the end of the process is that the child will resolve his personal challenges on his own without our mediation and initiative, and will know how to join a group independently and be able to accept opinions other than his own.*)

The category **expectation** in terms of contents describes the expectations of the Czech and Israeli students of the practicum and before the practicum in relation to managing activities, planning programs for the children, communication, reacting to the children's needs and improvisation (e.g., *I expected I would try out my theoretical background in the practice. I will try to prepare program for children, plan activities. I will see how I react to a child's needs and what my reaction in an unexpected situation is.*)

Eighty percent of the Israeli students mentioned the **pre-school teacher**. They related to the relationship created between themselves and the preschool teacher - how important this relationship was, the cooperation, the reciprocal learning, and the importance of the experienced teacher's openness to accept ideas and cooperate. The students claimed that throughout the construction of the process, from thinking and planning to implementation, the preschool teachers were full partners. At the start, they helped them observe the reality and needs of the preschool. During implementation, the teacher helped them with advice on ways of dealing with the child and ideas for appropriate responses, and based on their experience, gave them different perspectives of that child, whether personal, family-related, or social. In addition, the preschool teachers guided them to work with the child using various methods of mediation that would suit the specific situation.

Students noted that what they were taking away with them from the teacher's example in terms of good practices. It would help them in the future work, not necessarily with children who have a particular difficulty. They also said that the teachers even initiated involvement in the process (e.g., *in one preschool the teacher took the survey the child had done and shared it with everyone in the afternoon plenary, thus empowering the child and motivating him to carry on with the process.*)

Half of the Czech students mentioned this category too. They thought about it positively (e.g., *thanks to the teacher's goodness practice was good*) and negatively (e.g., *our teacher was very strict with punishments; she had her favorite children and when they did something bad, she was kind but when somebody from another group did something she solved it too harshly. It was unjust and I didn't like it at all*). They mentioned teacher approach to children and also relationships with them.

The next category was about **children** and we found four subcategories related to Israeli and Czech students: 1) students described communication and cooperation between children (e.g., *I tried to support peer helping in every situation when a child came to me asking me for help*); 2) students mentioned children's positive reactions to the prepared activities (e.g., *It was positive to see the kind, positive and active reaction*

of children); 3) students expressed surprise at the children's independence (e.g., *I was surprised that children were able to tidy up after the snack and lunch*); 4) students spoke about questions of discipline and rules (e.g., *I had a problem how to work with child inattention during teacher-directed activities. I did not know how to work with a child who did not follow the rules*).

The penultimate category was about **learning** and was the category least related to. Czech students spoke about their learning from mistakes (e.g., *thanks to individual realization of the program for children I learnt so much from the mistakes I made*). The second subcategory was about their understanding of learning such as linking theory and practice (e.g., *I realized that I have to work on activity implementation. It's easy to prepare a program for kids but the implementation is so complicated. I have to learn about communication and planning*).

Most Israeli students (90%) referred to learning as a process when they described the effect of learning and teaching via PjBL. They described the contribution of their work around the method and its implications for them as students and also for the children (e.g., *The project procedure very much developed meaningful learning, both ours and that of the children in each project*).

Lastly, Israeli students and Czech students connected **benefit from the practicum** with self-learning. Czech students mentioned it the least (22%), while 90% of the Israeli students mentioned it. They described the achievement (or lack of it) of their projects tasks. They appreciated the project, even though they made a lot of mistakes along the way.

3.3 What levels of reflection do students achieve?

Eleven percent of the Czech students functioned only at a technical level of thinking, in other words, at the level where they could answer the question of what happened (e.g., *At the beginning I felt really nervous and I was afraid of failure. But I had learned to solve the situation with calm and to not stress unnecessarily*, *I had practice in the preschool, where I was before. I knew the children and the teacher. It was the first time I was supposed to manage a whole class on my own. I had to adapt the prepared program for the actual topic of preschool and the Dalton plan*). Students described what they had seen and thought about (their feelings, the educational situation, their opinions, etc.).

The Israeli students also used the technical level, - describing what happened in the preschool, what they had seen and thought about, but often adding another level of thinking by analyzing their feelings. (*I felt frustrated because I didn't believe that the children would ask questions*, *It was an experience that we would take it on with us as a future preschool teacher, PjBL is a tool that we apply now with academic information*).

Seventy-eight percent of the Czech students functioned at the practical level of reflection. Students reflected what happened in preschool and tried to describe how it happened either positively or negatively. Positive assessments related to their good execution of activities or children's reactions. Negative assessments were connected to self-reflection and preparation of activities (e.g., *I think that in spite of the good preparation of the plan, my colleagues and I had problems with the execution of these activities. It was too difficult and too many things*), *I appreciate moments and situations in preschool. I appreciate kind and positive children's reactions. I am happy that children cooperate with a strange person in prepared activities. I liked the climate in class*).

At the practical level in Israeli students' reflections, 80% was connected, like the Czech students, to describing what happened with a positive or negative assessment. Positive assessments were connected with their good execution of activities or children's reactions, while negative assessments were connected with self-reflection and preparation of activities but they also referred to the PjBL method. (e.g., *It was hard to believe that the children could ask questions so openly but we realize that the process we did via PjBL methods helped them do it freely, deeply and be open-minded, we felt relief*, *The project process has greatly developed the meaningful learning for both ourselves and the children. We saw that the children developed desirable behaviors that promote independent learning and we hope the project will indeed touch their hearts and remain meaningful to them for independent learning that involves asking questions and reflection throughout their lives*).

Eleven percent of the Czech students reached the critical level of thinking. Students described situations of low children's activity and suggested more effective solutions to educational reality (e.g., *"All of us have to work on effective communication between us and children and the organization of teacher-directed activities, no working with all the children at the same time"*, *"I made mistakes. I prepared activities about waste. Now I know I should have presented the material of waste. They would have managed the prepared activities better and easier"*). In another example, the student demonstrated understanding of a situation and synthesized her cognitions (e.g., *The practice opened my eyes, because I realized my professional development and I had to work on it... It's hard work, because of the consequences, I can make a real mess or I can do a lot of good work*).

More than 90% of the Israeli students used a critical level of thinking, with their reflections systematically showing understanding, synthetic reasoning, fine-tuning processes and a constructed reflection, for example (see p. 7): How does the project extend beyond the classroom and connect to work internships, field-based investigation and community exploration?

During the course they needed to think how to transform the information they gathered and analyzed into their own knowledge, and then how to transfer it to application in the field. In order to do so, they needed to analyze their knowledge and then think how to synergize the knowledge with their experience.

In their reflections they had to decide what would be the best way to apply it according to their prior experience, looking back at what they had already achieved, what went wrong and what went well and why, and then make suggestions for future behavior. For example, *"As preschool teachers, we need to know how to find the children's interest and with the help of mediation to empower their knowledge, to connect them to themselves while providing tools and opportunities for peer learning."*, *"The project involved us and the children in assessment practices which included presenting the research topic, the research process and a reflective summary. This empowered the children presenting and gave the other preschool children a desire to be part of the project"*, *"Part of an exploration process and it expanded the knowledge of the other children when it came to the subject being investigated."*

4. Discussion

The findings of this study offer preliminary insights into the importance of structuring students' reflective thinking in teaching in higher education. The study found that in two educational, cultural and organizational settings, new active and engaging methods were used, with shared core activities including: group- discussion, peer review, lecturer guidance and raised awareness, and yet, a gap emerged regarding the levels and directions of thinking in the writing of the reflections. The structured reflections was found to generate better outcomes and in particular the employment of higher-order thinking skills. We suggest perhaps because one task was structured (in Israel) while the other was much more open-ended (in the Czech Republic), results may have varied so dramatically.

The main trends emerging from the reflection texts were at the level of content analysis. In the open-ended reflections, much was written about the students' expectations of the field and of themselves. It encouraged careful addressing of the work with children, the sense of efficacy and all the technical aspects of what occurred in the field. However, the open-ended reflection task did not encourage the students to write about the teacher approach they applied, what they learned from the preschool teacher, or how they felt they had benefitted from their practicum.

In contrast, in answering the structured reflection questions, the Israeli students wrote much more about the approach of the preschool teacher and even consulted and examined her approach. They were required to relate to the children, and they wrote at length about the children's reactions also in the context of the method they used. Moreover, the students went beyond the boundaries of structuring the reflection and linked their insights as students during the practicum, as future teachers - with what might be improved with regard to the reaction of the teacher and the children during the practicum. The structured reflection did not encourage writing about expectations and did not make the students relate to too many technical details or to their sense of self-efficacy.

The results indicate that both the Czech Republic (ALACT) and Israeli (PjBL) course models are very struc-

tured and allow the development of reflective skills as the students constantly converse with themselves and their team members. We also see that both courses used similar reflective tools (e.g., a reflective diary, group discussions, peer review and assessment, observations, analyses of video-recordings). Clearly, most of these reflective tools led to interaction with other students, as befits the constructivist approach (Vygotsky, 1978), which supports learning and personal development and development of reflective skills. Similar outcomes are found in the studies by Slavin (1990) and DeMulder and Rigsby (2003), who claimed that the main gain from reflection is the development of professional thinking, which gives the learner and the teacher the confidence to speak, write and express thoughts.

Although in each course we came from similar approaches but applied different methods (ALACT and PjBL), the action converges around one model, that of learning through reflection, self-assessment and self-directed learning. Other researchers reach the same outcomes, showing that students' active engagement is pivotal for the learning process (Shelly-Huber & Levy-Vered, 2017).

With regard to the first research question - what students focus on in their reflection - we see that in both groups, students spoke about learning from mistakes and their understanding of linking theory and practice. Likewise, students in both groups mentioned understanding of children and self-esteem from their experience managing activities, planning programs, communication, reacting to children's needs and improvisation.

In contrast, differences in categories Israeli students mentioned the most (benefits of the practicum, learning), and Czech students mentioned the least emerge from our data. Moreover, Israeli students highlighted the teacher's approach while Czech students highlighted their expectations of the practicum. A probable explanation of this is the tasking format; Israeli students had a more structured assignment, since they were asked to relate to the six "how" questions (see p. 7).

Examination of the level of reflection revealed more significant differences between the two student cohorts.

Almost every Czech student displayed a practical level of thinking. This outcome aligns with other researchers who claim that while studying, only few students reach the critical level of reflection (Syslová, 2015; van Es & Sherin, 2002; Vondrová & Āalská, 2015). The main difference was that a substantially higher number of Israeli students reached the critical level of reflection than Czech students. Possibly, this difference stems not from differences in the methodology applied in the respective courses, or the organizational-cultural frame of reference, but rather to the nature of the reflective writing tasks themselves, as mentioned. The Czech students were given a completely open-ended task while the Israel students' writing task was far more structured that demanded that they refer to every level of the three levels of reflection mentioned above.

Another explanation is that Israeli students were one year further on in their studies than the Czech students. Based on similar research (Syslová, 2017) we may assume that more Czech students would reach the critical level of reflection later on as they mature and gain experience.

4.1 Research limitations

The results of this study are preliminary themes arising from two relatively small samples in two educational institutions that are not necessarily representative of the target populations (i.e.: future early education teachers) in each country. At the same time of course the methods used in each of the courses taught, while being representative of the content matter and the methods accepted as 'alternative teaching methods', do not necessarily fully represent the full range of methods that can be harnessed to encourage and help individuals learn reflective reasoning and processes. At this preliminary stage we also could not separate the potentials influences of culture, organizational and individual level factors on students' reflection outcomes and future studies may wish to better examine these forces.

5. Conclusions

The study presented findings focusing on monitoring the development of reflective skills of students in two countries with different cultures, the Czech Republic and Israel. We compared their approaches to developing reflective skills as well as the content and quality of their reflections.

The findings in this study suggest that regardless of the particular course methodology, both structured and unstructured reflective writing is valuable and we may assume that for optimal development, these techniques should, indeed be combined. Structured assignments seem to help improving the level of thinking, while unstructured, free writing reveals a more spontaneous picture of students' reasoning.

Developing reflective skills is not only essential for professional development during preservice studies, but also beyond that into teachers' future work. This is because teachers with reflective skills know how to pass this knowledge on to their pupils and by being "reflective beings" it is easier to impart this knowledge to learners, and the sooner the better (Dressler, Sela, & Mazor, 2014; Rosenthal, Gat, & Zur, 2008).

In this research we used two methods, both match the expectations of new 21st-century learners, and as part of changing the learning and teaching experience by introducing alternative methods to frontal lectures. What emerges from the findings is that in both institutions it was the process and not the method that was the most important thing.

The results allow us to strongly recommend instructing lecturers to be more aware of their students' learning processes and of the need to help them develop their reflective skills as a vital part of their professional toolkit.

5.1 Future research

Based on our results we can now point out general directions for future studies. Thus for example a factorial design controlling for teaching methods X reflection assignment type X student characteristics may help identify the individual contribution of each of these factors to our understanding of developing reflections skills. Comparing students from more cultural backgrounds will also allow deepening our understanding of the role of cultural assumptions in the development of reflection as a learning and teaching tool in a postmodern world.

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