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Title

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## Reflections on Social Learning Environment and 21<sup>st</sup> Century Learning Skills

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**Abstract:** This study investigated how international students were reflecting the social learning environment and 21<sup>st</sup> century learning skills. As part of their bachelor of art studies in Finland, the teacher trainees carried out the practical training in their homeland and produced portfolios about pedagogic solutions they used. Out of 139 (n=139) portfolio text passages in total 46 (n=46) were included in the data. In the theory-driven content analysis, we identified four dimensions: scarcity, individual, teamwork and professional development. The most of the passages contained reflections on communication or collaboration such as critical thinking, creativity, collaboration and communication. The trainees reflected versatile learner-centred activities such as collaborative learning, pair work, debate and games. The teacher trainees implemented the ideas learned in Finland and transformed them in the context of their home country. The results of this study provide necessary information for quality assurance in the curriculum development in both countries.

**Keywords:** Learning environment; Portfolio; Learner-centered; 21<sup>st</sup> century learning skills; Communication; Collaboration

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*Title*

## **1 Introduction**

The teaching profession and teaching are born within cultural and social contexts. Teachers in their professions are between the learning, learning environment and the student. (Smulyan, 2006). In this paper, we analyse, how teacher students from South African area are reflecting the social learning environment in their home country. It has to be noted that here we use the broad concept of learning environment. The context of learning environment in this paper is the physical room or building, but also the materials, resources, teaching methods as well as the culture and the norms around learning. We see that learning environment includes physical, psychological, pedagogic and social dimensions. It is possible that social learning environment includes sometimes partially digital elements, for instance if the pupils are team working with only one device. Although many schools move partially or completely to e-learning the traditional real-life interaction is still needed. This includes pair work, work in the teams, group work and any other kind social interaction. (Raevaara, 2021.)

The study data consisted of the practical training portfolios that the students wrote in their home country after their two-year study. The aim of this paper is to respect and to understand other cultures so that we are prepared to further design and implement educational programs for international students. This paper reveals the teaching strategies the student teachers (trainees) apply during their practical training period in their home country and how the trainees reflect the social dimension of the learning environment in their portfolios. The concept of reflection is widely used in educational sciences. (Hatton and Smith, 1995). In this study, we conceptualize reflection as critical description of classroom practices and the reflection is considered in relation to theory-practice dialogue. The student reflection allows student problematising the existing practice and focusing on the process of inquiry related to improving teaching and learning. Typical data to analyse student reflections would be videos, journals, blogs or conversations. Here we decided to analyse the student portfolios containing the reflections as data for the study.

We wanted to focus on the young trainee students from Africa. The youth in Africa is a dynamic power that may lead the continent to economic growth. The respect of student's diverse background is a prerequisite for professionals in higher education (Sambell et al., 2017), the culture of 'the others' is not a clear concept and, the attitudes toward student mobility are not only positive. Some researchers state that the student mobility may allow implementing the idea of the Western cultural values 'the Western hegemony' instead of the idea of equality or respect (Dei, 2014).

In this paper, the position of the student teacher is two-fold. Firstly, she or he is a student who is reflecting and implementing the learning environment. Secondly, she or he is a teacher that carries out the teaching practice for the elementary school pupils at the very first step of the teacher profession in their home country. As here, the student teacher reflections were a combination of need, changes, professional growth and identity. The trainees learned also from their peers, experiences from the practical training periods and through dialogues with their mentors, tutors, friends and teachers. When constructing the professional development as a teacher, both skills and knowledge are needed (Somerkoski, 2018). The Finnish teacher education produces professionals who have their professional autonomy in choosing the teaching methods and materials, as well as teachers whose professionalism lies on the research-based and learner-centered orientation (Sahlberg, 2010). As part of the Finnish educational system, the teachers apply versatile learner centered approaches, such as self-evaluation and the student engagement. Teacher's role is active – he or she is more than information provider. Teacher is purveyor, facilitator, designer, coach, supervisor and guide. Commonly, a Finnish teacher designs some activities

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together with the pupils (Somerkoski & Granö, 2020; Somerkoski, Granö & Koskela, 2020). This is based on the constructive approach in education.

In the 21<sup>st</sup> century, the new trends of technology, social life and people's lifestyle have changed the world. That sets new challenges not only for the universities and other higher education institutions, but also any other school that foster children who are adults of tomorrow. When studying learning, one of the central concepts is competence. Competence is defined as the ability to apply learning outcomes adequately. Both knowledge and skills are needed. The skill is the ability to perform tasks and to solve problems. This encompasses functional aspects as well as interpersonal attributes and ethical values. Based on the definition the competence, it is a broader concept than the skill. (CEDEFOP, 2008.) New Millennium Learners need versatile competence to construct their understanding and to share and elaborate it. (Sointu et al., 2016.)

The whole educational context has been under construction after the millennium. There is a global need that the educational systems go beyond the cognitive domains such as reading and mathematics (GPE, 2020). Many countries across the globe saw that to equip children and young people with new knowledge and skills enhances the economic development in the country. As a result of these demands and changes, education, research and business together began to shape the skills of the 21<sup>st</sup> century which were defined and adopted in OECD countries. (Kattilakoski, 2018.) These skills are also referred to as “non-cognitive”, “soft” or “social-emotional” (GPE, 2020). *21<sup>st</sup> Century skills* are commonly grouped into three main areas. Literacy skills consist of information skills, media and technology. Life skills consist of flexibility, leadership, initiative, productivity and social skills. Learning skills are critical thinking, creativity, collaboration and communication. These skills are also known as *transversal skills* or *life skills* and are considered to be transferable to different settings. Also, OECD created overall objectives for New Millennium Learners to conceptualize and analyze the effects of new digital technologies. Based on the OECD, the societal development requires labor with new skills and competency. The most of these skills are related to knowledge management, information selection, integration and sharing in social environments. Many of these competencies are either supported or enhanced by ICT (Ananiadou and Claro, 2009). Some researchers such as Binkley et al. (2012) speak about future skills or working skills. All these definitions of skills cover collaboration and communication. However, it seems, that ICT skills act as a hub of all 21<sup>st</sup> century learning skills. In this paper, we will describe how the international students were reflecting their practical training and the social learning environment in their home country. The data consists of the portfolios teacher trainee students produced as part of their bachelor of education studies. We will also discuss about how the 21<sup>st</sup> century learning skills were adopted in the teaching content. In the method part of this paper, we will present the theory-driven content analysis of the portfolio texts and in the results chapter, the four dimensions identified. To address the research aims of this study, two research questions were raised as follows: How do the international trainees reflect and construct the social learning environment during the practical training period that was carried out in their home country? How does the social learning environment support the acquisition of 21<sup>st</sup> century skills?

## **2 Literature review**

In the educational sciences the contribution of Vygotsky (1997) is appreciated as his theory finally broke the tradition where teacher is providing the learning for the learner. According to Vygotsky the learner is an active

## *Title*

participant who constructs his or her own learning. Therefore, learning is not given, but more constructed. Further on, in his cultural-historical theory about cognitive development, Vygotsky states that the interaction between the learner and the teacher is crucial for the cognitive development. This idea is shared in many Western culture countries in the teacher education when the trainees create portfolios to reflect their experiences and to construct their learning. (Kaasila et al., 2014). Vygotsky's social constructivist theory includes the idea of the Zone of Proximal Development (ZPD) with the concept of scaffolding. This means that although the learner does not manage the task by him or herself, he or she succeeds to complete the task when supported by teacher or another expert nearby. This leads the learner to manage the task on his or her own the next time. The supportive role of the teacher is crucial in the Vygotsky's theory. The modern teacher matches theoretical concepts with practical methods. Teacher's task is also to adapt to the learning strategies based on the student needs.

In the school, students learn skills, respect and morality. We have to acknowledge that the learner – whether he or she is an elementary pupil or higher education student – is never 'tabula rasa'. Each of the learners has experienced social relations, family life, kindergarten as well as elementary and secondary education. However, based on the recent research (Lavonen et al., 2019) it is important to study the internationalization of educational research as 21<sup>st</sup> century changes show that there is a need of shared realities in teacher education. With the new concept of global the realities go beyond the borders as the information and teachers' new professionalism get input from a global field all the time. Moreover, Lavonen et al. (2019) stated that innovative teacher education model can be transformed and re-invented in an African context and also it is possible to add dimensions to the original. There is a growing expectation that professionals in higher education should recognize and respect the diverse backgrounds of students (Sambell, Brown and Graham, 2017).

The Finnish teacher education includes the integration of theory and practice and it provides the students with possibilities for independent teaching and self-evaluation. The guided teacher training includes lessons (teaching), guidance discussions and getting acquainted with the everyday life of the classrooms. (Malinen et al., 2012.) Based on the results of Krokfors et al. (2011), it seems that the teacher education has four research-bound characteristics. Firstly, the study programme is structured according to a systematic analysis of education and secondly, the teaching is based on the fresh research. Thirdly, the students may participate in argumentation and engagement and fourthly, their learning is not just knowledge, but also skills.

More than before, the 21<sup>st</sup> century learning skills have become important. Schools and universities seek new forms of teaching and learning for the future needs, as in the work life more analytical and critical thinking skills are needed (Niemi and Nevgi, 2014). Toom et al. (2017) studied Finnish first year students' sense of professional agency in the professional community. To develop professionalism and to enhance the student learning, prospective teachers need to maintain their sense of professional agency, both in the classroom and in the professional community. Based on their results, student teacher's professional agency consists of motivation to learn and intentional strategies for promoting intentional strategies for promoting school development and the student learning. (Toom et al., 2017.) In addition, the data in this study comes from the phase when the international bachelor of arts (education) students have just carried out their final practical training period in their home country in the area of southern Africa. For the 21<sup>st</sup> century need it is crucial to study professional agency and classroom practices. The data provides a unique opportunity to build a shared understanding about this.

One of the key elements in this study is the definition of the learning environment. Various researchers agree that learning environment is a much broader concept than the physical space or classroom where the learner exists.

## *Title*

A learning environment is a commonly used and loose concept that includes physical spaces and places with artefacts (Kattilakoski, 2018). The learning environment is not just *where* the learning happens but also how and with whom and with what kind of materials, resources, cultures and values it is carried out. The concept of learning environment describes the goals for teaching and learning (Shaari and Ahmad, 2016) as well as activities, places, communities, or modes of action that support learning. The learning environment is pedagogically planned and it is sharpened with perspectives, for instance physical, social or psychological dimensions. The social learning environment would be for instance the general climate in the school, community, technological or pedagogic solutions. Sometimes, as here, the concept includes social dimension, communities and action cultures. (Niinistö 2021). In this paper, the social learning environment refers to pedagogically planned learning situations which contain communication or social interaction with one or more individuals. The social learning environment is a construction of emotions, interactions, methods, technical devices and personalities. Additionally, the teacher plays central and multiple roles in all the perspectives or dimensions of learning environments. Moreover, as the latest concept, some of the researchers use the concept of *learning landscape* that spatially and socially change the learning towards future (Kattilakoski, 2018). Sometimes the social dimension of the learning environment is connected with the concept of *digital learning environment* if digital devices are used. If the digital devices are not available at all, or the availability is limited, researchers use the concept of the digital divide. A digital divide is understood as uneven distribution of Information and Communication Technologies (ICT). In general, ICT is expensive and therefore the adoption and utilization of it is highly uneven. (Mubaraq, 2018.) It is obvious that the attitudes, skills and behaviours that a pupil brings into the classroom are important, as do the types of learning activities, participation, engagement and motivation. The prevailing culture of a classroom, formed by its members and their life histories and broader school climate and safety, does explain at least partly the motivation and the learning. (Somerkoski, Granö & Koskela, 2020.)

The trainees carried out the practical training as a part of the study course *Teaching practice, Competence and expertise. Planning, implementation and evaluation projects (10 ECTS)*. This bachelor of education course consisted of planning, observing, the teaching period, seminars and the portfolio. *“With this course, students achieve the competence in teaching by organizing the learning environment, planning the research based curricula for a group or class including teaching and the learning methods and assessments of the pupils as well as their own development as a teacher. This teaching practice will be completed in the country of question in cooperation with the school authorities. The goal is that students can independently produce teaching periods in different subjects in accordance with the pupil group and its unique features; students can study learning within the period and evaluate the meaning of pedagogical means and their impact on learning; students understand the meaning and possibilities of the environment for learning and can build suitable environments.”* (anon, 2017).

Exam-based assessments have raised criticism in recent years. Instead of memorizing, the competence-based system, such as a portfolio, allow broader and the more comprehensive view of trainee’s progression (McAfee and Dannefer, 2020). A portfolio is a collection of individual assessments that represents trainee’s achievements; gives examples of how the trainee has adopted the theories and of how he or she is able to implement them independently (Van Der Vleuten and Schuwirth, 2005). A portfolio provides an assessment instrument where the evaluator can take the existing knowledge and skills into account. In portfolios, the learner reflects his or her experiences and modifies his or her behavior accordingly. A portfolio is a personal narrative produced by the trainees, reflecting and self-assessing their strengths and weaknesses in learning. McAfee et al. distinguish student portfolios by the quality at three levels: 1) descriptive 2) analytical 3) evaluative (McAfee and Dannefer, 2020).

## *Title*

The trainee portfolios in this study included the elements of each of the levels, yet we did not evaluate the portfolio quality in this paper instead. The aim was to process a reflective narrative that describes the professional development and maturity of the trainee.

## **2 Data collection, Methods and Analysis**

During the study course *Teaching practice, Competence and expertise*, the trainee produces 20-hour long learning entity within 2–3 school subjects. The practical training period is based on a learning theory chosen by the trainee. Accordingly, the trainee gets supervision from the local class teacher, but concerning the taught school subject, he or she plans and implements the teaching independently. In this study, the group of trainees consisted of eight man and 12 woman teacher trainees, aged 19 - 28 years (mean age 22 years). Each of the trainees could choose the school where they wanted to carry out the teaching practice in their home country in southern Africa. The school staff pointed out a pupil group from grades 1 - 7 that the trainee would teach. The allocated time of teaching was 20 lessons within 2 - 4 weeks. According to the local curriculum of the target group, the headmaster and the teacher in charge approved the topic or theme for teaching. The trainees observed a certain amount of lessons in the school where they were carrying out the practical training as well as planned the learning theme and teaching contents independently. The trainee provided a portfolio containing information about the pupils' learning progress and reflected the training period based on the teacher education curriculum. With this, the trainee showed how he or she had adopted the pedagogical theories and correspondingly how he or she was implementing those.

The data of this study was gathered from the practical training portfolios (n=20) of the trainees. After 2-year long stay in Finland, the trainee carried out the practical training during the 5th semester of his or her studies, spring 2019. The portfolios included the description of the school, the class and the staff, the lesson plans, the training experiences reflections and the pupil evaluations.

We as researchers read carefully through the material several times. From the text, we decided to choose the text passages where the teacher trainee reflects learning environments or teaching methods. In the thematic content analysis, we chose the most essential words or word clusters from the text. We focused in the descriptions of the learning environments. We organized the data into a matrix (Matrix 1) for the analysis, encoded and abstracted the text passages; categorized and connected them into the main categories. The four types of learning environment we identified were physical (phy), psychological (psy), social (soc) and pedagogical (ped) as presented in Table 1. Additionally, we decided to exclude the geographic descriptions, lesson plans, photos, evaluation procedures as well as possible feedback parts of the portfolios from the data. We did not distinguish the genders in the data, as we saw that the gender difference would not be at focus in this study.

Table 1. Examples of the portfolio text analysis in this study. Matrix 1. (NOR= Number of respondent)

*Title*

| NOR | Text passage  | Lower category   | Main category |
|-----|---|--|---------------|
| 1   |   |  |               |
| A   | Some pupils are so active, they are participating in the class. The <b>teacher asks pupils many questions</b> to try to keep them active by communicating with them and to prevent them from sleeping. <b>Some pupils tend to be listening</b> very well in the class and some were looking very tired even early in the morning. <b>Some were lying their heads</b> on the tables and having discussion <b>with others</b> . Some pupils were shy to participate, and they <b>were not given that chance to be active</b> because pupils were not given group activities were, they <b>can discuss and share ideas</b> with others and <b>be free to contribute their ideas</b> . Some pupils are <b>free to participate in the class</b> and they seem to be very comfortable with their teacher. | teacher-centered learning, individual reflection of pupils, communication between the pupils, freedom to communicate | soc, ped      |
| B   | After reading the story to the pupils, she started asking them question <b>to see if they were listening</b> and if they <b>understand what is going on</b> . The teacher uses pieces of papers written words to <b>scaffold pupils</b> that can not read well. She lifts one piece of a paper with a word written on it and ask one pupil that can read well to read what is written on the piece of the paper and ask <b>those that can not read well</b> to repeat after what she said. I like the way the teacher was <b>scaffolding the pupils</b> during this lesson because even those that could not write or read were being helped during this lesson.  | teacher-centered learning, constructing the understanding, scaffolding, individualising                              | ped, psy, soc |
| C   | The pupils will <b>listen to the song</b> as a I sing, <b>repeat it and this will help their listening skills</b> . As I am singing, I will be pointing on the poster with a stick, for example if I mention winter than I will point where the jacket for winter is drawn on the poster. This will <b>help them to learn</b> the right clothes that we need to put on, on a specific season.   | learning styles, experiential learning, understanding, constructing  | ped           |
| D   | Pupils <b>will be chosen randomly</b> to come in front of others and <b>point at the pictures on the posters</b> when he/she is singing and expected to point at the right picture, for example if she is singing spring, she must point where there is a tree with blooming flowers, This will <b>scaffold them to learn</b> the seasons quicker and how does that specific season looks like or what to put on during that specific season.   | scaffolding, kinesthetic learning, understanding,  | psy, ped      |

Due to the limited space in this paper, we present only the analysis of the social learning environment. We created the Matrix 2 (Table 2.) to describe the social learning environment. The passage tagged to the code R18C tells the number of the respondent in the data and the alphabetical order of text passage. We aimed to categorize the text passage with theory-driven understanding of social learning environment about 21<sup>st</sup> century learning skills. The total amount of text passages we chose to represent the study data was 139 (n=139). During the several reading laps, we agreed that 46 (n=46) of the passages contained reflections about the social learning environment.

Table 2. Examples of the portfolio texts about social learning environment in this study. MATRIX 2. (NOR=Number of respondent)

## Title

| NOR |   | The original text passage   | Abstracted text  | Analysed text passage                           |
|-----|---|---|--|---|
| 1   |   |   |  |   |
|     | A | Some pupils were shy to participate, and they were not given that chance to be active because pupils were not <b>given group activities</b> , they can discuss and share ideas with others and be <b>free to contribute their ideas</b> . Some pupils are <b>free to participate in the class</b> and they seem to be very comfortable with their teacher.  | group activities, they can discuss and share ideas with others and be free to contribute their ideas. Some -- free to participate in the class | communication skills, teamwork                  |
|     | E | I will give them 5 minutes <b>to discuss in the group and each group will present</b> their ideas to others, <b>this will help the pupils that are not comfortable to stand alone</b> or the shy pupils to partake in this lesson too and not be left alone. I have observed that some pupils do not participate in the class, maybe because they are <b>shy to talk</b> , putting them in the group <b>will help them share their ideas with others</b> .          | discussion, teamwork, communication easier when in group   | communication skills, teacher-student relations |
| 2   |   |   |  |   |
|     | B | In summary, my teaching practice aimed at encouraging <b>collaborative/ interactive learning</b> among the pupils whilst developing their self-efficacy to believe in their own capability while trying to meet their learning needs through various methods to cater to the individual learning style. I, however, most wanted to test and apply the two modern learning approach of <b>Café style and camera /picture pen method in a traditional classroom</b> . | encouraging collaborative/interactive learning, learning café, teamwork  | pupil-pupil relation, learner-centred teaching  |

The text passages that contained the reflections about working in pairs or in groups, games, collaborative actions, but also passages that described communication activities were chosen as data. These passages were analysed based on the idea of 21<sup>st</sup> century learning skills.

### 3 Results

In general, the social dimension of the learning environment includes individual's emotions when communicating as well as human relations in the form of teamwork or collaborative learning. Here, the social learning environment refers to the human actors in the classroom. With this we mean the interaction between the trainee and the pupils. Additionally, there are two layers of learning environments in the data, the one is the environment in the classroom, the other being the learning environment of the trainee. For instance, some trainees reflected the interaction with the teacher colleagues in the school where the trainee carried out his or her practical training as part of his or her professional development as a prospective teacher.

The Finnish Core Curriculum (Opetushallitus, 2016) as well as the Teacher Education Curriculum in the Finnish university (University, 2017) emphasizes the learner's activities and the learning environments with social interaction. Moreover, the latest Finnish Core Curriculum (Opetushallitus, 2016) enhances the learners, more than before, to move freely in the school building, to use the open learning environments, new kinds of furniture or outdoor possibilities. This means more possibilities and situations for interaction. Therefore, it is obvious, that in the research data (n=20), the social learning environment was reflected in many ways in most of the portfolios. Based on the content analysis, we identified four main groups of the social learning environment reflections on the learning portfolios. We present the groups in this chapter.

*Title*

### **Scarcity and connections to physical learning environment**

Social skills are presented as part of the 21<sup>st</sup> century learning skills, so called four C's: critical thinking, creativity, collaboration and communication. As reported in the previous study with the same data (Somerkoski, Granö & Koskela, 2020) the scarcity of materials sometimes forced the trainee to find solutions in the classroom furniture order. (Numeric order 1– 20) of the trainee portfolio and correspondingly the alphabetical order (A– G) of the text passages, as presented in the original Matrix.)

*"I had enough space in the middle to separate those desks that were too close, --I could move easily to those students who needed my help." (R17B)*

When possible, the trainees chose the digital learning environment, such as showing documents with a projector, playing games or using online learning platforms. The trainees reported that this type of training was both entertaining and motivating. Sometimes the trainee needed the social skills when negotiating about the learning and teaching material with the colleagues due to the scarcity of digital devices, such as computers.

*"I had prepared a computer related activity (I had) to wait for my class to use the computer class or to ask (another) teacher if she/he needs the computer class (in his or her turn)."*

The 21<sup>st</sup> century learning skills, communication, collaboration, are both implemented during the practical training in the following text passage. The trainee described that scarcity of materials led to material sharing which in turn, enhanced the collaboration and initiative taking.

*"Sharing resources yields better understanding as the pupils get to tackle the activities together and share information. The learners would be more engaged and focused when working in pairs." (R20A)*

The trainees also showed creativity in scarcity when they realized that there is not enough work books or other individual learning material for every pupil. They solved the situation by replacing work book exercise with hands-on activities outdoors. In that case during the mathematics lesson, the pupils were learning counting and comparing with the help of stones and fallen leaves collected from the school yard.

### **Social learning environment and individual**

Almost all the trainees reported using teamwork or group work as a learning environment during the practical training. The trainees implemented this for varying purposes. Group work was carried out firstly to fight the shyness, and to develop self-esteem or self-efficacy and, as R1E in his or her reflection put it *"this will help the pupils that are not comfortable to stand alone - - the shy pupils are not left alone"*.

As the curriculum enhances both the teachers and the pupils to implement the social skills in Finland, this seems to be more an issue in an African school where the pupils are mostly used to the teacher centered "traditional" class setting (Somerkoski, Granö & Koskela, 2020). Despite the shyness, the teacher centered teaching style might have led to somewhat selfish manners. Teamwork enables to take the perspective of *"the other"* as well as to show agreement and respect to the work that someone else has provided. R10A reported about the fruits of respect in teamwork *"Peer collaboration will also ensure that children can easily trust and respect others input"*, as did R15M when describing a collaborative jigsaw project *"in the jigsaw they gained knowledge on peer teaching at*

## Title

*the same time learning how to respect each other”* whereas the respondent R8K reported, that he or she should have provided a possibility for teamwork and collaboration. The trainee should have assured this as *“some pupils are selfish with sharing the knowledge, or sometimes they are scared to be laughed by their peers.”*

Another purpose for implementing social skills was to provide a more positive learning environment for the pupils, such as trainee R3E stated: *“to create open free environment, that’s when I started to see some improvement”* despite the fact that he or she continued *“I wouldn’t finish my lessons as planned, especially when doing group work”*. Other purpose for the implementation of the social skills was for instance motivational issues such as taking initiative *“doing tasks in advance and encouraging pupils’ interaction”* (R3F). Moreover *“to learn from each other”*. (Ananiadou and Claro, 2009).

## Interaction

In most of the cases, the trainee reflected the social learning environment in the situations where the trainee had implemented a learning method based on teamwork. The general aim for doing so was because the trainee wanted the pupils to collaborate and communicate better. For instance, one of the trainees (R6E) reflected that group work *“allows to work together and think together and solve the problems”*. This goes well together with 21<sup>st</sup> century learning skills where critical thinking and creativity are dimensions. Also, respondent R8C stated that social interaction *“did not only allow for critical thinking but allowed pupils to look at the different perspectives, criticize them and find out which one is the best choice, also known as multi-perspectivity.”*

In a broader perspective the 21<sup>st</sup> century learning skills, such as collaboration, communication and social skills may have aimed to establish an ideal status about the participation metaphor where *taking part* and *being part* *“should be viewed as a process of becoming a part of a greater whole -- a learner as an individual and the whole class at large affect and inform each other (R11F)*. In this portfolio data, the trainee states that the idea is being adopted from Sfard (1998), and further on, he or she stated that *“I realised that group work is a new learning approach and at first, they really struggled to work with one another”* (R11B) proving practically that an individual learner and the whole class affected each other.

Based on the trainee reflections, it seemed that the most of the trainees used versatile pedagogic methods that enabled teamwork, such as the learning café, peer evaluation groups, flashcards, self-assessment, debates or discussions. Moreover, in some cases two factors appeared in one situation. This was the case, when R13G reflected *“whenever -- the answer was wrong, I never put the student down or corrected them, however asked the other students if they were to help and guide their fellow classmate, turning the situation into a learning experience.* “With this type of approach, the trainee showed respect for the learner and was able to turn the situation into a learning experience.

## Professional development

The written portfolio allowed the trainee to reflect the professional development and to manage the teaching methods on trial and error or learning by doing. This was the case, when the trainee R10G described *“I was a little too calm and not strict with managing the pupils, which led to them not respecting me so much and making noise and causing destructions during my lessons. Personally, I also believe this is something I need to work on,*

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*as I do not really have much authority a teacher should possess to manage the classroom in cases of disruptive pupils”.*

The social learning environment in the classroom concerned the 21<sup>st</sup> century learning skills and as R4D wrote feedback he or she got from the learners about the way to communicate in the classroom. *“some pupils indicated that they did not understand some of the concepts because I was too fast in my explanations. Based on this feedback, I was able to re-adjust my methods to accommodate everyone.”* Further on, the trainee continued *“some pupils also indicated that I was not involving them enough in my lessons, I therefore tried to get them more involved in the lesson that followed by asking for their contributions and getting them to discuss answers to questions that I asked.”* This feedback showed a greater awareness of the pupils and gave possibilities for the trainee to develop and engaged the pupils in the learning process.

Although the most of the text passages delivered a positive message about teamwork, the group dynamics in the classroom sometimes surprised the trainee. *“Class A being quite a talkative bunch”* (R13A); *“when the pupils went outside was a disaster and disruptive as some pupils started running and playing”* (R6C) or *“I sent all the destructing students and noise makers to the class, not knowing that they would still make noise there, as there was no teacher - - there”* (R8G). This might have been for the reason that the teacher needed to get more experience in the teaching practice or for the fact that the pupils were not used to the learner-centered teaching styles, and they used this “freedom” for their individual purposes, instead of for the academic skills.

In general, the trainees focused on communication and on the social relationships during the practical training. Further on, they stated that the free communication enhanced pupils’ abilities to work independently. The schools where the trainees carried out their practical training were neither homogenous when it came to the economic and material resources nor when it came to the demographic background of the pupils. Nevertheless, the most of the trainees reported about the scarcity and lack of the resources.

## **4 Conclusions**

This paper revealed the educational idea behind the 21<sup>st</sup> century learning skills. In this study, we investigated firstly how the international students were reflecting their practical training and secondly, how the 21<sup>st</sup> century learning skills were adopted in the teaching content. To unite local actors at the educational scene is no more our task, but rather a new global - a shared international reality that unites teachers’ professional agency, professional development and teacher training. It seems, that ICT skills act as a hub of all 21<sup>st</sup> century learning skills (Binkley et al.).

This study was based on a qualitative research design that investigated how international students were reflecting the learning environment during their practical training in their home country. The practical training portfolios provided a unique and rich data for the study as the goal of this study was to describe social learning environments and educational principles the teacher trainees are choosing and applying. We analysed the data with the theory-driven qualitative thematic content analysis, guided by the 21<sup>st</sup> century learning skills and principles adopted widely in educational context in OECD (Ananiadou and Claro, 2009).

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To complete the bachelor of arts in education degree required the ability to adopt and transfer the competence. This was competence that was taught and learned in Finland, but implemented in another context in the trainee's home country in Africa. The research data was the training portfolios where we found meaning units (n=46) regarding social learning environment which was the final data in this study. The approach was holistic. Therefore, it was not possible to analyse the individual differences of the trainees, nor was it possible to compare the learning outcome. We identified four main dimensions based on the study questions. The dimensions were scarcity and connections to the physical learning environment (Somerkoski, Granö & Koskela, 2020); individual dimension, teamwork dimension and professional development dimension. The teaching strategies presented in the data supported the 21<sup>st</sup> century learning skills as well as versatile forms of teamwork or collaboration. Mostly individual issues, such as shyness, showing lack of respect or not sharing the information acknowledged the communication.

Some trainees reported about the scarcity of materials, and especially scarcity of the digital devices (Somerkoski, Granö & Koskela, 2020), but also scarcity of other written study materials. For instance, the trainees reported about the scarcity of textbooks and furniture, but in particular technical devices, such as laptops, projectors or tablets. Correspondingly, many of the classrooms were overcrowded, with more than 40 pupils. Regarding the scarcity of materials, the trainee was forced to think critically and to use a creative approach to bridge the gap. This was the case when the trainee replaced work book exercises with hands-on material from nature, such as stones or leaves during outdoor classroom activities. A promising result was that many trainees were able to transfer the idea of lessons learned in Finland to a different cultural context in their home country. They were able to reorganize the social learning environment, for instance to start group work outdoors if the classroom was overcrowded. Furthermore, one of the trainees reported that sharing the material enabled teamwork. When designing the curriculum for the international university students, the universities should focus more on how to apply the effective learning environment in situations of this kind. How to carry out teaching if there is only one computer for the classroom? How to share a workbook? To implement the pedagogy from the Finnish schools to another context, for example in Africa, needs more research.

In many of the schools in Africa, the teachers still use teacher-centered teaching methods (Somerkoski & Granö, 2020). Also, the schools from elementary to higher education are using the performance-based ranking system (Somerkoski & Granö, 2020) and maybe therefore, it seemed common that the pupils showed selfish manners or did not communicate openly during the practical training lessons. This led us to think whether some of the selfish manners or shyness reported in the portfolios, were affected by the ranking system.

Based on the data, the trainees were motivated to use the learner-centered teaching methods that enabled social interaction as this seemed to be a novel way of teaching. In addition, they were able to reflect if the method they were using was working. They also presented their thoughts about *why* certain teaching method was not working. This is a valuable sign of meta-reflection. The result leads us assume that the social interaction in the classroom affected the pupils individually, their emotions and their moral development. Secondly, using interactive teaching methods provided multiple possibilities to carry out the learner-centered teaching in the classroom. During their practical training, the trainees used versatile methods to encourage the pupils' social interaction. These methods were for instance temporary expert group and peer teaching, pair work, discussions in groups, debating game, flashcards, problem-based learning, self-evaluation or learning café method. Some trainees were able to report about the professional failures. For instance, one of the trainees got feedback from the pupils that he or she was speaking too fast. Another trainee reported lack of discipline during outdoor classroom. In both cases the trainee

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could think critically and reorganize the lesson to better serve pupils' learning in constructive way (Vygotsky 1997). We see these communicative situations as promising signs of critical thinking, professional growth and development.

The other study question was about how the practical training supported the acquisition of 21<sup>st</sup> century learning skills. The African countries generally do not have many existing assessment tools that evaluate 21<sup>st</sup> century skills, such as collaboration, learning to learn or self-management. The idea of 21<sup>st</sup> century learning skills concern mostly learning in the information society and this approach is highly appreciated in the students' home country as a sign of modern education. The 21<sup>st</sup> century learning skills are divided in three main groups and here the learning skills in question are critical thinking, creativity, communication and collaboration. The learning skills teaches about the mental processes required to adapt upon a modern work environment. (Ananiadou and Claro, 2009.) In general, the concept of communication refers to multiple people, but in this study, the communication skills referred more to the individual, his or her emotions or personal values, for instance shyness or not showing respect. The communication skill was about the ability to learn how to convey ideas, eliminate confusion or to make oneself understood and appreciated. The trainees reflected the collaboration skills in the multiple situations in the portfolio data. In this study, the collaboration in the social learning environment appeared between the learner and the trainee, between the trainee and the colleagues, but mostly between a pupil and his or her classmates in pairs, groups or in the setting where the whole class collaborated. It has to be noted that all the trainees experienced teacher-centered education during their early school years. In future, they might be the agents to change the principle of teaching in their home country. Based on the findings of this study, it seems clear that the students were able to implement versatile learner-centered teaching methods in their practical training. Many of those, such as communication and collaboration, supported the acquisition of 21<sup>st</sup> century learning skills.

Finally, it is obvious that cultural and political issues affect the learning. It is not possible to export or to import learning environments to other country as one and whole unit. Each of the teacher trainees was acting as interpreter while implementing the ideas learned in Finland and transforming them in the context of their home country. The question about learning environments is much broader, even the whole world as stated by Niinistö (2019). However, with the ability to use 21<sup>st</sup> century learning skills the trainee has a toolkit of learner-centered methods and materials to choose from. Social learning environments are situational and connected with group dynamics and school climate. It remains to be seen, whether the student teachers will continue to teach by using the lessons learned outside their own cultural context. In the future, this issue should be further studied. The results of this study provide necessary information for quality assurance in the curriculum development in both countries. Currently, the pandemic situation in the world has showed that we might need an updated version of 21<sup>st</sup> century learning skills. Furthermore, this might lead us to think about how to strengthen the possibilities for digital learning environments.

### **Limitations**

Finnish research-based teacher education is connected with the practical training in schools and the theoretical educational thinking has strong focus in linking theory into practice. Over the 5-year teacher education program, three periods of practical training is carried out. During their studies, the Finnish trainees observe lessons by experienced teachers and, during the practical training sessions the supervisory teachers, professors and lecturers guide them. Training experience comprises about 15 - 20 % of the trainees' preparation time. The trainees

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complete the most of the practical training within Teacher Training Schools and the supervisory teachers guide the trainees during the practical training periods in peer dialogues and individual meetings. In this study, the trainees had guidance from the faculty members during their practical training periods in Finland. However, the trainees completed the final practical training in their homeland in South Africa region. The supervisory teacher represented the home country of the trainee and it is probable that he or she as an African pedagogical expert did not share the pedagogic principles, theories or measures of the Finnish education. In addition, the cultural differences between Finland and the home country of the trainee, may have affected the possibilities and solutions to develop and implement a practical training period.

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