

STUDENT TEACHERS' VIEWS ON THEORY AND PRACTICE FOLLOWING THE STUDY OF ARTS AND SKILLS SUBJECTS

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ABSTRACT

There have been changes in how arts and skills are taught in teacher education that, among other things, have sought to strengthen the dialogue between theory and practice. To examine these goal-orientated changes, it is necessary to take an in-depth view of the situation after they have taken place, and thus to justify future-orientated perspectives. The aim of this study was to find out how theory and practice appear in the writings of student teachers after they had completed Arts and Skills in Education courses, which are part of multidisciplinary studies leading to the qualification of a primary school teacher. Do theory and practice remain separate from each other, are they extremes of each other or is there a dialogue between them, and what is the nature of this dialogue? The research material consisted of the students' writings at the end of their final Arts and Skills in Education course. Writings were requested via e-form. The research material was approached according to the research literature on the relationship between theory and practice. The data were analysed using thematic analysis. The students' views on theory and practice were coded into three themes: (1) no relationship between theory and practice, (2) a comparative relationship between theory and practice and (3) a dialogical relationship between theory and practice. These themes made it possible to distinguish the extent to which and how students link theory to practice, or vice versa. The research findings led the researchers to reflect on the development of teacher education and, in particular, arts and skills courses.

Keywords: *arts and skills studies, practice, teacher education, theory, theory–practice gap*

Introduction

The theory–practice gap has long been recognised as a problem. Attempts have been made to understand this problematic relationship both theoretically (see e.g. Korthagen, 2010; Roth et al., 2014) and empirically (see e.g. McGarr et al., 2016; Sääntti et al., 2018). Both the gap and the relationship between theory and practice have been studied in a variety of professional education settings, such as nursing education (see e.g. Nematollahi & Isaac, 2012; Niemi-Murola, 2014; Wilson, 2008), clinical medicine

education (see e.g. Brown, 2012) and physical education training (see e.g. O’Leary et al., 2014; Stolz & Thorburn, 2019).

Teacher education has also long sought to meet the challenge of combining practice and theory. In the context of Finnish teacher education, the link between theory and practice first appeared at the document level in the 1970s, when teacher education, which until then had emphasised practical skills, began to highlight the importance of theory and research-based knowledge. With a high level of research-based academic training and the active and conscious activities of teacher educators, theory and practice now appear to be inseparable areas in Finnish teacher education (Säntti et al., 2018). However, one can ask whether the connection between theory and practice is shown as clearly to students as it is at the document level and in the understanding of teacher educators. The fruitful interaction between theory and practice is recognised as the ideal of teacher education. However, there have been both national and international studies that have suggested that, according to students, there is no link between theory and practice in teacher education (Niinivirta, 2014, 2017).

An interest in the development of arts and skills teaching in teacher education provides the background to the article (see Kröger & Ruotsalainen, 2019). The problem has been that students in arts and skills courses have perhaps been more interested in learning practical skills and learning to teach than in articulating the deeper theoretical views behind practice (cf. Tilleman, 2000; Väisänen, 2003). It is also possible to talk about the tension between the views of teacher educators and students. Teacher educators want to see students connecting theory and practice, whereas the orientation of those studying to become teachers is very practical, and they hope that the teaching is practical and concrete and offers a so-called ‘toolbox’ for the field (see Beattie, 2000; Leivo, 2010). Biesta (2007) questioned this kind of ‘toolbox thinking’ (p. 2) based on technical research knowledge in teacher education and instead emphasised the role of educational philosophical research knowledge, which, instead of offering ready-made operating models, provides different interpretations of teaching and educational activities and suggestions for combining theory and practice. Another challenge is that in classroom teacher education, each subject taught in primary school is studied for a very short time for only a few credits, so one has to make choices about what to focus on in teaching. This may also guide the teacher trainer to grasp quickly and efficiently presented, ready-made pedagogical action models and solutions, limiting the student’s own thinking.

The teacher training unit in the University of Eastern Finland has tackled the problem by experimenting with new ways of organising teaching. The traditional subject-based approach has been modified in a holistic direction by integrating separate arts and skills subjects (visual arts, crafts, music, and physical education) into common courses of study. This has made it possible to unify and clarify the rather fragmented field of theory relating to the teaching of arts and skills subjects. At the same time, efforts have been made to move away from the confrontation between theory and practice by using the common theoretical perspectives of arts and skills subjects (see Kröger et al., 2019).

This study is interested in the views of those studying to become teachers on the role of theory and practice at the end of their studies in arts and skills subjects. It asks how students perceive and relate theory and practice. The empirical research material is approached within the framework of the relationship between theory and practice.

The relationship between theory and practice

To understand the professional development of a student who is studying to become a teacher, theoretical and practical questions are framed in the following. To be able to approach the relationship between theory and practice, it is reasonable first to question and reflect a little on what knowledge is. According to the classical definition, 'knowledge is a well-founded belief' (Tieteen termipankki, n.d.; for more details, see Niiniluoto, 1980, pp. 138–139). The Finnish dictionary (Suomisanakirja, n.d.) defines the word 'knowledge' as "knowing, being clear about something, knowing the facts and being aware". Knowledge is an understanding of something based on reality and facts; it is a thing that is known or given about something, for example knowledge acquired through study.

According to Jorgensen (2005), theories clarify and explain things and separate concepts from each other. Theories are tested and falsified through empirical observations and quantitative assessments. Practice, on the other hand, can be approached descriptively (what is done in the world of phenomena or considered as a general condition) or normatively, such as by examining what is desirable or ideal (Jorgensen, 2005).

According to Tynjälä (2006, 2010), a teacher's theoretical knowledge consists both of content knowledge (knowledge related to the subject to be taught) and of pedagogical knowledge, which includes, for example, knowledge related to learning, student development, interaction and professional ethics as well as social and educational policy knowledge. Theoretical knowledge is transformed into procedural (i.e. practical) knowledge through experience and doing. In connection with practical knowledge, one often speaks of competence and skills (Tynjälä, 2006).

Tynjälä (2010) pointed out that practical knowledge is often silent knowledge (tacit knowledge), which, according to Polanyi (1962), is difficult to describe verbally. Tacit knowledge is therefore implicit in nature and includes an individual's beliefs, attitudes and values (Nonaka & Takeuchi, 1995). Practical knowledge also includes social and communication skills as well as the ethical starting points of a teacher's work (Tynjälä 2006, 2007).

Jorgensen (2005) presented four different models that can be seen in the relationship between theory and practice, namely dichotomy, polarity, fusion and dialectic. In a dichotomous relationship, theory and practice are seen as independent elements, and their differences are emphasised. A dichotomous relationship causes practice and theory to become estranged from each other and to conflict with each other, but on the other hand, it helps to clarify the differences between theory and practice. The dichotomous relationship between theory and practice, in which the importance of practical knowledge is emphasised, may appear problematic in the sense that a practical orientation may

limit the possibilities for the professional development of the teacher during training, since a discussion that emphasises practice may prevent the student from going beyond their own experiences (see Winkler, 2001).

In a polar relationship, theory and practice are divided into two extremes, highlighting their differences and comparisons. The comparison can, for example, take the form of a discussion about whether it is better to go from theory to practice or from practice to theory (Jorgensen, 2005).

In a fused relationship, theory and practice are so fused that they are inseparable (Jorgensen, 2005). Jorgensen (2005) criticised the fusion metaphor for its simplicity because it suggests that there is only one fused way that applies to everything at all times; that is, it leaves no room for different views and negotiation. In education, the fusion-like relationship between theory and practice is similar to the concepts of theory of use and theory of practice.

In a dialectical relationship, theory and practice interact, and it is understood that the relationship between theory and practice is dynamic rather than static; sometimes theory and practice exist more or less separately, and sometimes they do so together. The transition from theory to practice or from practice to theory takes place through dialogue (Jorgensen, 2005). The dialogue between theory and practice can take the form of the practicalisation of theory (i.e. the examination of theories in the light of practical experience) or the theorisation of practice (i.e. the conceptualisation and examination of practical experience in light of theories) (see Tynjälä, 2006, 2007). Many researchers seem to have emphasised the importance of the dialectical relationship between theory and practice in the construction of a teacher's expertise and identity (see e.g. Bereiter, 2002; Brookfield, 1998; Dewey, 1986/1938; Korthagen, 2004; Roisko, 2007; Tynjälä, 2007).

From theory to practice and from practice to theory?

How can theory be linked to practice, and vice versa? Both international (see e.g. Dewey, 1904; Hanington & Pillai, 2017; Korthagen, 2004, 2010; McGarr et al., 2016; Shulman, 1998) and national studies (see e.g. Jyrhämä, 2002; Leivo, 2010; Ojanen, 2002) have looked for ways to better link practice to theory, and vice versa. Linking theory and practice has been approached, for example, through cooperation between universities (theory) and working life (practice) (see e.g. Allen & Wright, 2014; Rasmussen & Rash-Christensen, 2015).

Linking practice to theory has also been examined through the concept of 'research teacher' (see e.g. Ojanen, 2002). Within the studies, efforts have been made to develop connections between theory and practice, for example by involving students and teacher trainers in the production of knowledge (see e.g. Bereiter, 2002; Cheng et al., 2010; Ünver, 2014), reflection (see e.g. Clift et al., 1990; Schön, 1987) and portfolio work (see e.g. Bullough, 1997).

Pedagogical models have also been developed to combine theory and practice. One example is the model of integrative pedagogy developed at the University of Jyväskylä

(Tynjälä, 2006, 2007, 2008), which aims to plan studies and learning tasks in such a way that theoretical (conceptual knowledge) and experiential (practical knowledge) are linked. This means that students should be given opportunities to apply theoretical knowledge in practice and to reflect on their practical experiences in light of theoretical and conceptual knowledge (Tynjälä et al., 2020). Korthagen (2010) suggested that research related to the connection between theory and practice should be conducted primarily from within teacher education, focusing on the views and experiences not only of students but also of teacher educators.

The reciprocal, dialectical (see Jorgensen, 2005) relationship between theory and practice, sometimes coming from theory and sometimes practice, can be seen through the concept of *phronesis* in educational philosophy. According to Värri (2011), empirical, mechanistic and reduced models of education are not enough, but a philosophical understanding of education is also needed as a background for practical work. When the theoretical-philosophical understanding of education is reflected in practical educational work and in the situational solutions made there, one can speak of practical wisdom. Practical wisdom can be promoted by strengthening the dialogue between educationalists and educators (Värri, 2011, pp. 42–43). Regarding practical wisdom, Värri (2011) referred to the concept of *phronesis*, which Aristotle called a kind of wisdom in the *Nicomachean Ethics*, and when applied to education, roughly means that the educator takes responsibility based on the knowledge required from the situation. From the point of view of this research, a teacher must develop their understanding of the aims of their educational activity, the requirements of it and the methods that are suitable for use in the pursuit of these aims. The dialogue between theory and practice aimed at ‘good’ education described above should also be kept in mind when accompanying someone studying to become a teacher and when considering the importance of theory and practice in teacher education more generally.

The context of the study

In Finland, those studying to become classroom teachers complete about 20 credits from arts and skills studies as part of their degree (there are small differences in the number of credits between different universities). The subjects are part of the multidisciplinary studies that lead to the qualification of a classroom teacher. Traditionally, each subject has been taught as a separate, independent entity (see Salminen, 2012), carrying about five credits per subject.

At the University of Eastern Finland, the tradition of subject separation has been renewed by the search for synergies among subjects. In practice, reform work has led to the integration of separate arts and skills subjects (visual arts, crafts, music and physical education) into common courses, such as Arts and Skills in Education 1, 2 and 3. The first of these, Arts and Skills in Education 1, challenges students to examine the theoretical underpinnings that link arts and skills subjects, including creativity, problem solving, skill acquisition, functional learning, cultural identity, wellbeing and gendered practices.

The course also challenges students to reflect on the teaching of arts and skills subjects through their own school and hobby experiences.

The Arts and Skills in Education 2 and 3 courses focus more on the specific issues of each subject through practical exercises, but they also consider the combination of theory and practice. These two courses are practical in the sense that they are largely based on contact teaching in small groups, whereas the Arts and Skills in Education 1 course is based on large-group teaching and portfolio work, and the materials are shared via an e-platform.

The development of the arts and skills courses has been based on a solid collaboration between teachers, which has made the integration process possible. Integrative arts and skills courses, such as the current ones, have been organised over the duration of the current curriculum. The teacher education curriculum is updated every three years, so it is important to stop and look at students' experiences of courses such as the current one.

Research material

The research material consisted of the essays written by students at the end of the Arts and Skills in Education 3 course in Spring 2020. This course is part of the multidisciplinary studies leading to a classroom teacher qualification. The essays were requested via an e-form. The essay was the final assignment of the arts and skills course and led to a reflection on the experience of studying all three courses. The assignment was as follows:

Write a free-form essay with the title 'Arts and Skills Studies in My Experience'.

The writing assignment did not ask students to directly articulate the relationship between theory and practice, since the aim was to see how the relationship between theory and practice appears in the authentic reflective writing of students at the end of the course. The aim of the guidelines was to guide informants' thinking as little as possible when they started to write. A direct question could have provided the expected answers, but the aim was to capture how the link between practice and theory appeared in the background of student reflection.

Of the 178 students who returned the essay, 165 made them available for research. The length of the essays varied from a few sentences to two pages, and the total length of the material was 141 pages (in Calibri 11 font). Of those who gave permission for research use, 104 were from the classroom programme ('Class' in the material samples), 23 were from the special education programme ('Special') and 36 were from the subject teacher programme ('Subject'). In addition, two students were from the guidance programme. Of the students, 117 were women ('w' in the material samples), 47 were men ('m' in the material samples) and one was of another gender. In the material samples, when presenting the research results, the students are separated according to abbreviations and letters, so that, for example, 'Subject12w' means a woman student studying to become a subject teacher.

Analysis

The qualitative data were analysed using thematic analysis. Thematic analysis involves searching the data to find repeated themes of meaning (Braun & Clarke, 2006). The identification of themes followed an abductive approach, where theoretical connections can be seen (see Braun & Clarke, 2022) but the analysis is not based on a single ‘theory’ *per se*, which was discussed above and provided as background for understanding the research topic.

The themes were identified at the semantic level, focusing on the underlying meaning conveyed by the data. This process involved structuring the data to reveal complex patterns within its semantic content. The data were then condensed, leading to a level of interpretation that aimed to gain a comprehensive understanding of the phenomenon (see Braun & Clarke, 2006).

Specifically applying Braun and Clarke’s (2006, 2022) analytical model, the analysis was divided into three phases. The first involved familiarising oneself with the data and forming a preliminary overall picture of it. At this stage, the refinement of the preliminary research question was also discussed. Next, the first author of the article read the material several times. The aim was to deepen the preliminary interpretation, which was then critically reviewed together by the authors. At this stage, it was decided to form the following three main themes according to how the relationship between theory and practice appeared in the material: (1) no relationship between theory and practice, (2) a comparative relationship between theory and practice and (3) a dialogical relationship between theory and practice. The themes captured something important about the data in relation to the overall research question and appeared to form a coherent pattern (Braun & Clarke, 2006, 2022). To some extent, Jorgensen’s (2005) classification of the relationships between theory and practice served as an aid in forming the themes, but the same classification was not actually tested in the analysis; rather, it worked better as an opening for thinking.

In the final stage of the analysis process, the material was systematically reviewed and coded and the points of reference to theory and/or practice identified. At the same time, these references to theory and practice were coded into the established themes. At this point, the codings were compared between the authors and their similarities and differences considered. It was concluded that the interpretations were largely consistent. The small differences in interpretation were mainly related to whether or not a student’s single reference had been interpreted as a dialogue between theory and practice.

The following chapter describes what each theme is all about. The essence and specifics of each main theme are refined with data extracts.

Results

When there was **no relationship between theory and practice** in the research material analysed, the description of experiences was just a description of carrying out the practice, in which case, theory and practice seemed to be separate, without any

relationship. For example, students could describe practices and useful tips that they personally found useful. In the following description, the student reports that she usually divided the ‘tips’ she had learnt according to the subject (i.e. what she had learnt in art, craft, music and physical education).

I especially liked the craft part because we got to make hand puppets. In music, we learnt to play many songs and practiced playing different instruments. In physical education, I got a lot of tips on how to work with primary school children in physical education. I also learnt a lot about safety issues when working with children in PE. (Class5w)

These descriptions emphasised the development of personal skills and the extent to which courses provided space and time for this. The students’ descriptions also compared arts and skills subjects in terms of teaching arrangements or learning tasks.

The textile workshop was otherwise nice, but it would have been nice to have had more time to work so I could really challenge myself. I did get my work done, though, which was nice. --- I particularly liked ice skating and swimming, but in swimming, it would have been nice to have a bit more time to try more of the tasks in the diving pool. (Special100w)

In addition to describing the practice, some students approached the issue in a normative way; that is, they described what kind of action would have been desirable or ideal.

However, I do NOT feel that I fully understood why we did a big project in the third course for craft and fine arts when we could have gone through the subjects in more detail and with clearer examples. Sure, we had clear examples of how to teach these subjects in the second course, but I would have liked more. (Class7w)

In the descriptions of the experiences coded under this group, the students mainly described a practice or how it should have been. They did not talk much about theory. For example, the more theoretical course, Arts and Skill in Education 1, seemed to have been ignored or completely forgotten. When the first course was mentioned, the practical exercises in it were mainly brought up as a way of increasing enthusiasm (e.g. Class9w, Subject46m). One could consider either this to be a dichotomous relationship, according to Jorgensen’s (2005) model, where theory and practice are so alienated that only practice is relevant, or that things are only understood through practice without understanding the underlying theoretical thinking.

In the writings in this theme, practice often acted as a modifier of attitudes. For example, some students described how their own attitudes towards arts and skills subjects had become more positive as a result of the practical exercises. The writings also emphasised the importance of the teacher in changing attitudes (e.g. Class73w). Some students also mentioned the practical as an element that increased wellbeing (e.g. Class48m, Subject83n, Special93w) or as a change from other theoretical studies (e.g. Subject56w, Class103w, Class134m). In the descriptions that emphasised practice, there was also a strong sense that the activity was being examined from a rather individualistic point of

view; that is, for example, what I learned, what I liked, what I didn't like or what increased my own well-being or enjoyment.

The writing that focused on describing practice was also often very short. Such short essays gave the impression that the students were not interested or able to describe their experiences in more depth in terms of their professional development or future profession.

In the **comparative relationship between theory and practice**, the students brought up both theory and practice, but it happened mostly through comparison. One of the things students described was how concrete doing was a more personally meaningful way of learning and doing, such as '*In the arts and skills studies, what I liked most was concrete doing*' (Class109m). The research data showed that students valued concrete and feasible tips. These themes were described as a comparison of practice and theory, which often manifested as a comparison of the first course with the second and third courses.

I particularly liked the second and third courses, where you could actually do things. I also think that the first course could have added more functionality and do-it-yourself, along with theory, which the first course was mostly. I think the portfolio was a good implementation method in the first course. However, I preferred the second and third courses, which demonstrated real lessons. (Class14w)

In some of the students' descriptions, the comparison was lighter; for example, the student might state that the study of arts and skills subjects was a 'nice break' from the rest of the theory-based studies. On the other hand, in some descriptions, theory and practice tended to appear as opposing methodological ways of approaching arts and skills subjects. Practice was often valued over theory because it was perceived to be more useful. The students felt that practice provided them with useful, ready-made models and tips.

The first course was a bit pointless. --- The second course was much better than the first. We were able to try each subject and test our skills and knowledge.
(Class13w)

Theory and practice were thus compared, but in terms of content, the link between theory and practice remained loose in the texts placed in this theme. The relationship could also be described as polar, interpreting the concept presented by Jorgensen (2005), which were theoretically explored earlier.

In the **dialogical relationship between theory and practice**, there was a dialogue or at least some kind of connection between practical experience and theoretical knowledge. Theory and practice appeared as complementary elements in the students' descriptions of their experiences.

For me, the first course, Arts and Skills in Education 1, was a useful orientation for future study and teaching. It gave me a broad theoretical understanding of how and why arts and skills subjects are taught and studied. In the second arts and skills course, I was able to put into practice the knowledge and skills I had acquired in the first course.
(Subject27w)

Some students only briefly explicitly mentioned the necessity of both theoretical and practical knowledge.

Now, after all the arts and skills courses, I still don't feel I'm anywhere near a finished teacher, but I have gained a lot of practical and theoretical information for my toolbox for the future. (Subject20m)

In some essays, the link between theory and practice was unconsciously brought out in the text. The students were able to describe the development of their teaching without explicitly mentioning the theory. The dialogue between theory and practice could therefore be seen in the background, even if the student did not consciously express it at the level of the text.

Mentions of theory appeared in the material both as content information (information related to the subject being taught) and as pedagogical information (see Tynjälä, 2006, 2010). Content knowledge appeared in the material as information directly related to the subject being taught and also related to the curriculum of the subject. Pedagogical information appeared in the material as information related to teaching, learning, student development and interaction.

In some of the descriptions, the dialogue between theory and practice could also be seen as opening up perspectives and being multi-voiced (Tynjälä et al., 2020); in other words, new interpretations and alternative ways of looking at things were offered through the dialogue between theory and practice. Multi-voice also meant that change and development could be heard in the students' narratives.

The first course opened up many different perspectives on the study of arts and skills subjects and the importance of studying. I found the lectures really interesting and felt that I was beginning to see beyond the surface and learn the secrets of education. In discovering and learning these 'secrets', I was helped by the course portfolio, whose many different tasks offered new perspectives and encouraged me to examine my own thoughts from their point of view. (Subject125w)

In some descriptions of their experiences, theory and practice appear to be closely integrated (Jorgensen, 2005), or fused, as the following quote illustrates:

I think it was particularly successful that we were able to actually put the lessons into practice; the teaching was very functional, and the theory came along as if unnoticed. (Subject133w)

Integration can be interpreted as a fused relationship in the sense of Jorgensen (2005); that is, theory and practice are merged in such a way that it is difficult to separate them.

In some descriptions, it was clear that the understanding of the importance of theory and practice dialogue only became clearer during the studies.

At first, I was a bit put off by the first course, Arts and Skills in Education 1, but now I have a better understanding of what it was all about. It makes the most sense to learn the theoretical basis before the practical studies. We need to know why we are studying arts and skills in the first place. (Class81m)

For those studying to become teachers, the dialogue between theory and practice should be emphasised and given meaning at all times, whether in lectures or in practical exercises.

Discussion and conclusions

In the study, student teachers' views of theory and practice following the Arts and Skills in Education courses were explored and divided into the following three themes: (1) no relationship between theory and practice, (2) a comparative relationship between theory and practice and (3) a dialogical relationship between theory and practice.

When there was no relationship between theory and practice, it could be seen in the descriptions that emphasised practice that only what had been physically done and tried remained in the mind. In a comparative relationship, the students saw theory and practice as opposing ways of approaching arts and skills subjects. In a dialogical relationship, theory and practice were seen as complementary, perspective-opening and fused dialogues.

In the descriptions that emphasised practice, it was brought up that the students looked at the activity individualistically through themselves; that is, what I learned, what I liked, what I didn't like and what increased my own wellbeing and enjoyment. In the descriptions of the integration of theory and practice, the examination of the activities was more focused on their own teaching and pupils.

In a comparative relationship, theoretical understanding was seen as useless. Students felt that theory did not bring any concrete benefits (ready-made solutions) to the teacher's work. A similar observation was made by McGarr et al. (2016), according to whom, some student teachers either question or accept educational theory but do not see that it has anything to do with their own practical work. This kind of thinking can be seen as worrying, as it indicates a highly technical orientation. The question arises of whether one should try to emphasise theory more through practice so that one can make practice-orientated students understand the importance of theory.

On the other hand, if one looks at the students' descriptions, where the integration of theory and practice can be seen, it can be said that the teaching was able to build bridges between theory and practice to some extent. McGarr and partners (2016) also found a similar group of students in their study who internalised educational theories and thus began to apply theoretical thinking more in practice.

However, it is important to consider how to continue and strengthen the building of these meaningful bridges so that more and more students (future teachers) experience theory and practice as a necessary dialogue rather than, for example, a confrontation or denial of theory. In the best case, students would understand that theory and practice are always present in their studies, whether it is a lecture, a practical exercise or portfolio work for their future professional practice. Rasmussen and Rash-Christensen (2015) also emphasised that the link between theory and practice should be more present in all teacher education, whether in university lectures, teaching practice or any other teaching.

Ünver (2014), on the other hand, stated that the connection between theory and practice does not open up to the student through a single operating model but that different methods are needed in which theory and practice are combined in different ways.

According to Allen and Wright (2014), one way to support the discovery of connections between theory and practice could be to focus assessment practices and criteria for teacher education courses on the connections between theory and practice. The assessment practices of the three different arts and skills courses should be critically examined in the future, and it should be considered how they could be used to focus students' attention on the links between theory and practice. One option might be to extend the reflective portfolio work required in the first course to the latter two.

As was argued theoretically in the previous framework, reflection has been seen as one of the key tools for bridging the gap between theory and practice. What kind of interpretive practices, then, would fruitfully support the dialogue between theory and practice? This emphasis on dialogue also goes hand in hand with an effort to move from a receptive education to a dialogical and problematising education in which the nature and importance of reflection itself is also understood in growing up as a teacher, for example, when considering pedagogical issues or the curriculum.

Cheng et al. (2010), in their study investigating the views of student teachers, found that the gap between theory and practice in teacher education can be narrowed by challenging and changing operating models through reflection and guiding the student teachers towards self-learning. On the other hand, Rasmussen and Rash-Christiansen (2015) emphasised that alongside self-learning and personal reflection, the importance of teacher guidance and discussion should be considered. Students should not be left alone with the responsibility of internalising the connections between theory and practice, as they are not necessarily able to build bridges for instructional support.

However, it is not enough to emphasise the importance of theoretical thinking only in the teaching of arts and skills subjects. The requirement for theoretical thinking should also be applied to all teaching and activities in the education of future teachers, as the analysis of the writings shows and can be interpreted. The material also raises the idea that courses should be seen as a whole and that too much weight should not be given to feedback collected after a single course (or to the way in which material is collected), since it seems for some students that the importance of the dialogue between theory and practice does not become clear until at the end of the courses.

From the point of view of reviewing for reliability, the appropriate scientific practice and care were followed throughout the research process. Participation in the study was voluntary for the students, and anonymity was guaranteed. When assessing the reliability of qualitative research, the entire research process, its different stages and the relationship between the researcher and the phenomenon under study should be considered (Elo et al., 2014; Hirsjärvi & Hurme, 2004). The request for essays in this study was deliberately made as open as possible so that the research subjects had the opportunity to address issues that they considered important and meaningful without any guiding emphasis. Overall, the research approach is based on interaction, which at the same time aims at

new practices and habits, not just 'locked-in' analytical approaches. During the process, understanding and interpretation are enhanced through reflective thinking by both informants and researchers (Sivenius & Friman, 2020).

The process of analysing the material was described as transparently as possible so that the reader has the opportunity to follow the solutions and conclusions the researchers reached, such as in the formation of themes during the analysis. Thus, direct quotations from the students' writings were included in the text to facilitate the assessment of the reliability of the conclusions (Elo et al., 2014; Hirsjärvi & Hurme, 2004). The researchers also compared among themselves (using researcher triangulation) the consistency of the codings and interpretations. The research material (165 essays) was sufficient in the sense that saturation could be seen in the material; that is, the same types of views began to be repeated in the essays written by the students.

The deepening of theoretical thinking is closely linked to the development of the education of those studying to become classroom teachers. Next, it could be explored how the dialogue between theory and practice can be supported by different practices that support reflection. It will also be important to explore and discuss what kind of reflection lecturers expect from students.

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