

## Reflection in pre-service teacher education

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### Summary

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Reflection is considered as an important part of learning. The main purpose of the research presented was to evaluate the use of reflective tasks in pre-service teacher education. The aims of the study were to examine the students' perceptions of some of the elements of written reflection task and to explore the level of reflective writing. The findings indicated that students find the reflective tasks meaningful, important and useful. However, the level of reflective writing was rather low. In the paper, practical implications of the results are discussed. It is concluded that by involving students in reflective tasks we can foster deeper learning.

### Keywords

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Reflection, pre-service teacher education, students' perceptions, levels of reflection, written reflection.

### Introduction

Reflection has long been recognized as an important part of the learning process and represents a mainstream of research on teacher education today. Despite its popularity it is still considered vague and unclear, for example it “remains problematic” (Ottesen, 2007), “problematic and far removed from actual communications of professional teachers with their colleagues” (Mena Marcos, Sánchez & Tillema, 2008). However, researchers of teacher education keep studying the re-

flective process, especially in a pre-service teacher education, with the focus on its effectiveness and the factors underlying it.

The theoretical background is based on the work of Dewey and his definition of reflection as the “active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (1933, cited in Jay & Johnson, 2002). In the 1980’s the role of reflection in learning was emphasised again, this time in the context of experiential learning (Kolb, 1984, Boud, Keogh & Walker, 1985). For Kolb, learning is “the process whereby knowledge is created through the transformation of experience” (1984, p. 38). Concrete experience, reflective observation, abstract conceptualization, and active experimentation are the four stages of the learning cycle and represent opposite poles of two dimensions of cognitive functioning: grasping the experience and transforming it. The stage of reflective observation is considered as important as all other stages of the learning cycle. Boud and his colleagues (1984) started from the assumptions that experience alone does not lead to learning, and that the reflection on the experience is needed for experience to give rise to learning. Reflection as an important part of teaching profession (and other professions as well) was brought forward by Schön (1983) with his analysis of how professional knowledge, which is tacit, implicit and taken for granted (knowledge-in-action), becomes more explicit, especially for professional growth and education of professionals-to-be. Schön (1983) describes three forms of reflection: technical reflection, reflection-on-action and reflection-in-action, the latter being the most desired and also the most demanding.

Since then, there were many different approaches how to incorporate reflection into the curriculum of teacher education (e. g. Zeichner & Liston, 1987, Hatton & Smith, 1995). Reflection forms a basis for the realistic approach to teacher education proposed by Korthagen and his colleagues (Korthagen, Kessels, Koster, Lagerwerf & Wubbels, 2001, Korthagen & Vasalos, 2005). This approach is based on a model of reflection called ALACT (Korthagen & Kessels, 1999), which aims at structuring the process of reflection in five phases and it promotes systematic and structured reflection. In Slovenia, Marentič Požarnik (1987) has introduced the notion of teacher as “reflective practitioner” and its possible implementation in teacher education (see also Marentič Požarnik, 2000). There were attempts to define the place of reflection in teachers’ professional development (Valenčič Zuljan, 2008) and also to introduce student teachers’ portfolio as a means to deepen reflection (Juriševič, Polak, Razdevšek Pučko, 2004). However, Javornik Krečič (2008) in her review concludes that besides a couple of separate analyses,

little empirical data are available and that current teacher education programs do not prepare students to become reflective teachers.

Recently, the research on reflective practice is engaged with question how to enhance or deepen the reflection. Jay & Johnson (2002) have offered a typology of the reflective practice as tools of teaching reflection in teacher education (adapted version of this typology was also used in the present study). Tigchelaar & Korthagen (2004) have proposed several specific approaches and steps to help students integrate theory with their experiences. Those explicit and applicable approaches are derived from the above mentioned realistic approach to teacher education.

Loughran (2002) has pointed out the issue of effectiveness of reflective practice as well. Although reflection has long been recognized as an important and valuable cognitive process and as such incorporated into the course structures of some teacher education programs, the effectiveness and the form of adoption may well be limited by the largely traditional nature of the programs. For Loughran, the criterion of effectiveness is not only the process, but also the outcome of reflection, which is “articulation of professional knowledge” (2002, p. 42).

In the comprehensive review by Mena Marcos *et al.* (2008) many different ways of determining the quality of reflection on teaching practice are presented. The authors call for a unified criterion for evaluating the quality and propose articulation as the most genuine characteristic of a reflective cycle. The results of their own research indicate that the level of articulation of reflection by experienced teachers when they are making accounts of their practice is rather low. The authors assert that the reflection on practice does not occur spontaneously and it remains removed from academic accounts of reflection in teaching.

Research on reflection also shows that the content of reflection matters: reflecting on problem-oriented issues does not result in as innovative resolutions as reflecting on positive experiences (Janssen, Hullu & Tigelaar, 2008). These findings suggest that it is not necessary to use a puzzling, problematic, negative experience as content of reflection; on the contrary, it seems to be beneficial to proceed from positive experience.

To summarise, reflection in teacher education is considered very important and valuable; there are also models and good practices of fostering the reflective process in teacher education. However, there is still not enough evaluative research to determine the actual effectiveness of the practice of teaching teachers to become reflective practitioners. In order to evaluate the reflective tasks used in the context of undergraduate course of pedagogy the study was undertaken. In this study, written reflection of students and their perceptions of it were examined. There are

many other forms of reflection, among them are: reflective conversation between student teachers and mentors (e.g. Ottesen, 2007, Tigchelaar & Korthagen, 2004), reflection in supervision or mentoring, inter-collegially supported learning (peer reflection) (e.g. Korthagen et al. 2001). All of them are conducted in direct dialogue between people. In the undergraduate course<sup>1</sup> for student teachers, which was included in the study, written reflection is included as it already has some potential to evoke reflective capabilities of students.

The purposes of reflective writing in learning are manifold and an exhaustive list was construed by Moon when discussing the purposes of writing learning journals (1999): to record experience and facilitate learning from experience, to support understanding and the representation of the understanding, to change the pace of learning, especially slowing down the process, to develop critical thinking and a questioning attitude, to encourage metacognition, to increase active involvement in and ownership of learning, to enhance problem-solving skills, to enhance reflective practice etc. Compared to other forms the advantages of written reflection are (partly adopted from Moon, 1999):

- writing slows down the thinking process,
- it fosters linear thinking, which again helps structuring the reflection,
- it remains for some time — it is easy to track back on one's thoughts, feelings etc.,
- the student has a feeling of ownership of the ideas and the work on the reflected issue,
- it can be very confidential, person can later decide what to disclose and what not.

Some of the disadvantages on the other hand might be:

- a problem of assessment, which influences the level of sincerity and openness,
- lack of social reality check ‡ if not directed, reflection can lead to unproductive rumination,
- lack of writing skills which influences the quality of reflection;
- not as much variety of perspectives as in dialogue with other/s.

As stated above, much recognition is given to reflection in the teacher education, however, less is known about the outcomes or effectiveness of teaching

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<sup>1</sup> At this point I acknowledge the full authorship of the course contents and design of to respected prof. Barica Marentič Požarnik.

students to reflect. The main purpose of the research presented was to evaluate our own use of reflective tasks in teacher education. Students are often considered as resisting to change (Zeichner & Liston, 1987, Korthagen, 2001) — and including a new, different mode of learning, such as the demand for reflective writing, is a change. So the first research question was: what are the students' perceptions of some of the characteristics of the written reflection task. The other research question was: what is the level of reflection in students' reflective writing.

## Method

### Context and participants

In the undergraduate course in experiential learning (EL) for students of pedagogy one of the course components is planning and implementation of a specific EL method (for example: role play, simulations etc.). The course is based on conceptions of EL by Walter & Marks (1981). In the beginning of the course, the students study the literature to gain some theoretical insight into EL. Then they are supported to design and conduct a selected EL method, with emphasis on twelve dimensions that are, according to Walter & Marks (1981), useful in thinking about conducting learning activities. These twelve dimensions are grouped into four clusters: *target* cluster which includes dimensions of type, purposes and objectives, and is concerned with what the learning experience is attempting to achieve; *contextual* cluster which includes the characteristics of participants, the group size, the physical resources and scheduling; *influence* cluster which includes focus, intensity, interaction and orientation; *organizational* cluster which includes social and technical structure and leadership. Students present the selected EL method according to one of the dimensions or clusters and regarding the six phases of experiential learning: planning, introduction, activity, debriefing, summary and evaluation. They are also encouraged to consider the ethical aspects of experiential learning activities. After the presentation of the selected method in the group of students (usually done in pairs or groups of three), students have to write personal reflection on their own presentation of the method. The students also have a chance to reflect on the presentations of other students during the sessions, but the time is limited to 20 to 30 minutes twice a day session. These reflections are not graded; students are graded on the basis of their written assignments and the final written exam.

Participants in the study were 37 female students of the course “Experiential learning” aged 23 to 29. Among them, 19 reported having the experience of

reflective writing earlier in their studying, 18 not; 3 regularly write their personal journals, 16 used to write it, 4 write it from time to time and 14 do not write journals.

## Instruments and Procedure

First part of the study was concerned with the students' perceptions of the reflective writing tasks. These were measured by a questionnaire which included semantic differential with five pairs of opposite adjectives to be evaluated on a 5-point scale. The evaluated pairs were: useful — useless, pleasant — unpleasant, meaningful — meaningless, relaxing — tiring, important — unimportant. The five pairs were used for evaluating two reflective tasks: the reflection on the ongoing process at the weekend-seminar and the reflection on the students' own presentations. There were also two open ended questions about both tasks allowing the students comment on the tasks. The questionnaires were given to the students after the course implementation.

In the second part of the study the students' reflections on their own presentations were evaluated. The personal reflections were analyzed according to the adapted typology by Jay and Johnson (2002). In our study, the second dimension was split into two subdimensions: comparative dimension with stating other possibilities, alternatives etc. (comparative I) and comparative dimension where students explain and discuss other possible perspectives and alternatives. The typical questions and examples for the second dimension are presented in Table 1. The typology is hierarchical — going from lower to higher levels of reflection. The higher levels include lower levels, or as Jay & Johnson stated: “these dimensions of reflection are not mutually exclusive. In fact, they become intimately intertwined to compose a composite concept” (p. 80).

**Table 1.**  
**Typology of reflection adapted from Jay & Johnson (2002).**

	Typical questions or statements:
Descriptive – The students describe the matter for reflection.	<i>What is happening? Is it working, and for whom? How do I know? How am I feeling? What I am pleased and/or concerned about? What do I not understand? How does this relate to my stated goals? To what extent are they being met?</i>
Comparative – The students reframe the matter for reflection in light of alternative views, others' perspectives, research, etc.	<i>What are alternative views of what is happening? How do other people who are directly or indirectly involved describe and explain what's happening? How can I improve what's not working? Are there some other ways of accomplishing a goal? For each perspective and alternative, who is served and who is not?</i>
Comparative I – The students name other possible perspectives and alternatives with no explanation.	<i>E. g. I would like to improve my presentation by being less stressed about it. I should learn to speak more confidently.</i>
Comparative II – The students explain and discuss other possible perspectives and alternatives.	<i>E. g. I would like to improve my presentation by being less stressed about it. This was the feedback I got from my colleagues and I agree. When more relaxed in the presenter's position, I would be able to react spontaneously and flexibly to unpredictable situation.</i>
Critical – Having considered the implications of the matter, the students establish a renewed perspective.	<i>What are the implications of the matter when viewed from these alternative perspectives? Given these various alternatives, their implications, and my own moral and ethics, which is best for this particular matter? What is the deeper meaning of what is happening?</i>

## Results

Students perceive reflective writing tasks as meaningful, important and useful, not very pleasant or unpleasant, nor very relaxing or tiring (Table 2). There were no statistically significant differences between the perceptions of the two tasks on the given characteristics except for the scale useful — useless. The students consider

the usefulness of the personal reflection on their own presentation very high, while their evaluations of reflective writing task on the presentation of others were lower.

**Table 2.**  
Students' evaluations of the reflective writing tasks on the 5-point scale (where value 1 was closer to the left-side adjective and value 5 to right-side adjective).

	short reflections on the ongoing presentations		personal reflections on students' own presentations	
	M	SD	M	SD
meaningful – meaningless	1.95	0.94	1.69	0.89
important – unimportant	2.16	1.04	1.89	1.07
<i>useful – useless</i>	2.49*	1.04	1.76*	0.93
pleasant – unpleasant	2.70	0.85	2.70	0.91
relaxing – tiring	3.03	1.04	3.19	0.94

\*stat. significant differences (t-test,  $t = p = 0.002$ )

Open ended confirmed the overall positive perceptions of the written reflection task. Of 12 students who wrote commentary:

- 9 wrote remarks with clear positive connotation (*e.g. very interesting, should be more of it in other courses, it was not easy, but it was useful*);
- 3 were not value laden (descriptions of reflective task at other courses).

In the second part the personal reflections on students' own presentations were evaluated. Most were categorized as reflections on comparative level, 19 of them on comparative I and 16 on comparative II. The remaining two were one descriptive and one critical. The results were compared with the students' final grades, which consist of the grade on the seminar and the final written examination (essay-type questions), as shown in Table 3. Because of the small number of participants and the low numerical scale — reflection evaluation could not be considered as an interval scale, chi-square was calculated and it showed statistical significance ( $\chi^2 = 9.08, p = 0.003$ ). Students, who got higher grades at the end of the course, wrote reflections at higher levels (comparative II and critical) compared to students with lower grades. It must be noted that the evaluation of personal reflections was done anonymously after the course was finished and the students got their final grades.



**Table 3.**  
Frequencies of final grades and evaluations of personal reflections.

	<i>evaluated level of personal reflection</i>		total
	<i>descriptive, comparative I</i>	<i>comparative II, critical</i>	
lower grades (6, 7)	12	2	14
higher grades (8, 9, 10)	8	15	23
total	20	17	37

( $\chi^2 = 9.08$ ,  $p = 003$ )

## Discussion and conclusions

The analysis of students' perceptions of the reflective tasks show that students are open and prepared for reflection as a different mode of learning; they find it fairly meaningful and important. Open ended questions clearly support this conclusion. This is a very valuable indication in terms of students' motivation regarding reflective tasks. When the task seems meaningful and important to the students, then they are likely to be engaged in the task by their internal need. When learning is driven by intrinsic motivation, we can expect learners to adopt deeper approaches (Marton & Säljö, 2005). Consequently, when students are prepared to analyze their own presentation in a manner that is detailed, thorough and honest enough to bring any change to the existing behaviour, or to the preconceptions about learning, then we are certainly getting closer to the objective to prepare students to become reflective professionals.

The results of the second part of the study showed that students wrote their reflections on a relatively low level, less than half of them wrote reflections that included comparative dimension with some argumentation. These results could result from the fact that the students were not used to this kind of tasks and that they were not systematically taught or encouraged in reflection beforehand. Considering this, the typology which was used as a research measure could also be used as a tool in teaching reflection, as Jay & Johnson's (2002) intention was. The typology helps students to look at the situation thoroughly and to consider issues deeply and it is of great value for teacher educators when planning the design of a specific course including reflective tasks.

Furthermore, the low level of reflective writing of students could be attributed to low level of structure of the task instructions. Probably there are students who need detailed instruction to accomplish the task as expected and that in this condition they would express higher level of reflective thinking. There are also other ways to deepen the level of reflection: the students are presented with good exam-

ples; they get feedback on their writing; they have some group discussion on the topic of reflective writing and the levels of reflection. Also worth considering is students' motivation to fully disclose given the fact that their reflections will be read by someone who assesses their work at this course. The question of the impact and the role of assessment in learning to reflect is still not resolved (e.g. Creme, 2005, Moon, 1999). Most of the authors and professionals approach this issue pragmatically, as they weigh the advantages and disadvantages of assessment of reflection in light of overall learning objectives. However, considering the assumptions behind the concept of reflection (openness to change, safety of the learning milieu, etc) assessment seems detrimental to the very aim of reflection in learning. Regarding our own context, the question arises whether students expect the quality of their reflections is graded or that this task is the non-graded obligation of the course. This, of course, is a matter of clear communication of course expectations.

The agreement in evaluations of reflections and the final grades could be explained by higher order processes involved in learning. Since the final grade is a compound of assessments on different tasks and the evaluation of the written reflection is not the part of it (actually it was done anonymously after the grading process), then metacognitive abilities seem to be the processes that underlie this correlation. This reasoning is in line with the research on the role of metacognition in learning which includes the important role of reflective abilities (McCrinkle & Christensen, 1995, Masui & De Corte, 2005).

Finally, there are several limitations of the study. The conclusions based on this study are derived from a specific context of the course on experiential learning and do not allow for wider generalizations. However, they do offer some insight into the processes of reflective writing in students in contexts that are not characterized by putting much emphasis on reflection. Another limitation is the constant changing and experiential cycle of the course itself, so it is not possible to design a longitudinal study that would yield comparable results. Such a study should require a different research design. The study is most informing for the teacher educators who wish to include or improve the reflective activity in their students in order to teach them to become reflective professionals.

Compared to experienced teachers, students' experiences are very limited. Their reflective activity refers to the simulation of implementation of experiential learning methods in the class of their colleagues and not to the "real" situation. However, even simulated teaching experiences have the value of their own since they provide very explicit starting point for understanding the teaching profession. The

reflection is the activity in which students have the opportunity to raise their awareness of what they are doing and why, which can lead to making the implicit explicit and this is where the deeper learning begins.

## Note

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## Reflektivno razmišljanje u obrazovanju učitelja

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### Sažetak

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Reflektivno razmišljanje smatra se važnim dijelom učenja. Glavna svrha ovoga istraživanja bila je procijeniti korištenje zadataka koji potiču reflektivno razmišljanje u obrazovanju učitelja. Istraživanje je imalo za cilj ispitati motrišta studenata o nekim čimbenicima pismenih zadataka koji potiču reflektivno razmišljanje i razinu reflektivnog pisanja. Rezultati su pokazali da studenti smatraju zadatke koji potiču reflektivno razmišljanje smislenima, važnima i korisnima. Međutim razina reflektivnog pisanja bila je prilično niska. U radu se raspravlja o praktičnim implikacijama rezultata istraživanja. Zaključuje se da uključivanjem studenata u rješavanje zadataka koji potiču reflektivno razmišljanje možemo potaknuti dublje učenje.

### Ključne riječi

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Reflektivno razmišljanje, obrazovanje učitelja, motrišta studenata, razine reflektivnog razmišljanja, reflektivno pisanje.