Using socio-digital technology to enhance participation and creative engagement in a lower secondary music classroom

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ABSTRACT

This article examines a case study in which a music teacher experimented with the potential for fostering student participation and creative engagement through the use of tablets in a Finnish lower secondary school (grade 7, age 13). The project consisted of 15 weekly music lessons, and included music-and-movement (preparatory) exercises, improvisation and music composition, the recording of a video, and its subsequent editing to match the composed music. This paper examines the pedagogical principles and processes involved in this effort, as well as the teacher's pedagogical thinking. The data included class-room observations, field notes, and teacher and student interviews. The study focuses on the notion of teachers' pedagogical thinking, and on the paradigm of teaching as a reflective practice.

The examined case offers one practical example of a teacher's effort to find new pedagogical solutions for applying technology in a music classroom. I have identified five pedagogical principles that guided the process: (1) Everyone is creative; (2) Gaining musical knowledge through embodied learning; (3) Enhancing social cohesion and inclusion through group music-and-movement activities; (4) Composing as a collaborative and self-regulated process; and (5) Empowering agency and ownership through making a (music video) product. The participating students enjoyed most a diverse range of (creative) activities and autonomous working in small groups. The study supports earlier findings that the use of technology in teaching motivates student participation (e.g., Salmela-Aro, 2015; Karsenti & Fievez, 2013; Ruippo & Salavuo, 2006), and that creative tasks can provide a clear focus for their use (Savage & Challis, 2002). Moreover, it argues that social aspects play an important role in learning, as positive learning experiences were strongly interconnected with social inclusion. By examining the pedagogical processes and reasoning behind the practice, the study contributes to the construction of the technological pedagogical and content knowledge (Bauer, 2014) in music teaching and learning.

Introduction

The use of technology has increased enormously in recent years, and has created a large variety of new possibilities for music teaching and learning. Himonides (2012: 430) even suggests that "technology should be viewed as an integral–unavoidable– part of musical engagement, development, and educational processes" and asserts that "our focus should be on critical assessment of the effectiveness of any technology and its role in effective teaching and learning". However, it is not straightforward to find effective and pedagogically meaningful ways to use technology in music teaching and learning. For example, Bauer (2014: 9) notes that when technology is used "it is frequently not integrated in a way that optimizes its potential to support learning, and perhaps to even transform the learning experiences of students through innovative pedagogical approaches". Similarly, Dillon points out that in teaching there is a tendency to focus on the benefits or limitations of the devices rather than the "process engaged in or the kinds of music created" and thus:

> from a research perspective more work needs to be carried out on the kinds of musical interaction and processes, both individual and collaborative, that existing and new technologies can support. This in turn could lead to more informed decision-making and the use of technological tools for meaningful musical activities. (Dillon, 2010: 118)

Furthermore, earlier studies on teachers' use of technology describe a low level of usage and minimal pedagogical change: the use of technology is often restricted to teachers using technology to do what they have always done (Cuban, 2006; Cuban & Cuban, 2009; Somekh, 2008). Currently, music education practices are actively searching for new pedagogically meaningful ways to apply technology, especially mobile devices and new applications, and there seems to be attempts to re-think and transform music teaching by using music technology to evolve earlier practices. Yet, there is little evidence of entirely novel approaches (Hennesy, Ruthven & Brindley, 2005, see also Tobias, 2016).

This study examines a case in which a music teacher in a Finnish lower secondary-level school explored the possibilities of using tablets (in this case iPads) in a 7th-grade music classroom (compulsory general music course) to search for opportunities for

creative and integrated experimentation with music, movement, and technology.[1] In this article, I will examine the pedagogical processes, describe the teacher's pedagogical thinking (reflections and justifications) related to those pedagogical decisions, and identify the main pedagogical principles informing the practical solutions.

The use of technology and creative production in music teaching

According to earlier studies, the use of music technology (that here refers to technological tools for composing, recording, editing, or notating music) is often integrated with composing, or other kinds of creative music production (Berkley, 2001, 2004; Crow, 2006; Pitts & Kwami, 2002; Savage, 2005; Savage & Challis, 2001). For example, Savage (2005) describes how students engage with and organize sounds in the process of composition. The use of technology is viewed as offering support for yet more creative activities (e.g., Savage & Challis, 2001: 147). Other areas of music teaching that are often connected with the use of technology include the development of musical skills (e.g., Chan et al., 2006) and the teaching of music literacy (e.g., Crow, 2006).

The global increase of Internet usage and various forms of digital culture have changed music composition, production, and distribution dramatically in recent years. It has become fairly easy to compose, edit, and share music using computers, mobile devices, and networks. The availability and low price of programs and applications have also increased the use of technology. Furthermore, technology enables one to compose music without mastering "traditional" musical skills or a theoretical and conceptual understanding of music (e.g., Bolton, 2008; Crow, 2006; Salavuo, 2005).

The use of technology in music teaching and learning is justified in various ways in music education research literature. For example, it is recognized to have the potential to provide democratized learning environments, forms of collaboration, and possibilities for creative activities (Burnard, 2006, 2007; Dillon, 2010). Technology is also recognized as facilitating multimodal learning by providing an increased and enhanced integration of visual and aural representations, as well as enabling young

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people to construct their emerging selves and develop critical consciousness and autonomy (Odena, 2012). The multimodal learning environment enabled by the use of tablets has been shown to effectively motivate pupils' learning in music, improve collaboration between pupils, and help teachers with classroom management (Zhou et al., 2011). According to Finnish researchers Ruippo & Salavuo (2006), the use of technology motivates students' participation and studies in music in general. In addition, within general education, the study of Karsenti & Fievez (2013) – which included 6000 pupils and 300 teachers in Quebec and examined the use of iPads in the teaching of all school subjects – shows that the use of tablets increases, above all, pupils' motivation for studying (see also Kinash, 2011). However, the use of technology does not seem to improve learning outcomes (Henderson & Yeow, 2012; Kinash, 2011); "rather, the opposite is true" (Siljander, 2017: 206).

Though the use of technology is often viewed as a useful part of music teaching and learning, the potential applications of technology are still relatively rarely applied to music teaching at schools. In Finland, both the use of technology and creative production (composing, improvisation, etc.) were included in the content areas of music teaching in the national music core curriculum for basic education of 2004, and were further focused on in the new curriculum of 2014 (effective in August 2016); they are thus expected to be incorporated in music teaching and learning at primary and lower-secondary levels (see FNCC 2004, 2014). However, the national assessment of learning outcome in music (Juntunen 2011, see also 2015b) shows that both areas have been neglected.[2] Instead, teaching has concentrated on playing, singing, listening, and reproducing the works of others. The results of Partti's (2016) more recent study in Finland are parallel to these findings. There are similar results in other countries as well. For example, a survey *Music Education at Schools,* conducted in Great Britain in 2001/2003, shows that the use of music technology remains weak at schools (also Dillon, 2010), although composition, on the other hand, is strongly emphasized (see also Webster, 2009). On a more international level, it is reported that music education practices are in general reproduction-centred in many countries, while music creation and composition are marginalized, or even neglected outright (e.g., Cheung, 2004; Clennon, 2009; Drummond, 2001; Jorgensen, 2008; Rozman, 2009).

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2   According to the assessment, 42% of the teachers at the lower-secondary school level had never taught music technology, and half of them had *never* or *occasionally* taught the creative production of music. About 45% of the students reported that they had never participated in creative production, and over 50% of them had never used technology in the music classroom. Students did not consider either of these areas important in their music lessons.

Context and procedure

In Finland, music is taught as a compulsory subject in basic education (grades 1–9) from the first till the eighth grade. In primary school (grades 1–6), music is usually taught by a classroom teacher, and in lower secondary school (grades 7–9) by a subject teacher. The national core curriculum for basic education defines the general core content and objectives for teaching and learning, as well as the target areas and criteria for assessment. On the basis of these guidelines, the schools and teachers draw up their own curricula. Teachers are given a high degree of freedom to determine and choose the content, methods, materials, etc. for their teaching. The core music curriculum (FNCC 2004) effective at the time of this study suggests that one objective for music teaching and learning, among other things, is that students "will build their creative relationship with music and its expressive possibilities, by means of composing" (p. 231), and as core content "experimenting with one's own music ideas by improvising, composing, and arranging, using sound, song, instruments, movement, and musical technology, for example" (p. 232), (for more information about music education in Finland, see Westerlund & Juntunen, 2016). The new core curriculum (FNCC 2014) suggests that music teaching should guide students towards improvisation and composition, as well as creative expression, through the use of technology.

In choosing this case, I followed *information-oriented sampling*. In contrast to random-sampling, it is a method in which a specific case (for example, extreme or atypical) is deliberately selected based on predefined criteria, or because it is a rich source of data for the phenomenon. Information-oriented sampling is especially appropriate for exploratory studies and situations where depth of information is valued over breadth (see e.g., Yin, 2003; Flyvbjerg, 2006). My initial interest was to examine a lower-secondary music teaching practice that explored the use of tablets. The 7th grade was chosen since it is one of the two school grades when students have compulsory music education with a subject music teacher. When I found out that the teacher in question, experienced in applying body movement in music teaching, was going to explore the use of iPads with the 7th graders, my curiosity was aroused. Also, the idea of integrating the use of tablets with composition and body movement drew my attention and interest towards the case. Thus, this particular case can be considered a key case. The study was also motivated by the project *The mobile possibilities of music education technology* (2014–2016) at the Sibelius Academy, which aimed to study and develop tablet learning environments in music education at various educational levels.

The experimental project in question took place in the 7th grade of basic education (lower secondary school) in the metropolitan area of Finland. The project consisted of 15 weekly lessons (of 45 minutes) of general music education in the autumn semester (August–December) of 2014 and January 2015. During that period, the students (13 years old) had altogether 19 music lessons, out of which four were either given by a substitute teacher or the lesson time was used for some other school activities. Though the students came from different primary schools, they all had participated in one general music education lesson a week during their six–year primary education.

Methodological premises, procedure, and analysis

From a theoretical perspective, when examining the pedagogical solutions and their justifications this study draws on the notion of *teacher's pedagogical thinking,* which refers to the purposiveness and justification of the decisions made in teaching (Kansanen1993). The phenomenon of teacher's thinking has been widely discussed and researched by numerous scholars (e.g., Kansanen, Tirri, Meri, Krokfors, Husu & Jyrhämä, 2000; Jones, 2008). Pedagogical thinking differs from other thinking: it has an educational function and instead of being routine-like, it is reflective. Moreover, in order to be pedagogical, thinking must relate to aims and objectives of a curriculum (Kansanen et al., 2000). More specifically, pedagogical thinking is thinking concerning the teaching-studying-learning process as a whole, or at least some parts of it. The essential elements include constant decision making, becoming aware, object-orientation, choosing between different options, and justifying pedagogical solutions (Kansanen et al., 2000; Jyrhämä, 2002). Making pedagogical decisions draw, among other things, on personal beliefs, values, (often implicit) teaching theory/content, pedagogical and practical knowledge, colleagues, the socio-cultural environment, etc.

In addition, the study relies upon the paradigm of teaching as a reflective practice (see e.g., Westbury, Hopmann & Riquarts, 2000; Westerlund & Juntunen, 2013; York-Barr, Sommers, Ghere & Montie, 2001), where reflection is understood as an ability to think on the basis, premises, and consequences of action on a meta-level, so as to engage in a process of critical analysis. Reflection is also viewed as enabling emancipation from routine performance and progress towards active and responsible active agency and lifelong learning.

Methodologically, the study was conducted using a multifaceted qualitative approach (Denzin & Lincoln, 2000), integrating techniques from hermeneutic phenomenology (van Manen, 1990) and case study (Stake, 2000). An interpretive paradigm, which in this case was carried out as a reflective analysis of the data, provided a means to interpret and analyse the teacher's articulations of her pedagogical thinking and the pedagogical processes. This general interpretative stance and the employed methodology belong to the interpretive hermeneutic-phenomenological tradition in which understanding and interpretation never merely grasp at a predetermined topic, but cover the co-existence in the world of subject and object through being-in-the-world (Gadamer, 1979: 98–103). Thus, reaching an understanding does not mean excluding one's own standpoint, prejudgements, or prejudices; rather, it requires an engagement with one's own biases and accepts the fact that we belong to some existing tradition which functions as a starting point, yet allows for new understandings. We can neither free nor distance ourselves from such a background, nor should we try (Bleicher, 1990; Gadamer, 1979; also Schwandt, 2000).

The ethical considerations were handled according to standard university research practice. The project started by asking research permission from the school principal. Then, participants and parents received an invitation and information and signed consent forms. The guarantee of anonymity, and promise that any participant could withdraw from the study at any time without consequence, were carefully explained. All students of the chosen class (N=18, 7 boys and 11 girls) agreed to participate. Three students had a non-Finnish ethnic background (one parent coming from another country), yet all of them spoke Finnish fluently. Most of the students had chosen this particular school because they live nearby. The socio-economic status of the people living in the neighbourhood in question can be considered, generally speaking, middle-class.

The data collection and analysis

The data for this article includes teaching observations, field notes, and teacher and student interviews. In my field notes, I included personal reflections, thoughts, and interpretations. My observations and field notes informed the interviews and have guided the description and analysis of the teaching and learning processes. The teacher interview was conducted at the end of the project in January 2016. In addition, after each lesson I had a short (about 5 minute) discussion with the teacher in which she reflected on her teaching and student participation. Student interviews were conducted in December (2014) and January (2015) in groups of 2–4 students,

after the group had finished their end product. Each session lasted 10–20 minutes. The interviews could be labelled as semi-structured interviews, since they started with general and open questions regarding, for example, the students' overall experiences, and moved towards more specific themes and questions. The structured questions concerned the students' perceptions of the various approaches of the project, and what had been interesting and meaningful for them. All interviews were recorded (mp3) and transcribed.

In the analysis of the interview data, I applied data-driven qualitative content analysis (Tuomi & Sarajärvi, 2012). The analysis started by reading through the transcriptions several times. After that I organised the data in categories according to the various stages of the teaching-learning process. In the data analysis, I was particularly interested in the teacher's and students' perceptions of the learning processes and their pedagogical meanings, as well as in the students' experiences of the process as a whole. For this article, I have only chosen some excerpts from the interview data, so as to bring forward the teacher's reflections on her pedagogical decisions and the students' experiences of the teaching-learning process. The quotes from the data have been translated from Finnish into English by the author. The teacher has read the research findings and approved them, which adds to the trustworthiness of the study.

Teaching stages and classroom activities

In what follows, I will describe the classroom activities (one teaching stage at a time) as observed and interpreted by me, accompanied by the teacher's reflections (uncovering the teacher's pedagogical thinking) on their goals and purposes. The *Teacher's* words are crafted from the teacher interview data and mostly includes direct quotes.

Aims of the project

The whole project was motivated by the teacher's interest in responding to the challenges of the new music curriculum (FNCC 2014), and in exploring the possibilities of using tablets in the music class-room and the ways in which their use can support student participation and creative engagement.

Teacher:

> *In the project, the iPads were used to facilitate creative activities and production that included music-and-movement improvisation and composition, combined with a video recording, and its subsequent editing to match the composed music. I thought that the use of technology would motivate especially boys' participation in music.*
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> *I did the project for the first time. It was motivated by the new (music) core curriculum of 2014, which puts emphasis on larger unities of studies, learning to learn skills, cultural participation, integration of subjects and issues, the use of technology, creative production, and music-and-movement. It was also inspired by my personal interest to explore the possibilities of iPads in the music classroom in ways that integrate body movement exercises and creative production (of music-and-movement) with the use of technology. I wanted to build the experiment on my earlier practice of starting music teaching and learning at the 7th grade by music–and–movement activities. There were no fixed lesson-specific plans with a timetable at the beginning. The project proceeded according to weekly achievements. Yet, I had the sequenced teaching "stages" in mind when starting the project.*

The teaching stages are listed in Table 1. Since the students progressed at their own pace after the preparatory stage, some student groups finished their work one or two weeks earlier than the others.

Stages	Activities
Stage 1	Preparatory, music and movement activities: social interaction, sense of rhythm, quality of movement, space-time-energy, listening, concentration, etc.
Stage 2	Laban's five basic body actions –› a four-bar movement composition
Stage 3	Composing a piece of music with the LaunchPad application
Stage 4	Recording video material applying the Laban's basic body actions
Stage 5	Editing the video with the iMovie application
Stage 6	Teacher's assessment, and students' self-assessment
Stage 7	Watching a compilation of the videos together, and feedback

Table 1: Activities in each teaching stage

Preparatory exercises

The teaching process began with (preparatory) music-and-movement activities, influenced by the Dalcroze and Orff approaches. These activities, which started almost every music lesson of the project and dominated the first four, included games with names, rhythmic exercises, and dances, as well as movement and vocal improvisation. In each lesson, the students entered the classroom in silence, formed a circle, and started to imitate the teacher's rhythmic body movements, which became gradually more difficult. The exercises were mostly carried out through non-verbal communication, and formed a process. At the end of each lesson, the students sat down on the floor, had a chance to ask questions, and were asked to reflect on their experiences, on the pedagogical purposes of the exercises, and on their learning. During the first lesson, the teacher also introduced the main objectives and contents of music teaching and learning for the whole school-year (these included participation, the ability to work and play in a group, respect for others, knowing the basic musical elements, keeping the pulse, proper use of voice, music listening, composing, and the use of technology – through a variety of styles of music).

The learning objectives of *using body movement* were musical, bodily, social, and psychological: to learn the basics of music (theory), be able to move rhythmically, feel comfortable in a group, and have the courage to throw oneself into creative activities.

More specifically, through the body movement exercises the students were to explore, practice, and experience:
- social interaction and knowing each other;
- rhythmic bodily skills;
- the body as a musical instrument;
- elements of music, such as pulse, meter, form, dynamics, and tempo;
- qualities of movement, such as sharp, long, relaxed, and steady;
- listening, watching, and attention skills;
- creativity through movement and vocal improvisation;
- time, space, and energy relationships in music-and-movement;
- concentration and being present; as well as
- presence of play and joy.

Teacher:

> *I always start my music teaching, as well as often each lesson, with body move-ment exercises. It a good way to activate students, make them feel comfortable in a group, and to get the music in the body. It is also for me a good way to see what they are able to do. I often integrate the use of voice and creative tasks with the movement activities. Movement helps to free the voice, and creative tasks through movement and voice help the students discover that they CAN create, they are creative. After the group activities I often make them reflect on teaching and learning as a way to make them understand why certain things are done.*

Laban's five basic body actions

The second stage of the teaching process overlapped with the first one and included exploring Laban's five basic body actions: locomotion, turn, jump, gesture, and still-ness. First, the students improvised and played around using these various body actions and then, each student constructed a four-bar phrase of movement (in 4/4 meter) that included all five body actions (moving through space). After making the "movement composition", the students were asked to find a partner and co-construct a movement composition collaboratively, by moving (showing, imitating, changing, creating) and talking.

Teacher:

> *By practising Laban's five basic body actions the students can explore a large variety of movement qualities, and thus expand their movement vocabulary. The body actions offer them good and quite manageable material for movement improvisation, and they are also fun. In addition, the movement sequence–as other movement exercises as well–is a good preparation for instrumental playing and performance.*

Composing music with the LaunchPad application

In the third stage of the teaching process, the students started to work in small, self-selected groups and use the tablets (having one device for each group). All groups were formed along gender lines, and included 2–4 students with the exception of one boy working alone.

From this stage onward, the students worked autonomously according to assignments given by the teacher. However, the teacher was available whenever the students needed help. First, the teacher briefly introduced the LaunchPad application[3]. The students were expected to discover the variety of possibilities within the application by themselves. Then, she gave them instructions to compose a 30–60-second-long piece of music using the loops (pre-recorded extracts of music in different styles) and effects available in the application. The composition was presupposed to include three parts: a beginning, a middle section, and an ending. This stage required musical co-construction. The composing included making choices from the numerous possible solutions, linking and processing loops, and adding effects; in sum, the students were experimenting with sounds and music, and piecing together a jigsaw in which the choices were made on impulse based on personal sensation, impression, and taste, as well as on skills of selecting appropriate sounds for the already composed movement.

Teacher:

> *Since most music teaching happens in a big group, working in small groups is refreshing and enables the teacher to "see" each student more personally; it makes each student's agency more visible. It is also important for the students to learn to work both in a big group and a small one, that enables better learning from each other.*
> *When introducing the LaunchPad application, I did not explain so much the use of the application, I wanted to let the students experiment freely and find out by themselves.*

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3   The LaunchPad application for iPad or iPhone can be applied to compose music by making and remixing loops and sounds, beats, and electronic music from a variety of genres, and then to record and share the performances.

Recording the video material

In the fourth stage, the students' task was to record video material, incorporating both movement elements from the previously learned Laban's five body actions and movement phrases practised earlier. Although only a few of the original movement compositions were used as such in the videos, they formed a body of supporting material for the final movement compositions. The students were totally free in making decisions. As a consequence, the videos were recorded in a large variety of spaces in the school building, and in some cases also outside. Some videos ended up following a story line, while others were more abstract. In some cases the movements aimed to express the composed music, while in other cases the connection between the movement material and music was looser.

Teacher:

> I wanted to give the students as much freedom as possible. And they were really creative!! I did not want to be too strict either regarding the use of movement composition as such or even the use of all the five body actions.

Editing the video

The fifth stage of the process included editing the video material and making it fit the composed music; this was accomplished by using the iMovie application, which the teacher briefly introduced. When the video was ready, the students showed it to the teacher, who chose not to criticize the students' work but only to give positive feedback, along with some suggestions regarding how to improve the video or reconsider certain choices. She also guided the students to reflect on their videos by articulating and making the students aware of some of the decisions they had made during the production process.

Teacher:

> This was technically a challenging stage: how to transfer the sound and movie. It is a shame that many applications do not yet "communicate with each other". It is a challenge in this kind of project in which you have to use tools and applications that are easy to access in a school context.

Self- and teacher-assessment

The sixth stage included self- and teacher-assessment. After finishing the video, the students wrote self-assessments in which they described and reflected on the activities and choices they had made during the entire process; in addition, they assessed their participation, learning, and the whole teaching-learning process by answering a questionnaire. They also graded themselves (on a scale of 4–10) and were invited to offer ideas and suggestions for future lessons and projects. The teacher graded each student's performance by paying attention mainly to each student's active engagement and commitment to the project.

Teacher*:*

> *I think that it is very important that the students reflect on their experiences and learning, become aware of the things they learnt, found difficult, or would like to do differently, give themselves a grade, etc. This kind of self-assessment is becoming ever more important in basic education. It also helps me as a teacher to assess their participation.*

Watching the videos together

In the final session (stage 7), the students watched a compilation of videos together with the teacher. In this session, the teacher gave positive feedback (on worthy issues) and guided student self-reflection by making the students aware of their choices, as well as their successes and possible shortcomings.

Teacher:

> *I wanted the students to be able to see all the videos. I think this was an empowering situation for them and strengthened their sense of ownership–they all seemed so proud of their products. It was also nice that everyone appreciated the other students' accomplishments. The video as an end-product, but also the process as a whole, made each student's musical and creative agency visible. As I was guiding students in small groups, I got to know them and their strengths much better than when working in a big group.*

Pedagogical principles and student experience

Through reflective analysis of the data, I have identified the following five main pedagogical principles which guided the project and make explicit the teacher's pedagogical thinking: (1) Everyone is creative; (2) Gaining musical knowledge through embodied learning; (3) Enhancing social cohesion and inclusion through group music-and-movement activities; (4) Composing as a collaborative and self-regulated process; and (5) Empowering agency and ownership through making a (music video) product. In what follows, I will discuss each pedagogical principle followed by articulations of and quotes from the student interview data as expressions of student experience. The students' names are fictive.

I: Everyone is creative

The teacher's starting point for composing and other creative activities was that everyone is creative, supported by a socio-personal perspective (Burnard, 2012). As Odena (2012b: 440) points out, this belief in the potential of everyone to be creative and act creatively "provides a paradigm within which student agency can be promoted".

Because the students did not have previous experiences of composing, it was approached through improvisation and exploration. Students were not taught how to create or compose, but were allowed to create quite freely within a set of rules. Thus, the composition process could be called *guided exploration,* having "exploration and experimentation" as the guiding pedagogical principles (e.g. Davenport, 2006). The meaning of exploration and elaboration in composing, particularly in the initial compositional phase, has been highlighted by several researchers (e.g. Barrett, 2006).

The students enjoyed being allowed to create freely, to explore, invent, and make decisions according to their own choices. They were also proud of themselves for having been able to throw themselves into the creative activities. Both the observations and interviews show that the creative activities fostered a sense of creative agency amongst all the students.

II: Musical knowledge as gained through embodied learning

The teacher considered the understanding of basic musical knowledge (such as finding the pulse, feeling/knowing the meter 4/4, phrasing, form, rest, and dynamics) as important and useful for composing. This knowledge was approached though embodied

experiences, integrating body movement with listening, singing, and improvisation by applying Orff- and Dalcroze-inspired activities and ideas of learning, reflecting the principles of embodied learning.[4] (These exercises were also designed to prepare the students for instrumental ensemble playing.) Since the students did not have earlier experiences of composing, movement and vocal group improvisation exercises were perceived as a meaningful introduction to it. The exercises were not connected to any particular styles of music, and did not directly link up with the music material used for composing.

In the interviews, the students expressed that the exercises integrating music and movement had helped them, for instance, feel the music in their body, become aware of the rhythms and structure of music, and understand some basic elements of music. These are examples of the students' comments:

Anthon: *I hadn't done this kind of music-and-movement exercises before, so at first they seemed odd. But I think that the rhythmic exercises helped me to understand, for example, pulse, meter, and phrasing.*

Lily: *It was easier to remember the elements of music through active participation and movement than by only trying to understand them. When you repeat the rhythmic movement exercises, you gradually become aware of what is wrong in movement in relation to music. You repeat the same thing, but still it changes all the time.*

Emilia: *It was an eye-opening experience to realize that it was possible to make music with a moving body, without an instrument. The rhythmic movement exercises helped me find the rhythm of music and movement as well as to combine them. They also helped in counting in four and identifying the structure of music, the meter and the phrases.*

Martin: *I guess I could say that the movement exercises improved my sense and understanding of rhythm, which helped in inventing and creating both*

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4   Embodied learning takes place within the entire human being; it is learning from the experiences of interaction of self with the physical and social environment through the senses, perceptions, and mind-body action and reaction (Kerka 2002).

music and movement. The exercises also helped in keeping a steady pulse… After the exercises, I felt like I could compose without thinking,

III: Enhancing social cohesion and inclusion through group music-and-movement activities

Since the students came to the lower secondary school from different primary schools, making the students know each other and feeling good in the group were important goals throughout the project. Therefore, the preparatory movement exercises were designed to create a safe and encouraging environment for composing as well as to strengthen social cohesion. Most students expressed that the exercises had helped them know each other, "feel comfortable in the group", overcome self-consciousness, and be able to "throw oneself into creative expression". Based on the interviews, social integration and getting to know each other was especially important for the boys. For them, movement activities were also a new kind of way to build contact with the girls, which at the same time was a challenge for them. The following quotes express the general feeling among the students.

Pia: *Bodily approaches helped me feel comfortable in the group, they helped me get to know the other students and their names, which eased the feeling of fear… They also helped to form the group and made it unified.*

Alicia*:   We learned to laugh at ourselves when making mistakes. This in turn created a team spirit.*

Anthon: *We did not know each other before, so the music-and-movement exercises in particular helped (us) to get to know one another, also those students with whom you wouldn't otherwise have probably any contact with, like the girls.*

Antti: *At first, I did not want to participate since I did not know the others. It feels embarrassing to move and express things in front of the others when you do not know them. But now that I know everyone I participate fully, everyone does.*

The more experience the students had with the movement exercises, the more they were able to enjoy the exercises and the more comfortable they felt in the group. However, not all students found these movement exercises comfortable or useful. There were two boys who did not feel comfortable in the group. One had moved recently, did not previously know any of his classmates, and was not able to make friends in the group. The other did not find a boy partner in movement activities since there was an off number of boys, and did not have anyone to work with in collaborative activities. The teacher was aware only of the second case, but thought it was okay for the student to work by himself. In both cases, social exclusion was interconnected with a negative experience of the project as a whole.

IV: Composing as a collaborative and self-regulated process

In the project, the teacher wanted to explore autonomous working in small groups. Composing and making the video were based on collaborative ways of working, reflecting the socio-cultural foundations of the project (see e.g., Burnard, 2012, 2006; Partti, 2014). In these collaborative processes, the students worked autonomously, monitoring, directing, regulating, and afterwards evaluating their actions as they progressed towards the set goals, which reflects the principles of self-regulated learning (e.g., Paris, Byrnes & Paris, 2001). The teacher offered a minimum amount of guidance, for example in using the applications, in order to promote "learning to learn skills". This was criticized by some students, who would have wanted more guidance. All of the students enjoyed and were motivated by having an opportunity to experiment and work autonomously in a small group, although finding a proper, peaceful space outside the music classroom was sometimes a challenge.

Lily: *I liked working in small groups; it was a good solution. It was also good that we could choose our partners. As a consequence, everything worked easily in the group. We did not have any problems with suggesting new ideas, commenting on others' ideas, building our own ideas upon them or taking turns when using the iPad, etc.*

Lea: *I would rather work collaboratively in a small group than alone or in a large group. However, I would have liked to receive more instructions for using the application. Finding out by ourselves took too much time from the process, and thus in our group we were left behind the other*

groups, especially since many other students knew better how to work with the applications.

When working in the small groups, the students seemed motivated, and the collaboration had a good flow. There were no issues with classroom management. The students did not have problems with suggesting new ideas, commenting on others' ideas, building their own ideas upon others' ideas, or taking turns using the tablet, etc. The small disagreements in one group were solved constructively:

Pia: *In our group, we had small disagreements, which we however solved by including and combining all the suggested ideas instead of rejecting any of them. Thus, we also learnt a lot about interaction and collaboration as well.*

V: Empowering agency and ownership through making a music video product

The end-goal of the project was to prepare a music video. The tablet served as a functional and easy tool for beginner-level composing and other creative production. Making the video enabled creative and multimodal expression, often absent in students' experiences in music lessons. As the teacher stated, the video as an end-product, but also working in small groups, made each student's musical and creative agency visible. The students enjoyed working on a creative project, which was considered an unusual but welcome practice in the music classroom. Some students even continued the project voluntarily after the school hours. It was interesting that the students appreciated the creative collaboration in itself, the corporal nature of the making, even more than the final product. The students stated:

Susan: *It was fun to first record the video material and then to combine it with the music – to make your own composition and video! We never did anything like this in primary school, and I hope we will do more things like this in the future.*

Tim: *The project has not felt like school-going, since it was so nice to work autonomously. I hope we will have other kinds of projects later on.*

Leo: *Composing was fun! When we started to work with the iPad, it was espe-cially inspiring to decide yourself what to do and where! I even continued the project in my free time after the school hours.*

Max: *Making the video for the music was particularly fun since you could decide yourself what to do…. And you did not have to stay in the classroom all the time.*

When watching the video compilation together, it was observable and evident that the students were proud of their music videos – of being able to make one and show it to others. Thus, the project seemingly empowered their sense of agency (see also Juntunen, 2015a) and offered an experience of ownership of creative production.

Discussion

The main purpose of the project was to promote students' participation and crea-tive engagement though the use of technology in a music classroom. Composing is a current and challenging issue in music teaching at school, especially in countries like Finland, that are trying to better incorporate composing in music classroom activities. Meanwhile, the pedagogically meaningful use of ever more complex and continu-ously developing technological tools and applications is a big challenge for teachers in numerous countries. In the project under consideration, the teacher broke the normative approaches to composing and the use of technology by integrating them with body movement and expression, which linked music composition to wider areas of multimodal and embodied learning and expression (see Juntunen forthcoming). The movement and vocal improvisation exercises also formed a bridge between more "traditional" music-making and the use of technology.

Making students compose by combining loops raises critical questions about the *aims* of teaching composition. In this case, however, teaching composition was not the teacher's primary concern. Rather, she wanted to offer the students approach-able exercises, an inviting environment, and multiple ways for creative exploration. The main focus was not on the quality of the end-product, nor the skills learned, but on encouraging participation and positive student experiences of composition that were conceived of as enhancing and empowering the students' active and creative

musical agency. Whether this is a sufficient goal for composition education at school can be discussed further.

Style of music received little attention in the project. The LaunchPad application restricted the choice of musical material in music composition to using loops of what could be called commercial, electronic music. However, this choice was not a result of the teacher's genre-based values, but rather on what was easily available and usable in the application. Yet, the music was close to the real-world music of the students, linking to the aesthetic and cultural practices of their youth culture.

The teacher's initial goal was to experiment with the use of the tablet in a music classroom. The device appeared to be an easily manageable technological tool that enabled autonomous and collaborative creative production without, for example, requiring any extensive previous musical knowledge. Although for the students the use of the device itself was not of particular interest, almost all of the students stated that using tablets had motivated their participation, especially in the beginning. Thus, this study supports earlier findings that the use of technology in teaching motivates student participation (Salmela-Aro, 2015), and that creative tasks can give a clear focus for its use (Savage & Challis, 2002). There were hardly any differences in the ability or attitudes towards the use of technology between the boys and girls. As in the project of Savage & Challis (2002), the students valued the opportunity and challenge to express ideas in new ways and through new media.

During the composition and editing processes, the students worked collaboratively in small groups formed within friends, which resulted in co-creation, a quality of teaching that is considered essential for empowering individual learning and creativity and contributing to productive learning experiences (Beetham & Sharpe, 2013). The study supports previous findings that the social factor of friendship or friendship groupings positively assists in the production of compositions (Burland & Davidson, 2001; McDonald & Miell, 2000, also Faulkner, 2001). In this study, positive experiences of creative production were strongly interconnected with social integration and inclusion, whereas negative experiences were interconnected with social exclusion. It is alarming that the teacher was not aware of the two students' negative experiences, which reminds us of how crucial it is to be concerned about the social relations and dynamics in the classroom, and to be interested in student experience, especially when creative tasks are in question.

As I noted earlier, the practice of having students compose in a music classroom faces challenges. In this project, the biggest challenges were related to use of time and space, technical issues, and pedagogical approaches. All participating students reported that insufficient time and the lack of any possibility to work for longer periods at a time (beyond the designated 45 minutes per week, or hour-per-week) had hindered their creative work. It was also difficult to find suitable spaces in the school building for working in small groups. The teacher was often frustrated during the project with problems of communication between the various applications. Also, she did not have any earlier experience or pedagogical models of classroom composing. Especially for that reason it is increasingly important that music educators critically but fearlessly explore and develop pedagogically meaningful ways to enable composing and apply (new) technology in music teaching and learning in order to motivate, inspire, and engage students in musical learning. After the project, the teacher offered her "model" for other music teachers to apply and further develop, which is a laudable and recommendable practice for in-service training.

Conclusion

A greater use of socio-digital technologies at school is suggested to promote student engagement at school (Salmela-Aro, 2015), since it is considered to motivate students to participate, to offer new kind of interaction, and to help students find school-going more meaningful. On the other hand, as stated earlier, in music education as in education in general we lack pedagogical approaches to use technology in a meaningful way. This article examines and brings forward one practical example of a teacher's effort to find new ways to apply technology in a music classroom and promote student engagement in creative music making. Thus, the study contributes to the construction of the "technological [as well as compositional] pedagogical and content knowledge for music teaching and learning" (Bauer, 2014: 12). As Himonides (2013) and Savage (2012) urge us, we as researchers in music education should continue to examine these kind of pedagogical endeavours, since through exploring meaningful and effective educational possibilities as well as the possible negative effects of the use of technology in music education, new pedagogical approaches may emerge. It is also important to continue the ongoing Nordic and international (critical) discussion among researchers about creative music education practices. These is turn will further aid in developing music teaching, teacher education, and curricula in these areas.

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