ISSN 1691-2721
eISSN 2501-0158

Daugavpils University

PROBLEMS IN MUSIC PEDAGOGY

Volume 20(1), 2021

PROBLEMS IN MUSIC PEDAGOGY

Volume 20(1),2021

Problems in Music Pedagogy is an international refereed journal concerned with all aspects of music pedagogy. Topic areas include music teaching/learning process in a new education paradigm context, music learning outcomes, assessment in music pedagogy process, music teaching and learning activities, music teacher competence in the context of sustainable development, music education institutional responses to current trends. The journal is committed to promoting excellence in these fields by providing an international forum for the debate and evaluation of a wide range of music pedagogy issues and professional concerns.

The journal aims to publish articles which will contribute to improving theory and practice in the field of music pedagogy.

These articles may variously:

- raise and debate contemporary issues;
- report on new research;
- relate new research to theory;
- relate theory to practice;
- offer informed comment on contextual and professional matters;
- describe cases and their implications for a wider field;
- discuss a historical movement in terms of its relevance to present and future situations.

The articles appearing in the Journal are indexed and abstracted in **EBSCO, ERIH PLUS, ProQuest.**

Journal webpage: **http://pmp.du.lv**

ISSN 1691-2721

EISSN 2501-0158

ISSN 1691-2721
EISSN 2501-0158

Daugavpils University

PROBLEMS IN MUSIC PEDAGOGY

Volume 20(1)•2021

PROBLEMS IN MUSIC PEDAGOGY

VOLUME 20(1), 2021

CONTENTS

EDITORIAL

Dear readers,

I am happy to offer our readers the new issue of the journal containing articles of different character, where the authors describe the process and outcomes of their research studies. My special thanks go to the Finnish colleagues who willingly share the results of their three research papers with the readers.

Digital era has brought about a profound change in cognitive processes leading to a gradual transformation of the whole pedagogical paradigm. Crucial changes in educational sciences involve moving away from teacher-centred paradigm towards the socio-constructivist learning. In turn, changes are taking place in the content of music education as well as in the methods of teaching/learning music. Siiri AHTOLA and Antti JUVONEN (University of Eastern Finland) stress that a modern music teacher needs both traditional skills in music education as well as technological skills. This means that new elements of music education lead to new paths that offer pupils more opportunities for self-expression and natural creativity. Finnish researchers characterise the new productive music paradigm as such that considers pupils' own musical interests, offering pupils opportunities for creative activities through composing, arranging, producing their own music, and using technology in versatile ways.

Music has very comprehensive impacts on human beings, it helps controlling emotions, and it expresses values and gives us a feeling of togetherness. Music education plays an essential part during adolescents' identity building processes. Ehe study of Stia-Reetta PELLINEN and Antti JUVONEN (University of Eastern Finland) focused on examining what kinds of musical identities young people's musical experiences produced. Authors concluded that most of the respondents saw school music lessons as weakening their interest in music, although the significance of music was strong in their life. This raises question about the content of music lessons: How could they be developed to be more suitable for pupils' experience of the world?

Raising two research questions (To what extent does the Mozart effect impact children? If we can replicate the Mozart effect, which mechanism can produce the Mozart effect?) Mingyujia DAI and Nigel A. MARSHALL (University of Sussex, United Kingdom) attempted to explore the impact of the Mozart effect on children, and tried to understand the mechanisms behind it.

The aim of the educational developmental study by Eveliina NIKALI, Antti JUVONEN and Inkeri RUOKONEN from Finland was to develop optimal multidisciplinary studies in music education for class teacher education at the University of Turku, which could

respond to the work requirements of future teachers. Participants (student teachers) of the study offered many new ideas for the development of aims and content of the music study modules: an open and encouraging learning atmosphere, individual practicing and surviving in music teaching in the classroom etc.

I am grateful to the authors of the articles for their contribution to the development of theory and practice of music education. I hope that the ideas presented by the researchers in this issue will inspire our readers' reflections and practical actions on caring for the new generation in the 21st century.

Editor-in-chief
Jelena DAVIDOVA

TOWARDS A PARADIGM OF PRODUCTIVE MUSIC EDUCATION

Siiri AHTOLA

University of Eastern Finland
siiri.ahtola@uef.fi

Antti JUVONEN

University of Eastern Finland
antti.juvonen@uef.fi

Abstract
A major change has occurred in schools, in teacher education and in general in Finland as well as other western countries. The latest Finnish national core curriculum emphasizes the importance of offering the pupils regular opportunities to compose, create music together and improvise (National Core Curriculum for Basic Education, 2014).
This article investigates the use of new technologies in teaching productive music education and explores the attitudes and conceptions of students specializing in music regarding the new ideas of productive music education (which presented in the article) and how to use them. The research was carried out among a group of students (N=8) specializing in music at the School of Applied Educational Science and Teacher Education of the University of Eastern Finland in Joensuu. The results clearly show a significant need for productive, pupil-centred education and add support to earlier research in defining a new direction and paradigm for music education for the future.
Keywords: *ICT, music applications, productive music education paradigm*

Background

In Finland, crucial changes in thinking have emerged in teaching mainly based on recent research highlighting the importance of emotional skills and of transforming the teacher's role from being a distributer of information and knowledge to one in whom they see a supporter and learning partner. This means moving away from teacher-centred learning towards learning through the pupils' own preconditions and skills and building knowledge according to the socio-constructivist learning concept in which pupils construct their own understanding. This is reflected in schools, teacher education and the whole society, which are moving towards creative solutions as is also required by the 2014 national curriculum (National Core Curriculum for Basic Education, 2014).

The Changing Paradigms

A paradigm is usually a commonly accepted system, a way of thinking, or direction. Generally, a paradigm refers to line of thought in scientific thinking or other epistemological points of view. In everyday speech, a paradigm means a theory or framework that is seen to be right and is generally accepted and has an authoritative position. Broadly, a paradigm refers to the way knowledge is gained (earlier religions, currently empiricism). More narrowly interpreted, a paradigm can refer to the central theory of a certain discipline. The term comes from the Greek *paradeigma* (παράδειγμα), meaning epitome or example (Liddell & Scott, 1940; Kiikeri & Ylikoski, 2004).

Paradigms change very slowly and almost unnoticed by most people. Many changes take place at the same time in pedagogical thinking, curriculum planning, learning research, technological development, and in the minds and thinking of teachers. The atmosphere in the classroom and the school can alter slowly, partly due to changes in the curricula, but more frequently, due to general changes in society. This is the current situation with respect to Finnish school music education. One reason for the changes has been the direction of development in teacher education with several studies arguing that future Finnish class teachers face considerable challenges in teaching music education at the lower comprehensive school level due to spending cuts imposed on the teaching of arts and crafts. The reason for cutting these subjects is easy to discern - national economic indicators cannot directly measure their benefits. Life enjoyment and happiness are qualities that arts and crafts produce and cannot be measured. The changes have made teachers eager to seize any opportunities that might assist their teaching in the challenging current climate and one of such opportunities has been the use of technology in teaching. At the same time, the significant development in music (teaching) applications has expanded the scene of music making, producing, and learning.

The change in the paradigm of music education is reflected not only in Finnish music education practices but also at the national curriculum level (see Juvonen, 2004). Changes are taking place in the content of music education as well as in the methods of teaching music in school. These changes are based on strong research results as well as on changes in teachers' thinking. The net result is a radical move away from traditional, *re*productive music education towards *productive* music education.

Traditional Finnish music education involves learning music theory, music history and note writing, as well as possibly solfege and music aesthetics, in a teacher-directed manner. It also includes learning to sing and play already composed songs by classical composers suited for school use as well as playing and making cover versions of popular songs and melodies in classrooms. In traditional Finnish school music education, a rather small role has been given to pupils composing their own melodies or songs, making their own rhymes, or inventing new rhythmic structures, not to mention creating entire songs in any musical genre or style of their choice during music lessons. Research has also shown that Finnish music teachers need additional training in the versatile use of technology in music teaching. This research suggests that teachers have sensed a shift away from the traditional paradigm, but in their struggle to meet the everyday challenges of the classroom have not realized the full extent of the changes in Finnish school music education paradigm as a whole. The traditional

approach to music education is what we here call the *reproductive music education* paradigm.

By the concept of *productive music education*, we refer to music teaching where something new is created during the music lessons and at home, instead of reproducing, i.e., rehearsing and performing previously composed works (as is done in traditional music education). While creative music making and productive music education are not new phenomena, their non-implementation in the classroom has long been the standard practice.

The teaching of the essential elements of productive music education practices for the use of future class teachers in Finnish teacher education varies considerably depending on the university. Resources for contact teaching in universities have dwindled over the years and Covid-19 has shown that teleworking will be present in our future teaching. On the other hand, it is impossible to teach multidisciplinary subjects entirely remotely. Traditional music education places a strong emphasis on singing, learning music theory and history, and the pedagogy of musical instruments, but the tools for use of technology and creative work in the music class must be provided.

The exploration of creativity through productive music education might be in the form of improvising on given harmony base with xylophones, drawing on five existing tunes to compose a new melody on a traditional Finnish kantele, making a drumbeat with an iPad and a music app, or creating a soundscape for a fairy tale or story, the possibilities are innumerable. The essential idea of productive music education is to offer activities in which something new is produced, whether by improvising, arranging, composing or lyricizing music. The opposite of this is reproductive music education: singing and playing songs that have already been composed. However, arranging old songs to create new, individual and personal versions can include elements of productive music education. The two approaches are, therefore, not in complete opposition to each other.

Productive Music Paradigm in Light of the Finnish National Curriculum

The change towards a productive music paradigm, which has been evident in Finnish teacher education for the past ten to fifteen years, has also made its mark on the Finnish national curriculum. The new National Core Curriculum for Basic Education (2014) emphasizes versatile music education, functionality in the classroom, considering pupils' own musical interests, offering pupils opportunities for creative activities through composing, arranging, producing their own music, and using technology in versatile ways.

The aim of the curriculum planners has not been to rule out former practices, but rather to change the focus of music teaching. The change towards producing new music independently in music lessons is a significant shift in the direction towards a new kind of education. The children improvise with the instruments found in the class (e.g. drums and other percussion instruments, xylophones, keyboards, pianos, kanteles, ukuleles and guitars), produce soundscapes themselves, compose songs, write lyrics to songs and rhymes, record and edit music. In addition, a significant time factor is eliminated, as pupils do not need to be able to analyse chords, mark time signatures or write notes

in order to be creative. These creative elements form the essentials for a productive music education.

The use of technology in creating, arranging and performing music has also found a footing in the national curriculum. The use of information and communication technology in teaching has been added to the goals from the very first grade, which in turn adds new skill requirements for teachers. By utilizing technology, we can diversify the learning environments and differentiate teaching to meet the wishes and needs of the pupils in even more versatile ways.

The Finnish National Core Curriculum for Basic Education (2014) emphasizes the development of thinking and learning skills, and accordingly teaching should stimulate pupils to explore and creatively work together, to enable and allow deep concentration in order to develop learning to learn skills. The teacher should encourage pupils to trust themselves and their choices while being open to new insights (National Core Curriculum for Basic Education, 2014). This aligns with the core ideas of the productive music education paradigm. Everyone can compose, write lyrics, and create something new, and each pupil in every class grade should have a safe atmosphere in which to express their own ideas in a group (Muhonen, 2016; Veloso, 2017). Nevertheless, it is important to recognize, that there may be students in the class who have already adopted the identity of a "non-musical person" (Muhonen, 2016, 275), and in those cases support and motivation from the teacher are extremely important.

Composing songs can develop a wide range of musical skills, including playing, singing, listening, and creating music; skills which facilitate not only learning musical concepts, but also developing a means of expression. From the earliest years onwards, the teacher should regularly provide opportunities that enable varied music making, facilitating the development of the child's expressive skills. This means working with sound and music, composing, producing songs, and other creative product. In grades 1-2, pupils' musical creativity, aesthetic and musical understanding should be fostered by creating situations in the classroom, where pupils can design and implement different sets of sounds, as well as use their imagination and ingenuity alone or in groups. The aims set down for teaching clearly state that the teacher should make room for the pupils' musical ideas and improvisation and guide them to design small-scale compositions or other sound ensembles using, among other things, technology (National Core Curriculum for Basic Education, 2014).

The goals of the Finnish national curriculum for music teaching in grades 3–6 strongly emphasize participation, collaboration, communality, and being a member of the group. Pupils learn to work in a group, creating a sense of togetherness and respect for the experiences and products of others. The ideas of productive music education thus offer a high level of interdependence and the development of collaboration skills.

According to the curriculum, in grades 3–6, a child's musical knowledge and creative production have developed in many ways, offering the child opportunities for holistic expression through the skills of playing and singing, music theory and history, exercising, and listening (National Core Curriculum for Basic Education, 2014). The goals laid out in the curriculum emphasize diverse learning environments, interaction situations, and collaborative music making, which are of paramount importance with respect to the ideals of productive music education.

Music teaching should always consider different learners and their needs. When the teacher has a wide range of tools to promote playing together, creative activities and sufficient skills to utilize information and communication technology, it is easier to differentiate and consider the needs of the pupil.

'I don't understand music and I definitely can't sing or play anything' is a commonly heard statement in teacher education, in schools, among pupils, and among people in general. To understand music, one does not need to know counterpoint or music theory, the history of music, or be a skilled instrumentalist. Understanding music means experiencing different emotions, imagining, or seeing issues inside one's own mind. Music has multiple effects on the mind and body. Messages can be sent through music, and it can be enjoyed in very many ways. It is seen as a part of general intelligence, and it has connections to verbal and mathematic abilities. Listening to music can affect mood and energy levels and is used as a means of therapy and rehabilitation. Music has short- and long-lasting impacts on the human brain and promotes divergent thinking processes (e.g. Kurkela, 1993; Harris, 2009; Lehtonen, Juvonen & Ruismäki, 2011; Hudziak et al., 2014).

From the point of view of music education, creative activity in the music class does not require musical talent; everyone is seen as capable of creating something new. However, whether the pupil is musically untrained or advanced, the approach of productive music education offers joy and challenges to everyone within his/her own skill level.

Overview of Technology Use in Finnish Music Education

Music technology with its devices and applications has evolved tremendously over the last decades. It is possible to make music even if the user has little or no theoretical or practical knowledge or instrumental skills. A vision of how you want the music to sound and some basic IT skills are all that you need. The result can be novel music that sounds like produced in a studio with real instruments.

iPads can today be found in most Finnish schools and pupils are experienced information seekers even if using nothing more than a smartphone. Several applications that can be installed on iPads can also be downloaded to smartphones and can be used in diverse ways in music lessons. It is easy to tune guitars and ukuleles with a tuner loaded onto a phone, or practice scales and chords with applications for studying music theory, pupils also use the GarageBand application with Bluetooth connected rings, and get to know music cultures by making music using Music towers, which give the opportunity to choose the most suitable instrument (vocal, acoustic instruments, keyboards, electronic string instruments, electric drums, mobile device applications) and participate in collaborative music making. Users can select either stand-alone or group listening mode from the required study format and save their work for learning assessment. A music tower can be attached to the classroom's sound system where it acts as a natural part of the collaborative music making of the class. It enables working as a 'silent band' with shared listening mode and different instruments.

Pupils can also create catchy drumbeats, practice band instrument skills with a variety of pedagogical applications, and record and edit self-made songs; the list could go on

indefinitely. In addition to various types of making music, it is ideally suited to a creative musical work and composition. Music Tower learning environments are already used in several Finnish schools and music schools.

Of the music-making programs, GarageBand is originally a computer-based music recording and editing program that has established its position in Finnish music education in the field of music technology. Today, GarageBand is a commonly used application on iPads and iOS smartphones. However, many other applications have entered the market that is also pedagogically beneficial (e.g. Samplebot, Launchpad, BandLab).

The use of iPads in music education has generated much discussion, since not all teachers perceive them as musical instruments and consider them inferior to traditional instruments. However, according to the Merriam-Webster dictionary (n.d.), a musical instrument is a device intended to produce sound. When we look at the violin and the iPad, for example, we realize that these are two completely different instruments, but the purpose of both in the context of music education is to produce sound. Williams (2014) has provided six illustrative examples:

1. In the hands of the right person, an oboe can be played beautifully. In the hands of the right person, the iPad can be played beautifully. Both can be used to produce great music.
2. The oboe in the hands of the wrong person can play badly. In the hands of the wrong person, the iPad can also play badly.
3. To make the oboe sound beautiful, the player must practice. For the iPad to produce beautiful sounds, its use must be practiced.
4. Both instruments require technical expertise. Practising technology develops musical skills.
5. Both instruments have their own limitations on what they can play. They work great in some situations, while in some others they do not.
6. There is no sound from the oboe without touching it. iPad does nothing without touching it. Both instruments are inanimate objects (p. 94).

Both instruments are most often at their best when used in conjunction with other different instruments. Many teachers say that they do not want technology to take too much time away from the teaching and use of acoustic school instruments. By school instruments, we mean instruments found in a typical Finnish music class (e.g. band instruments, percussion instruments, kanteles, ukuleles, classical guitars, recorders, and keyboards). Ideally, technology and school instruments go hand in hand. At its best, the music class offers the opportunity for creative musical experiences that combine both technology and all traditional musical instruments.

On iPads, making music with different applications has been found to be a great tool for implementing elements that are essential for fulfilling the ideals of the productive music education paradigm, like composing music, improvising, and making new soundscapes. In addition, the research has shown that iPads and their applications provide a great channel for playing together and creative activities for pupils with motoric challenges, handicapped pupils, autism spectrum patients and pupils with difficulties in concentration (e. g. Cumming, Strnadová & Singh, 2014; Hillier, Greher, Queenan, Marshall & Kopec, 2016).

A Challenge for Teacher Education

Teacher education also faces a challenge of enabling teachers meet the curriculum requirements through new ways of making music. Traditional teacher-directed teaching with traditional methods is no longer enough; functionality and creative learning environments are the modern keys to effective music education.

Universities responsible for teacher education in Finland have increasingly included the elements essential to productive music education in their course offerings. University programmes currently include more music technology, improvisation and arranging than previously. At the University of Eastern Finland, the pedagogy of composition has been included in subject-didactic studies and interdisciplinary creative projects, for example.

In 2016, Partti and Ahola published the book *In the Footsteps of Composer* that deals extensively with creative music education in the context of the Finnish school world. A nationwide survey conducted by the writers in 2014 revealed the priorities, strengths, and shortcomings of Finnish school music education. According to the study, singing and playing were present in music lessons, but less than one-sixth of teachers said they included improvisation (alone or in a group) in their teaching. The share of composing was even smaller, with only 5% of teachers reporting that they include composing in their lessons on a regular basis (Partti & Ahola, 2016, 46). The difference for teaching invested in singing compared to improvisation and music composition is thus huge and can be seen in the survey reported in this article.

The Changing Field of Music Education

The field of music education has changed remarkably during the last decade, bringing new challenges for teachers. The allocation of resources to music class, teacher education is under pressure and varies considerably between universities, and, according to several studies, many teachers feel incompetent to teach music (Juvonen & Anttila, 2008; Suomi, 2019; Mäkinen, 2020).

Although the curriculum (National Core Curriculum for Basic Education, 2014) emphasizes the essential elements of productive music education, they have yet to flourish at the classroom level to the extent that they should. The music played in music classes, listening education, and music analysis still have a strongly traditional focus on previously composed works and cover songs.

The main elements of productive music education have been included in the curriculum (National Core Curriculum for Basic Education, 2014) as equally important parts of teaching alongside traditional reproductive music education. However, a minority of Finnish schools have started to guide their music education in this new direction. The challenges that teachers meet are, above all, familiar ones: large group sizes, insufficient tools for implementing the elements of the new music education paradigm, time management and organization, and space and equipment problems. In addition, the share of music teaching per week is usually remarkably small and it often takes more time to complete a creative project than is available. It is also paradoxical, considering the multiple skills required of today's teachers, how little the music education system, which focuses on presenting, listening, and analysing music, has provided tools for the

new demands of the curriculum (Partti & Ahola, 2016). Times are changing and teacher education must change.

The idea of composing has also changed. Previously, it was thought that composing was possible only for a few, select pupils, those who were able to understand music theory, write music and play musical instruments. Today's music education highlights that composing, musical invention, improvisation and adapting music are possible for everyone, regardless of age or level of musical proficiency (Partti & Ahola, 2016). Composing together has to be a multidimensional phenomenon that involves multiple cognitive processes and feeds creativity that would not otherwise be possible to achieve (Veloso, 2017, 259).

Technology has gained momentum in Finnish schools. If we recall the music classes of a decade ago, the situation looked very different. The use of iPads and mobile phones in teaching is commonplace and pupils have usually become accustomed users of the devices from an early age. The number of musical applications is huge and finding the most pedagogical and teaching-friendly ones is not an easy task. Teachers use the ones they already know, and the rest depends on their own interest in music technology. 'The Creative Production of Music in Schools' survey revealed that four out of five teachers feel that they have not received any training in teaching the central elements needed for productive music education in school. Classroom teachers felt they were in the worst situation. Finnish university teacher education offers very little music education, and only a fraction of that addresses the elements of productive music education (Partti & Ahola, 2016).

From Reproductive to Productive Music Education

This article examines the productive music education paradigm and its implementation in teacher education, as well as its implementation in schools. Productive music education involves the creative production of music, musical invention, creative activity alone or in a group, encouragement to express one's own new ideas in a safe and open environment, using diverse learning environments in teaching, differentiating and responding to children's wishes and needs, and feeding creativity through playing and making music together.

The study by Hogenes and colleagues (2016) showed that creative tasks and activities are proven to engage pupils in classroom activities better than elements of traditional music education. These elements have to have positive effects on both musical and academic performance in school and to develop pupils' collaborative skills and creativity (Hogenes, van Oers, Diekstra & Sklad, 2016; Muhonen, 2016). All the mentioned elements of productive music education can be carried out in ordinary classes and have been found to be useful for the development of musical agency. Pupils are as capable of composing music as they are capable of singing, playing and dancing. While improvising, teachers can rely on peers' clues to invent new musical ideas (Veloso, 2017, 273). However, the comprehensive and exhaustive use of productive music education ideals requires a different pedagogical approach and new kinds of organizational and reflection skills compared to traditional reproductive music education. This poses a new challenge for teacher education as a whole (Hogenes, van Oers, Diekstra & Sklad, 2016). It is not a question of whether children are creative, but

whether schools and other institutions offer them opportunities for creativity and its development.

Aim of the Study and Research Questions

In the academic year 2019–2020, the first author of this article (S.A.) taught a study module on the use of music applications, arranging, composing, and improvising as elements of creative music education for a group of teacher education students specializing in music. Most of the respondents had heard of GarageBand and most of them had previously tried it. All of the band members were asked if they knew any other music programs besides GarageBand, - none of them could name any other applications. The aim of the module was to diversify the teacher students' knowledge of different music applications, music making software and browser-based programs, to better equip them to implement productive music education ideals with the help of technology.

The aim of this study is to explore (music specializing) student teachers' perceptions, prior skills and personal development in using music technology as a part of productive music education consisting of creative tasks in the classroom – improvising, composing, arranging, and producing own music. The first research question was:

What were the students' conceptions, expectations, fears, or other feelings regarding the use of technology according to ideas of productive music education before the study module?

We also explored how the use of technology improves student teachers' experiences and feelings of succeeding in teaching music. We consider that the requirements of the Finnish curriculum (grades 1 to 9) expect music to be taught in a manner that fosters the ideals of productive music education. Our aim is to legitimate the concept of productive music education, starting with this article. The second research question was:

What were the students' experiences of succeeding in teaching music using new ideas and new applications based on the productive music education paradigm?

We wanted to find out how the student teachers learn to use new tools and practices of productive music education, how these new practices would be implemented and utilized in real life, and how the student teachers experienced the study module on elements of the productive music education paradigm. This led to the third research question:

How challenging did the student teachers experience learning to use the new iPad music applications and learning productive music education practices and utilizing them in a real music teaching situation?

We wanted to find out how useful the student teachers found the study module on productive music education and whether they felt, they could use what they had learned during the study module in their future working lives. This led to the fourth research question:

What are the students' thoughts about using the new applications in their future work as music teachers after qualification?

Methodology and Data Collection

The study group participants (N=8) were fourth year or higher student teachers who graduated to become classroom teachers majoring in music education for grades 1–9. The participant group consisted of 7 female and one male member. They were selected to the music education programme by means of an entry exam in which they demonstrated their musical skills by singing and playing several musical instruments to a jury. The total study cohort comprised all student teachers studying to become at least upper comprehensive school music teachers in Finland (N=86). On a Finnish scale, the study group corresponds to fewer than 10% (9.3%) of all music teachers trained annually as upper comprehensive school music teachers.

The data were collected by an initial inquiry with open questions from the students at the beginning of autumn 2019. We asked the student teachers to identify their strengths and areas for development within various topics. We also asked them to write about their previous experiences and personal preferences regarding different areas of music education.

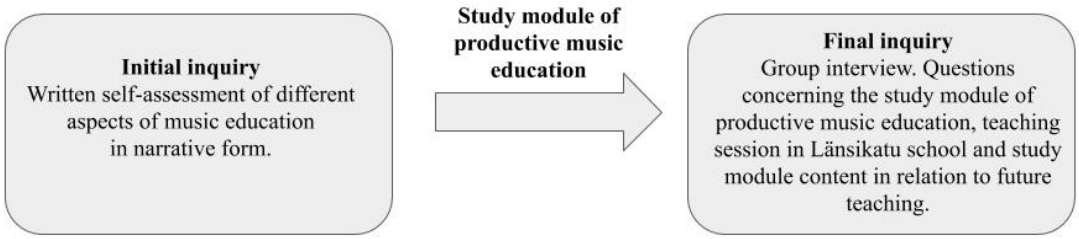

Figure 1. Data collection process

After the first data collection, S.A. taught the student teachers about the creative practices of productive music education with respect to the use of ICT applications, composing, and improvising during the 2019–2020 academic year as part of their pedagogical studies. During this study module, the student teachers became acquainted with a variety of browser-based music-making programs as well as iPad and mobile applications with various productive music education tasks (GarageBand, Samplebot, Launchpad, Incredibox, Patterning, ThumbJam, BandLab, Chrome Music Lab, Drumgenius, ProTools). The assignments were simple in the beginning and the aim was to adopt a variety of practices that the future teachers could exploit in all grades of comprehensive school (grades 1-9, age 7-16).

During the study module, the teacher students learned improvisation, composition, writing lyrics, arranging, recording, mixing, and producing their own music using a variety of technological applications and programs.

At the end of the study module S.A. interviewed the student teachers about their experiences and knowledge related to the use of ICT as a part of the productive music

education paradigm, newly learned practices and the use of technology, challenges along the way, and experiences of success. The interview was conducted as a group interview.

The collected data was analysed by applying a databased content analysis. Classification of the data led to determining the students' preferences of different fields of music education, strengths, areas of low confidence in own skills, and motivation to learn versatile skills in different pedagogical areas.

Results

The first research question was:

What were the students' concepts, expectations, fears, or other feelings prior to the study module on productive music education?

The initial interview revealed that the majority of the student teachers perceived the mentioned practices of productive music education as foreign to them, yet all of the respondents were keen to take the module in order to gain new tools for approaching the topic. Seven out of eight respondents found the topic interesting, but one respondent found it distressing due to not knowing how to approach the topic (third citation below):

"I don't have any experience in this area as a music educator. I think it's a really interesting and important area… "(Person 1, female)

"I find this field of music education one of the most interesting, but also one I'm most uncertain about for myself. I'm eager to learn new things about teaching improvisation and song crafting." (Person 2, female)

"Improvisation and composing always have been my weak spots in music. I've always found improvisation and composing really oppressive because I have too high demands for myself and I don't know what's expected from me." (Person 7, female)

The respondents highlighted being active and experimenting with new ideas, and the view that this should always feel safe although it includes stepping out of one's comfort zone. They also considered that making mistakes is not harmful, but an integral part of the learning process, and that the currently available elements of productive music education could teach pupils new things about themselves and their own skills through creative processes:

"In my case, my creative production has become unlocked as I've learned more about different areas of music and gained more self-confidence. I think I can't go much wrong if I use my own musical ideas and, if I do, it's okay because making mistakes is part of the learning process." (Person 8, female)

"I think through creative production pupils can learn new things about themselves." (Person 2, female)

The student teachers were asked to identify their own strengths in the field of music education. Instrument skills management was strongly highlighted, whereas the described elements of productive music education seemed quite unfamiliar. This reinforced our presumption that tools for teaching the essential methods and elements of productive music education are needed as part of music education studies.

> *"In my opinion learning instrument skills is one of the most emphasized areas in our education, and that's why I find that somehow easiest to manage." (Person 5, female)*

> *"I enjoy band playing the most and I feel I can master the basic instruments of the band well enough to teach them even in upper comprehensive school." (Person 6, male)*

The second research question was:

> *What were the students' experiences of succeeding in teaching music using new ideas and new applications based on the productive music education paradigm?*

Only one of the respondents had more experience of creative music making through previous studies at the conservatory, which had inspired her to compose songs on the kantele at a young age and later with her own band. However, the idea of teaching the elements included in the productive music education study module to a larger group seemed challenging. Most of the respondents could not recall any productive music education elements being implemented in music lessons when they were at school. Each of the respondents felt that they wanted to develop in the field of these novel ideas within music education – musical invention, song crafting, improvisation, and other creative musical activities were perceived as an important part of music lessons:

> *"I find this area of music education very important, but I feel I will need more education and develop my skills more, so that I could teach this area with confidence." (Person 4, female)*

> *"At this point I know that composing and improvisation can be really enjoyable, inspiring and relaxing activities, but I don't know how to approach them as a teacher." (Person 7, female)*

Using the data from these research questions, we explored the changes that emerged in the students' thoughts and conceptions as a result of the study module and compared the initial data with the data collected upon completion of the study module on productive music education. This led to the third research question:

> *How challenging did the student teachers experience learning to use the new iPad music applications, learning productive music education practices, and utilizing them in a real music teaching situation?*

In the final interview, all of the student teachers replied that they had gained a lot of different tools for teaching music by using the new ideas, their own technological skills had increased, and that the threshold for using productive music education methods and ideas was lowered through the diverse exercises and projects undertaken during

the module. Practical experience of teaching song crafting in a local school also increased the student teachers' confidence to start teaching creative music and composition:

> *"First, I was scared, but after composing an entire song with my peers, something happened and my thoughts towards composing changed and I don't find composing distressing anymore." (Person 7, female)*

> *"Well, I was scared too at the beginning about the idea of composing, but the applications we used were really inspiring and I've always been interested in creating and producing music. It was really easy to work with everyone in this group and I enjoyed how versatile all the assignments were." (Person 2, female)*

> *"I was nervous about teaching composition to the pupils, but after our sessions with the sixth graders in Länsikatu School, I realized that I can really do this!" (Person 3, female)*

At the beginning of the final interview, we asked the participants to describe what thoughts or ideas the studied elements of the productive music education paradigm (composing, arranging, writing lyrics, improvising, and guiding creative activity) had evoked. Half of the respondents had found the given deadlines challenging when given the assignments but were surprised when the tasks were completed on time. This helped dispel concerns whether a single lesson could lead to a finished output. Each respondent stated that they had benefited from the training period starting with sufficiently simple applications and sufficiently easy assignments. The assignments and application interfaces gradually became more challenging, but they also increased the student teachers' confidence in publishing their own ideas among the group.

The student teachers found the iPad applications inspiring and easy to use. The dynamics of the group was already well functioning in principle and the group had an open atmosphere that facilitated the mobilization, implementation and completion of even the most challenging tasks. The students also appreciated that assignments were scheduled at regular intervals, which lowered the threshold for engaging in them. One of the respondents experienced very strong feelings of self-criticism at the beginning of the study module and difficulty in expressing her ideas. As the tasks progressed, however, her emotional block against composing began to dissipate and her self-confidence increased considerably. The student felt that this 'unlocking' was facilitated by starting with small tasks and then gradually raising the difficulty level.

One of the major projects of the year was a music video project implemented in collaboration with the visual arts, which resulted in two ready-made compositions and music videos. The student teachers felt it was important to practice with smaller assignments prior to this major project (practising composing, writing lyrics, and arranging).

> *"I was seriously unsure about the time we were allocated when you gave us the assignments and I almost felt terrified. But once we started working it all went forward well, and we finished surprisingly quickly." (Person 3, female)*

> *"I felt like it was easy to work with everyone in our group and I enjoyed every task we were given because they were so varied." (Person 4, female)*

"By doing all the different types of tasks my self-confidence grew, and I got enough courage to share my ideas out loud with the group. When we started the music video production, I realized how much in my thinking had changed." (Person 7, female)

"It was a really good thing that we did several introductory exercises in the autumn term, without them it would have been really hard to start on the big music video project." (Person 6, male)

All the respondents found it easy to work in a group; they were given support, if they were unable to come up with new ideas themselves, developing and refining the different ideas felt easy, and the atmosphere was open. The respondents also felt that the skill level of the group was quite homogeneous, although there were different roles, and everyone was able to contribute to the tasks.

We also asked the teacher students to specify the key challenges regarding productive music education that they identified during the study module. They considered that the biggest challenges had been how to motivate pupils when allocating a new project, starting large projects efficiently, technology inefficiencies, and potential problem situations during teaching. Other challenges mentioned included assessing group competence and assigning the right level of tasks that motivate, and effective time managing. Some respondents also wondered whether the future workplace would have sufficient resources, such as technological equipment, for such activities.

GarageBand was revealed as the favourite application due to its versatility, but Launchpad was also highly regarded for its simple interface and high-quality sounds, Samplebot for its visuals and easy recording capabilities, Incredibox for its good samples and ease of use, and ThumbJam for its huge instrument bank and authentic sounds.

Favourite projects included composing a soundscape for a fairy tale, making commercial music, composing a radio jingle, making a music video, and a school visit to guide sixth grade students in composing rap songs.

The fourth research question was:

What were the students' thoughts about using the new applications in their future work as music teachers after qualification?

All the participants considered the teaching relevant to their education and future working life. The respondents also all stated that they intend to implement what they had learned regarding the elements of productive music education as well as other creative work in their future teaching. They considered it important that when something new is added to the curriculum, teachers consider it and put it into practice. All the respondents felt that they wanted to lower the threshold for composing and improvising using easy tasks and applications. Each also felt that they could implement the exercises and practices they had learned at all grade levels depending on the complexity of the task and the complexity of the application interface. The respondents were also all encouraged to notice that the different applications and programs had lowered the threshold to start creating something new on a fast schedule.

"I am going to include these methods in my teaching, and I feel it is important that when something new comes to the curriculum, teachers react to it." (Person 6, male)

"I will use these methods for sure! I loved all the small exercises, and I would use them regularly so that the threshold for composing and improvising wouldn't increase at any point." (Person 7, female)

"I'll definitely use these tools in my teaching, and I think I could implement these from grades one to nine. I'll use iPad applications and composition and song crafting teaching methods." (Person 5, female)

Ethical Points of View

The respondents participated in the study voluntarily and their responses did not affect the students' grades. The student teachers are accustomed to participating in various research projects during their studies (see Figure 2).

Figure 2. Student teachers having fun making their own music with iPad applications

The atmosphere in class was relaxed and confidential from the beginning, and one of the main reasons for this was that the student teachers knew each other quite well before their year of advanced studies in music education. The first author of the article, S.A., was their teacher and at the same time a researcher, but this did not affect the student teachers' stance towards the subject, the research, or the study module on productive music education.

Discussion and Conclusions

Times, teaching, and technology are constantly changing, and teacher education must stay up to date with the demands of the curriculum and development. Keeping up with technological development can set challenges for teachers, but evolving technology also provides ever-changing and new tools for teaching. The tools of productive music education therefore need to be added to teacher education to enable its practices to be implemented more widely in schools. By tools, we mean both technological skills and mastery of different teaching methods and applications.

A modern music teaching class teacher as well as a music subject teacher needs both traditional skills in music education (singing and instrumental skills in piano, guitar, drums, bass, percussion instruments, kantele, recorder etc.; music didactics and pedagogy skills, music theory skills, etc.) as well as technological skills (ICT, smart devices, applications, etc.). The use of technological applications has increased strongly in the last decade and offers many new opportunities for music teachers in their everyday work. This phenomenon has brought a deep change in the mindset and, consequently, the pedagogical thinking of music teachers, which, in turn, is bringing about a gradual transformation of the whole music teaching paradigm. This means giving traditional music teaching methods and elements a reduced role and introducing in their place new elements of music education that lead to new paths that offer pupils more opportunities for self-expression and natural creativity. This development is also encouraged by the new Finnish national core curriculum.

The University of Eastern Finland (UEF) offers student teachers diverse music education by teaching pedagogical competence, singing and instrumental skills management, music theory, arranging, music conducting, music cultures (classical music, rhythm music, folk music, world music) and music technology. In 2019, the teacher education unit of UEF remodelled its music specialization studies to support the newest developments in music education. Music pedagogy II, now one of the largest courses offered in specialization studies at UEF, equips students with versatile tools for teaching music in upper comprehensive school. We subsequently added the productive music education study module to this course and, after completing the module, the student teachers implemented what they had learned during the year with the sixth graders in Länsikatu School in the spring of 2020. This was also researched from the beginning by collecting data from the students at the UEF teacher education unit. This article focuses on the use of smart device applications for music teaching and student teachers' conceptions regarding their use.

After the study module, all of the study group participants wanted to take creative practices to school and approach productive music education using a variety of methods. This, in turn, requires that teacher education should offer diverse ways of implementing productive music education with various tools, and that those schools have the necessary equipment to implement it.

As previous studies have shown (Ruthmann, 2007; Hogenes, Oers, Diekstra, & Sklad, 2016), productive music education engages pupils better in the classroom compared to traditional music education. An active and participatory atmosphere was also clearly present in the study groups' lessons, as well as on school visits while working with the sixth-grade pupils at Länsikatu School. When tasks were of low-threshold and easy to

start, working with an unknown group was already easy. On the first school visit, the teacher students were able to carry out productive music education independently and found the visit to be a positive experience. The visit also proved to the student teachers that they had the ability to apply creative methods in the classroom.

National Core Curriculum for Basic Education (2014) emphasizes that pupils should be offered opportunities for creative music making (productive music education) on a regular basis starting from the lower grades of comprehensive school. If teacher education provides easily approachable low-threshold tools that are functional in different groups and spaces, the threshold for teachers to approach productive music education will also be lowered.

Although the study group represents a rather small sample of the basic group (the Finnish music teacher population, which is described earlier), the results support previous research (Muhonen, 2016; Partti & Ahola, 2016; Suomi, 2019). The results, especially combined with those of other studies related to this topic, show that practices of productive music education are needed. The results show that the new practices (taught during the study module) were very well adapted for the use in the classroom, and all of the respondents were determined to use their new skills in their future teaching.

Obtaining these kinds of results from a small intervention offered to an eager group of students specializing in music at the University of Eastern Finland indicates a great need for this kind of education and for specially planned study modules for this target group. Similar study modules would thus be of a considerable benefit to students conducting multidisciplinary studies in music education. Anttila and Juvonen made a similar finding in their study on music teacher education in Estonia and Finland (Anttila & Juvonen, 2003, 2006).

This study also shows that the music education paradigm is changing: when our aim is to address the needs of school music education, the requirements of the curriculum, and the needs of school pupils and future music teachers, the transition towards productive music education instead of repeating the traditional reproductive music educational ideas becomes unavoidable. This means improvising own musical ideas, soundscapes, compositions, arranging music, and creating something new, instead of merely repeating and practising existing works.

The paradigm of music education is changing for four key reasons:

1. Music, its use, and ways of doing things, such as arranging, composing, and producing new music are changing. Composing a song from demo to readymade piece can now be done entirely at home and, increasingly, younger students are able to utilize technology when creating music in their free time. This informal learning – taking place outside of school and a teacher-student setting – affords teachers opportunities to take advantage of wider learning environments, and teachers should be encouraged to do so.
2. Technology is constantly evolving and continually providing new tools for teaching music.
3. The Finnish national curriculum challenges and requires teachers to offer students creative musical tasks from the first grade onwards. Musical invention, song crafting, improvisation, and creative activity should be everyday life in the

music class. Technology together with numerous free or very inexpensive applications, make it possible to implement versatile and easily approachable tasks even in large groups.

4. Many teachers want to implement productive music education, have the skills required to do so, and continually educate themselves towards this goal. In turn, there are also teachers who are not familiar with productive music education methods and do not want to implement them in their teaching, as they are perceived to be too cumbersome and laborious and their own technological skills are perceived as insufficient. In smaller schools, insufficient resources, for example in terms of technology, also pose their own challenges.

Despite the challenges, productive music education in socio-constructivism context offers us great opportunities to enable students to develop into creative individuals who know how to work in a group as well as alone, offering their own musical ideas utilizing technology. The new ideas brought by the productive music education paradigm widen and enrich our perspective of creativity and bring creative work into our daily lives. With todays' methods and technology, composing is no longer an elite pursuit requiring a special skillset – it is possible for everyone. Above all, we see the changing music education paradigm as a beneficial development that is bringing many positive changes to the teaching of music and transforming the fundamental nature of Finnish music education from reproductive to productive.

References

Anttila, M. & Juvonen, A. (2003). *Kohti kolmannen vuosituhannen musiikkikasvatusta osa 2. Näkökulmia musiikkikasvattajien koulutukseen Suomessa ja Virossa* [Towards Music Education of the Third Millennium: Points of view in the education of music teachers in Finland and Estonia, part 2]. Joensuu: Joensuu University Press (in Finnish).

Anttila, M. & Juvonen, A. (2006). *Challenges and Vision in School Music Education: Focusing on Finnish, Estonian, Latvian, and Lithuanian music education realities.* Joensuu: Joensuu University Press.

Cumming, T., Strnadová, I. & Singh, S. (2014). iPads as instructional tools to enhance learning opportunities for students with developmental disabilities: An action research project. *Action Research*, 12(2), 151-176.

Harris, M. (2009). *Music and the Young Mind: Enhancing brain development and engaging learning.* MENC: The National Association for Music Education.

Hillier, A., Greher, G., Queenan, A., Marshall, S. & Kopec, J. (2016). Music, technology and adolescents with autism spectrum disorders: The effectiveness of the touch screen interface. *Music Educators Research,* 18(3), 269-282.

Hogenes, M., van Oers, B., Diekstra R. & Sklad, M. (2016). The effects of music composition as a classroom activity on engagement in music education and academic and music achievement: A quasi-experimental study. *International Journal of Music Education,* 34(1), 32-48.

Hudziak, J., Albaugh, M., Ducharme, S., Karama, S., Spottswood, M., Crehan, E., Evans, A.C. & Botteron, K.N. (2014). Cortical thickness maturation and duration of music training: Health-promoting activities shape brain development. *Child Adolesc Psychiatry,* 53(11), 1153-1161.

Juvonen, A. (2004). Kohti uutta paradigmaa: Musiikkikasvatus etääntyy esteettisistä lähtökohdistaan [Towards a new paradigm: The distancing of music education from its aesthetic starting points]. In J. Enkenberg, & M.-B. Kentz (Eds.),

Kasvatuksen maisemista [From the Landscapes of Education] (pp. 59-76). Savonlinna: School of Applied Educational Science and Teacher Education (in Finnish).

Juvonen, A. & Anttila M. (2008). *Luokanopettajaopiskelijat ja musiikki. Kohti kolmannen vuosituhannen musiikkikasvatusta Osa 4* [Student Teachers and Music: Towards the music education of the third millennium, part 4]. University of Joensuu (in Finnish).

Kiikeri, M. & Ylikoski, P. (2004). *Tiede tutkimuskohteena – Filosofinen Johdatus tieteentutkimukseen* [Science as a Research Target: A philosophical introduction to science research]. Helsinki: Gaudeamus (in Finnish).

Kurkela, K. (1993). *Mielen maisemat ja musiikki. Musiikin esittäminen ja luovan asenteen psykodynamiikka* [The Landscapes of Mind and Music: Performance of music and psychodynamics of the creative attitude]. Sibelius-Akatemian musiikintutkimuslaitoksen julkaisusarja, no 11 (in Finnish).

Lehtonen, K., Juvonen, A. & Ruismäki, H. (2011). Näkökulmia musiikkiin liittyvään kateuteen [Points of view of envy in music]. *Musiikkikasvatus*, 14(1), 34-50 (in Finnish).

Liddell, H.G. & Scott, R. (1940). *A Greek-English Lexicon, παράδειγμα, τό.* Perseus Digital Library, Tufts University.

Mäkinen, M. (2020). *"Se ei ragee ja popittaa meidän kaa": Matkalla monipuoliseksi musiikkikasvattajaksi* ["The Teacher Does Not Rage and Makes Music with Us": Student teachers' professional growth into a versatile music teacher. Dissertations in Education, Humanities, and Theology, 150]. University of Eastern Finland (in Finnish).

Muhonen, S. (2016). Students' experiences of collaborative creation through song-crafting in primary school: Supporting creative agency in 'school music' programs. *British Journal of Music Education,* 33(3), 263-281.

National Core Curriculum for Basic Education (2014). Helsinki: Finnish National Agency for Education.

Partti, H. & Ahola, A. (2016). *Säveltäjyyden jäljillä – Musiikintekijät tulevaisuuden koulussa* [On the Track of Becoming a Composer: Music makers in the future school]. Helsinki: Taideyliopiston Sibelius-Akatemia (in Finnish).

Ruthmann, A. (2007). The composers' workshop: An approach to composing in the classroom. *Music Educators Journal,* 93(4), 38-43.

Suomi, H. (2019). *Pätevä musiikin opettamiseen? Luokanopettajaksi valmistuvan musiikillinen kompetenssi perusopetuksen opetussuunnitelman perusteiden toteuttamisen näkökulmasta* [Qualified to Teach Music? Class teachers' competence to execute curriculum's requirements: Doctoral dissertation]. Jyväskylä: Jyväskylä University Press (in Finnish).

Veloso, A. (2017). Composing music, developing dialogues: An inactive perspective on children's collaborative creativity. *British Journal of Music Education,* 34(3), 259-276.

Williams, D. (2014). Another perspective: The iPad is a REAL musical instrument. *Music Educators Journal,* 101(1), 93-98.

Received 05.11.2020
Accepted 18.12.2020

THE MUSIC-IDENTITY OF 15–16-YEAR-OLD FINNISH SCHOOL PUPILS

Stia-Reetta PELLINEN

Music teacher at Hankasalmi town in Finland
reetta.pellinen@hankasalmi.fi

Antti JUVONEN

University of Eastern Finland
antti.juvonen@uef.fi

Abstract

The aim of this study was to examine how musical identities are reflected in young people's narratives through databased content analysis. The study also examined musical experiences of the young because they enabled the musical identities research. Subjects of this study were 15–16-year-old learners who wrote essays about their music-related experiences.

The foundation of the study was formed around Hall's theory about identities and especially his concept of the postmodern subject. Definitions of musical identity were limited to four slightly different visions. In the research, the views of Jorgensen, Leppänen & Unkari-Virtanen and Sintonen, Hargreaves, Miell and MacDonald and Green were compared. Especially Green's and Hargreaves, Miell and MacDonald's definitions were applied to this study.

Databased content analysis defined three categories for describing musical experiences. These categories were listening to music, music as a hobby and studying music. The results showed that especially listening to music played a significant role in the lives of the young, while on the other hand studying music in a school environment was considered to decrease their interest in music.

The term 'musical identity' was defined as young people's perceptions about themselves in the context of music. This study focused on examining what kinds of musical identities young people's musical experiences produced. Based on the musical experiences, four identity types were formed: versatile music hobbyists, comprehensive music listeners, everyday users of music and the music avoiders. The largest identity type was music listeners, which verified the notion of the importance of music listening during youth. Identity types enabled the examination of the issue relating to the impact of different kinds of musical experiences on attitudes towards music education in schools. Only a small minority of the participants had positive experiences in music lessons and a majority of

the young had negative experiences. The research showed that basically interest in music during free time and the contents of formal music education did not match.
Although the level of interest in music lessons was low, music was still a big part of young people's life. Music was used to pass the time, experience social cohesion and deal with difficult things. The most important meaning of music turned out to be the ability to escape the world through music.
Keywords: *Musical identity, musical experience, listening to music, musical taste, music as a hobby, music education, identity type, narrative study*

Background

Music is present in our life more than ever before. Almost all people have a relationship with music: some play a musical instrument; some enjoy listening to music. Music belongs to every youngster's life. People listen to music when they are sad, glad or while walking home from school. Music has very comprehensive impacts on human beings, it helps controlling emotions, it expresses values and gives us a feeling of togetherness.

The music-identity concept helps to explore music's versatile significances for people. Music can create identities but can also express an already existing identity. Music does not develop only musical skills; it proves very significant for individual's conceptions of oneself and others. Music expresses our deepest self, helps to understand others and creates a sense of togetherness. Music can build communities and it can be used to strengthen existing communality.

School music education can significantly influence the birth of musical identity. Music education plays an essential part during adolescents' identity building processes. Music lessons may offer pupils a place to express their own identity through music, but they also offer an opportunity to get to know different identities by showing different music cultures and in this way help in building one's own identity. Music education can have wider communal significances; it can be used to grow musical world citizenship (Ruud, 2002, 60).

The aim of this research was to explore the musical identities of 15–16-year-old Finnish learners based on their own narrative writings. We also explore their musical experiences and how these experiences had affected their music-identity and what kind of musical actors they are, together with revealing their own conceptions of themselves and the significances of school music education in these processes.

In this research, identity is seen as an individual's own conception of who they are (Ojanen, 1996; Suutari 2013). In the conception of identity, we use Hall's (1999) definition of the postmodern subject, which explains that identity is determined in interaction with the environment in relation to others and is under continuous change. There are several different definitions of music-identity, and in this research, we have used the definitions by Green (2011) and Hargreaves, Miell and McDonald (2002). In exploring the identities, we have used Green's definition of the factors, which form musical identity. According to her, musical identity is based on musical experiences, music taste and musical activities. From Hargreaves', Miell's and McDonald's points of view about musical identity, we picked the "identities in music" (IIM) viewpoint, which explores the impact of musical actions on our identities.

In addition to identity, self-image, too, has many definitions. This concerns also the relationship between musical identity and musical self-picture (or musical self-conception). These concepts are broad and often used interchangeably, depending on the used definition. The musical identities were built as identity types based on musical experiences themes. Spychiger (2017, 267) classifies self-picture more as a psychological concept which has some precise definitions. Identity is more popular in philosophical and sociological fields of research. Often, researchers use one of the concepts and mean the same idea. Both concepts can be used in studying musical experiences. In Finnish research, musical self-picture or musical self-conception is used more often than musical identity (see Tulamo, 1993; Juvonen, 2000). Music-identity is used much more often in the English language research.

This study was carried out as a narrative research effort where pupils' essays were explored with a focus on their musical experiences. The analysis was done using databased content analysis. The musical identities were built as identity types based on musical experiences themes. Musical identity was explored using music taste, music as a hobby and music studying points of view. In the definition of identity, we lean on Hall's identity concepts, which strongly support enhancing the understanding of musical identity. Different definitions of music identity were provided by Jorgensen (2002) Hargreaves, Miell and McDonald (2002), Leppänen, Unkari-Virtanen and Sintonen (2013) and Green (2011).

The Musical World of Young People

During youth, the contemplation *who am I* is common. This kind of question develops their self-concept and identity, but also concerns their body image and sexual identity, values and worldview (Saarikallio, 2009, 221). Adolescence is also full of music; young people are eager music consumers and music is an important part of life for many (Saarikallio, 2009, 222). Listening to music and playing musical instruments offer them the possibility for coping with their emotions, feeling togetherness and expressing their own personality.

Music as a Hobby

Having music as a hobby can mean composing songs or recording music in addition to traditional music hobbies like playing a musical instrument or singing. Music can be produced alone or with someone; it often has a social connection, like when playing in an orchestra, band or singing in a choir. Hobbies are an important part of life for many young people, as they create diversity, enjoyment and empowerment to everyday life. Having a musical hobby may become so important that it starts to determine one's personality (Juvonen, 2000, 40-41). A music hobby usually takes place in a music school or adult education centres where studying is target oriented.

A musical hobby is often started obeying parents' will, which may cause negative attitudes toward music in some cases. If one has had to participate in a music hobby against one's own will, it usually ends immediately after a young person's independence from their parents (Juvonen, 2000, 41). Currently, music hobbies take place increasingly in the Internet world outside formal institutions (Kosonen, 2009, 158).

This technological development allows one to learn singing and playing musical instruments through the Internet.

This informal way of learning can be very active. Independent learning of instrument playing, composing and music listening can be an important part of young people's lives.

Music Taste

Music taste is an individual element. It connects with an intuitive experience about what kind of music is good or bad (Juvonen, 2000, 57). Music taste and musical preferences have been widely explored in philosophical, psychological and musicological fields of research; it can be defined in many ways. LeBlanc (1987) created a theory about the formation of music taste, which he named the interactive theory of music taste. According to the theory, music taste and decisions concerning it are made based on interaction between the information a listener receives and his/her personal qualities (LeBlanc, 1987, 139). According to Juvonen (2000, 54), music taste comprises the choices connected to musical styles, genres, stylistic elements and musical constructions and their preferences. Music taste means some type of classification and validation of different musical styles (Juvonen, 2000, 54).

LeBlanc (1987, 144) sees our musical preferences as a sum of many factors, which may originate from the surrounding world, family, friends, school or media. In addition, qualities like gender, personality, musical skills and socio-economic background influence what kind of music we like. In adolescence, the importance of peers is a significant factor that develops music taste, but there also is a need to develop one's own individual music taste as young people mature towards adulthood (LeBlanc, 1987, 140-145).

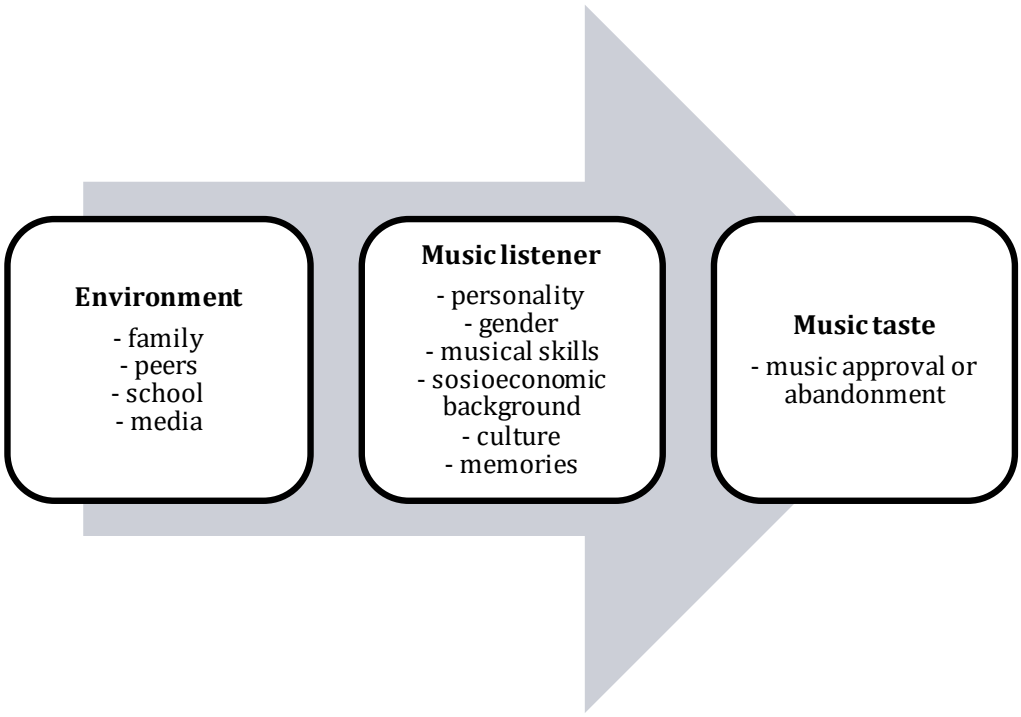

Figure 1. Factors contributing to the development of music taste

Music listening is strongly present in the everyday lives of young people. Their favourite music is thoroughly considered as it represents them and their values (Saarikallio, 2009, 224). Music taste may also show outside. A strong identification with certain music genre may make the individual adapt the values and norms connected to the genre, which may show in ways of dressing, jewellery or way of speaking (Juvonen, 2000, 56).

School Music Education

Ahonen (2004, 15) describes music learning at school as explicit learning which requires deliberate struggle to acquire learning. The curriculum defines the content, aims and ways of working in music learning. School music education has a major impact on forming people's music significance level and their conceptions of their own musical skills (Anttila, 2006, 24).

Anttila (2006, 34) divides the factors concerning studying motivation into conceptions of value, environmental factors and expectations of success. Music studying includes many conceptions of value, among them being the usefulness of musical skills and significances of music in social relationships. The environment includes peers, teachers, the institute of studies and cultural environment. A young person's circle of friends greatly affects their attitudes toward the significance of music. The personality of the teacher and the atmosphere during music lessons are important factors in the significance of music learning (Anttila, 2006, 33-36).

According to Swanwick (1988, 143), pupils have negative experiences from school music activities, but not from music in general. The reason for this may be the fact that pupils do not feel they are getting any professional benefit from the music, but also because school music activities differ greatly from their music-related activities in free time (Swanwick, 1988, 143-144). In addition to family and peers, music teachers also have a strong effect on young people's development and attitudes. A teacher's attitude toward pupils impacts their positive attitudes about music and their own musical skills (Tulamo, 1993, 103). Saarikallio (2009, 227-228) emphasizes that a music educator has an opportunity to support pupils' comprehensive growth. An encouraging attitude and avoidance of an overly critical attitude support the pupil's wish to develop (Tulamo, 1993, 105-106).

The Usage of Music

Music seldom is only an activity like listening or instrument playing. The importance of music in life can be connected to emotions aroused by music, or feelings of togetherness in playing in music groups. All music has psychological gains. Saarikallio (2007, 21) divides these into four groups: relationships, self-determination, emotions and identity.

Relationships include two opposite needs. Young people use music to belong to a certain group, but music is also used for the needs of privacy. Togetherness means activities with peers, like playing music or listening to music. The feeling of togetherness can also be gained without other people. Listening to some pieces of music can evoke memories of important people and one can feel togetherness with an artist or his/her music. Music may offer a young person also privacy, because while listening, they can escape to their own worlds (Saarikallio, 2009, 225-226).

Under self-determination Saarikallio (2007, 22) understands control, competence and experiences of self-esteem. Music gives young people a tool for control: they can decide what kind of music they listen to and in what situation they want to listen to it. Control is also connected to emotional management in using music. Moreover, musical activity lifts young people's self-regard through the experiences of learning and accomplishment (Saarikallio, 2007, 22).

There usually is a very simple motive behind musical activity: music offers enjoyment (Saarikallio, 2007, 22). From the emotional point of view, music is used for many purposes. Saarikallio (2007, 23; 2009, 227) divides emotional management models into seven parts: entertainment, recovery, experiences, secession, rescission, imaginary work and consolation. Music helps young people to handle their negative emotions, clear their own thoughts, and break away from a current situation somewhere else (Saarikallio, 2007, 22).

The fourth psychologic purpose is identity. In adolescence, we build the conception about who we actually are. Music helps youngsters build their identity and strengthens the expression of their already existing identity (Saarikallio, 2009, 224).

Identity

Identity is not merely a psychological phenomenon; sociologists and anthropologists (Ruud, 2006, 63) also research it. Musical identity leans strongly on the idea of a postmodern subject, which is one of the identity conceptions. Identity is a multi-dimensional concept with many definitions. Often, identity is mixed with self, self-conception or self-esteem. Identity can be understood as a system, which contains self-conception and self-esteem (Talib, 2002, 42). Identity can also be seen in a wider context, and it is worth contemplating how identity differs from the concept of self as it also describes a human being's inner world. According to Ruud (2006, 63), the context is highlighted in identity and he calls identity 'self in a context'. Saastamoinen (2006, 172) defines identity as a self which has changed to a target. When we define and make a value judgement of our self, this is dealing with one's own identity.

The identity of a human being is seen in psychology as consisting of three parts: identity, self-conception and self-esteem. In everyday speech, they often mean the same thing. Ojanen (1996, 31) defined the difference of these concepts as follows: 1) Identity: *Who am I? Where do I belong?* 2) Self-conception: *What am I like?* 3) Self-esteem: *What is my value and significance?*

Suutari (2013, 258) defines identity as the following: connecting to surrounding social groups and the standing out among others. Identity can describe someone; in practice they are characterizations which help classification and characterizing people. Identity can also be related to ethnical matters when a person defines oneself as a Finn or a Sami, or also by one's gender (Antikainen, Rinne & Koski, 2013, 292-293). The concept of identity emphasizes individuality and togetherness. In addition to being conscious of which one is, one also experiences a sense of belonging to a certain group. Professional or social relations can also describe identity. We can describe ourselves as being a bus driver or a wife (Ojanen, 1996, 32-33). The definition of identity is dependent on the field of science exploring it. The culture researcher and sociologist, Hall (1999, 21-23), divides identity conceptions into three groups: The Subject of the Enlightenment,

Sociological subject and Postmodern Subject. Our understanding of our own identity changes during the time and surrounding society.

In the Subject of the Enlightenment, identity was seen as totally unchangeable. The idea was that the identity of an individual stays similar throughout life. Identity develops with the development of the individual, but one's basic nature remains the same (Hall, 1999, 21). The inner core of a human being consists of sense, consciousness and ability to function. This core opens as the individual grows but remains the same (Hall, 1999, 21). The Subject of the Enlightenment did not notice at all the significance of the environment for identity but was rather a very individual conception of the subject.

The other conception of identity, the Sociological Subject, notes the significance of the interaction in building identity. Differing from the Subject of the Enlightenment, the Sociological Subject's inner core was continuously changing because of the surrounding cultures and identities (Hall, 1999, 22). In the Sociological Subject, the environment surrounding a person disseminates values, significances and symbols, which are used in building identity. According to Hall (1999), in the Sociological Subject identity smoothens the gap between personal and public worlds. The individual mirrors their own identity to the surrounding society and culture and adopts characteristics from it to one's own identity (Hall, 1999, 22). The Sociological Subject is connected with the Subject of the Enlightenment through the common idea of the human being's inner core, the true self.

In the third conception of identity, the Post-modern Subject identity is not seen as permanent, but constantly changing. According to Hall (1999, 19), the identity of a human being is fragmentary and does not have a solid existence. This is caused by major changes in the structures of societies. Hall defines a modern society as a society of constant, rapid, permanent changes (Hall, 1999, 24). Differing from the other definitions, the Post-modernist subject identity is defined historically, not biologically.

The individual does not have a solid inborn self, but one can have several different identities at different times. Some of these identities may not be compatible. In the global world, our identity is shaped by the impact of surrounding cultures, and in the multicultural world, the identities may have picked influences from several different cultures. An individual can identify oneself in any of the identities, which are built at least occasionally.

An identity is a process of the contemporary society; it is constantly shaping unconsciously instead of existing naturally (Hall, 1999, 39). Identity never becomes complete, changing with the interactions between the individual and society (Rastas, 2008, 250). Although identity continuously changes, it is an essential concept when we explore the individual's self-conception, position in society or relationship with other people. When examining children or young people, identity is approached from two slightly different points of view. We can explore which matters influence identity: what factors build, for example, the Finnish national identity or gender identity. We can also use the concept of how certain factors like gender, skin colour or travelling define our identity (Rastas, 2008, 251).

Culture is one of the most important factors in building and changing identity (Hall, 2003, 85). In the Post-modern subject's identity concept, the significance of culture is considerable, because the surrounding cultures are in direct connection to its identity.

Lundberg, Malm and Ronström (2003, 16) see that culture and identity are the most important concepts structuring the modern world.

Culture includes values, attitudes, beliefs, skills and knowledge. Through culture, a human being learns how to act in society as the survey-strategy is constructed with it (Helve, 2008, 281). Hall (2003) defines culture as a system of common significances, which a certain group of people uses to bring order to the world. When an individual understands a system of significances, it brings a feeling of belonging to a culture, which causes togetherness and experiences of common identity.

Identity in Childhood and Adolescence

When exploring the development of identity, the environment of the child is very important. Identity is not biological; it is constantly changing through being in contact with others. Childhood and adolescence are important for the development of identity, and this is often brought into discussion about the development of children and young people. In the discussion, positive and negative concepts of identity as well as identity crisis and multicultural identities are often brought up. During elementary school, a child also develops their identity. The home and the circle of acquaintances are strongly significant in the growing process, but when starting school, the significance of the peers rises fast (Rastas, 2008, 150).

Lamont (2002, 42) refers to Bronfenbrenner's (1979) ecological model (Figure 2) where all developmental contexts are presented. The child's closest circle represents microsystems, which are home, school and neighbourhood. Microsystems are the places where a child is connected directly every day and where the child must process the self continuously (Lamont, 2002, 42). The exosystems include communal customs and media, which are not directly in contact with the child's own life, but which influence in the background. The outermost circle, the macrosystem, includes common beliefs, which mean, for example, the attitude to the importance of education (Lamont, 2002, 43).

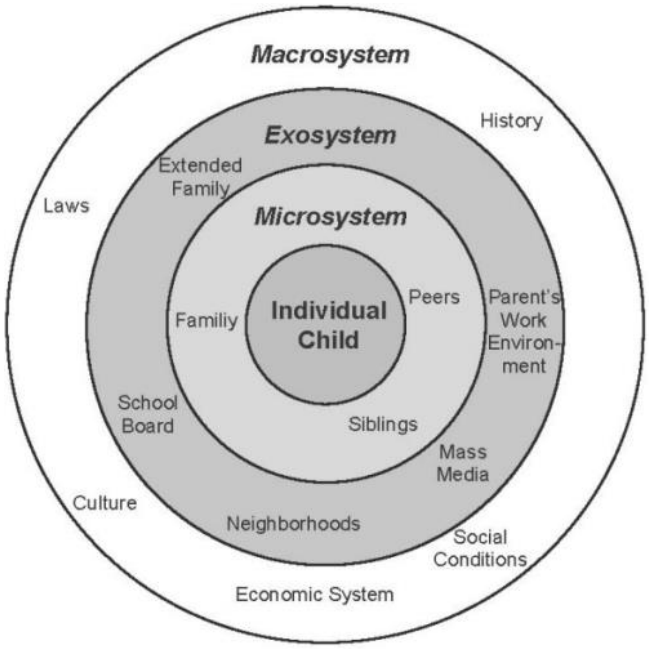

Figure 2. Bronfenbrenner's Ecological Model

Bronfenbrenner (1979) connects the school to the microsystem of his model, which is the context closest to the child. Before starting school, the child has built their identity only with their family and circle of acquaintances. When school begins, the child gets their first contact with a group of peers. Then the child starts to compare themselves with the others, which has big influence on building identity (Lamont, 2002, 43).

In adolescence, the pupil contemplates many identity questions like values, moral questions and worldview (Saarikallio, 2009, 221). Marcia (1966) divides the process into four stages: diffusion, foreclosure, moratorium and achievement. The diffusion means a stage of early childhood when the child is not committed to any certain identity. Foreclosure means the stage when the child commits oneself to some identity without going through an identity crisis, for example, when a child chooses a profession according to their parents' professions. Moratorium describes the identity crisis of a child, which occurs when getting to know other alternative identities, but they are not yet ready to commit to any particular one. In the achievement stage, the child has gone through different identities and committed to a certain identity (Tarrant, North & Hargreaves, 2002, 134-135).

Music-identity

Music is increasingly used in building and expressing identity because music has more significance in contemporary society than ever before. Music is easily available due to technological development and it is easy to enjoy music as a musician, listener, performer or a critic. Music is not only used for managing emotions or behaviour, it is important also for expressing our values and attitudes (DeNora, 2000; MacDonald, Hargreaves & Miell, 2002). Music builds and expresses our identity (Lundberg, Malm & Ronström, 2003, 16).

The social actions of music can be divided into three groups: the relationships between people, managing the mood, and identity. Music is used in finding one's own place in a group and expressing participation in it. This is important especially for the young people whose musical choices define which group they belong to. Secondly, music can be used in managing moods, for example listening to uplifting music when one is sad. Thirdly, music has an important role in building and developing identity. The concept of musical identity can be used in exploring the actions between music and an individual (MacDonald, Hargreaves & Miell, 2002, 4-5).

It is possible to express one's identity through music because it shows our values. Music choices also show to which reference group we wish to belong (MacDonald, Hargreaves & Miell, 2002; Louhivuori, 2009). Although our music choices are individual, there are influential cultural significances in the background. We make music choices keeping an eye on identities (Suutari, 2013, 262).

Different music cultures have different meanings to people. Everyone interprets music and its cultural significances in an individual way. The cultural significances are not permanent; they depend on interpretation and life situation. This leads to an identity game where the significances are not permanent and they can be consciously changed (Suutari, 2013, 262).

Conceptions about Music-identity

There are different points of view about the meaning and building of music-identity, the concept is multi-dimensional. The idea is related to the Post-modern subject and the idea that identity is continuously changing. Jorgensen (2002, 32) sees music and identity in a reciprocal relationship as music both shapes and expresses our identity. Music has an impact on our identity because it can influence our beliefs and actions. Music has been used in this meaning as long as human beings have existed. It is commonly believed that music can transfer values, beliefs and ways of action. This idea can be seen behind some of the views expressed by the greatest philosophers about the significance of music. For example, Aristotle saw music education as necessary in developing technical skills but also for its social significances (Jorgensen, 2002, 31).

The social element is important in building music-identity as the individual belongs in and identifies with several groups sharing certain ways of acting and beliefs. Identity is built into relationship to these groups and an individual can use characteristics of several different groups in building his individual identity (Jorgensen, 2002, 32). Pupils can pick up identity building blocks from their own musical world. If the pupil studies classical music but also enjoys rap music, both can be used in building music-identity. Music gives opportunities to express one's own emotions, dreams and aims, but also an opportunity to criticize their current life situation (Jorgensen, 2002, 32).

Music-identity can be found in all human beings and it is not bound up with musical talent or musicality. Many individuals who do not consider themselves musical have strong opinions about good and bad music. Music taste can tell a lot about an individual and his/her values and culture. The significance of music in building and shaping identity varies a lot. For those who have music as a hobby it has more significance in identity building than those who do not have a musical hobby (Hargreaves et al., 2002, 11-12).

MacDonald, Hargreaves and Miell (2002) divide the music-identity concept into two parts: identities in music (IIM) focuses on how musical identity is defined based on cultural and social roles. The identities in music approach the concept of music-identity by exploring how an individual's musical actions define one's identity. Culturally defined roles in music, like a conductor, composer or a soloist define the individual's identity. In addition to this, identity can be defined also by the music genre to which the individual listens, or by the musical instrument, the individual plays (Hargreaves, Miell & MacDonald, 2002, 12-14). Music in identities (MII) explores how we use music as a resource at developing our music-identity. We can also build gender identity, national identity and youth identity through music. MII explores the influences of music in self-conception (Hargreaves et al., 2002, 14-15).

Leppänen, Unkari-Virtanen and Sintonen (2013, 334) explore the significance of music to identity from the cultural point of view. Identity builds in different cultures in relationship with different factors, like gender, nationality, age, sexuality, ethnicity or race (Leppänen, Unkari-Virtanen & Sintonen, 2013, 334). Different genres have significance in identity building, for example listening to pop music builds a certain kind of identity.

Green (2011, 11) has defined music-identity most precisely. Music identity builds on personal musical experiences and participation in different social groups like the

family. Musical identity includes music taste, values and musical activities like singing and dancing together with skills and knowledge.

The concept of music-identity can be used in describing the influence of music on human development. Music develops one's identity in music, but it also makes an impact on different identity areas like cultural and national identity. There are only a few people, who do not have music as a part of their life, which makes it possible to explore the music-identity of almost all people. In this research, we use music-identity as a tool for exploring the relation between music and identity. Music-identity comprises young people's musical experiences.

The Music-identity of a Young Individual

Music-identity starts to develop around the age of seven, when a child can recognize their different identities. A child's music-identity builds from their musical experiences and as the child grows, they compared their identity to that of their peers. In childhood, the most important thing from the music-identity point of view is the child's attitudes and emotions related to music (Lamont, 2002, 43).

Tarrant, North and Hargreaves (2002, 135) see that the significant role of music in adolescence is based on the opportunity music offers for managing important developmental problems. Music can help children's development in many ways. Saarikallio (2009, 222) divides the psychosocial significances of music into four theme sectors through which music can support their development. They are self-determination, relationships, emotions and identity, including identity building and strengthening it. Music offers young people tools for managing identity and its changes in their own privacy and peace. Young people's experience of their own identity is often uncertain because adolescence is full of major changes. For example, the music of a favourite band or a favourite piece of music can form a way for expressing identity (Saarikallio, 2009, 224).

Suutari (2013, 263) emphasizes the significance of music's bodily and experiential significances in transferring identity. Music can express identities which are difficult to express exactly, or which are not structured linguistically. This is based on the music's immediate influence and unconscious impact, which raises different emotions (Suutari, 2013, 263). Music is born in a certain culture and it describes its characteristics, but music can also create and build cultures. It awakens associations in us, which we can connect to certain cultures (Suutari, 2013, 263). Moisala and Antikainen (1995, 198) see that we collect for ourselves a warehouse of sounds from the surrounding culture, and music has important tasks, roles and usages in our culture.

Music Education and Identity

When a child goes to school it increases the child's social circle extensively. In addition to family, peers and their school influence the development of identities. Identity can work as a bridge between music education and music's communal role and individual significances. In music lessons, music identity is built in interaction with music, other pupils and the teacher (Anttila, 2006, 26). At school, identity building is strongly

connected to the cultural and social structures of society and the pupil's identity may be defined by social class, gender and ethnicity (Antikainen, Rinne & Koski, 2013, 288).

School is an institution, which offers people complete identity types and evaluates the pupil's ability to reach them. This makes the pupils build their own identities, conceptions of whom they are. The school is a symbolic system, which includes different official and non-official significances. These are products of the surrounding cultureand pupils can use them in describing themselves and the others (Antikainen, Rinne & Koski, 2013, 298). In the same classroom, there can be pupils with very different cultural identities. The challenge for schools is to create an environment where different cultural, national and ethnical identities are noticed and accepted (Folkestad, 2002, 160).

The significance of school music education in building pupils' music-identity depends on the pupils' musical backgrounds. The largest influence depends on whether the pupil has had music as a hobby or not outside school. Those with music as a hobby have more positive attitudes toward school music lessons than the others. Music lessons are significant for pupils in defining their own musicality. In addition, the personality of the teacher influences the development of a pupil's music-identity (Lamont, 2002, 46-54).

Method and Sample

The aim of this research is to reveal what kinds of music-identities the pupils have according to their written narrative stories. We also explore what kind of musical experiences the pupils have and how they have influenced their building of music-identities. We aim at obtaining a comprehensive picture of young people's musical experiences and use the identities in exploring the significance of school music education for them.

Both research questions are based on a theoretical background, and the definition of music-identity is guided strongly by the questions:

What kind of musical experiences have young people lived through?

What kind of music-identities can we find from the narrative stories of young people?

Musical experiences are very individual. Our aim is to explore musical experiences and how young people consider their influence in building their music relationship. In this research, the music-identity is equivalent to Hargreaves' research group's identities in music (IIM).

Our data consisted of pupils' written narrative stories, which were analysed by databased content analysis. Pupils' own life experiences and significances were communicated through these stories. The stories are moulded and shaped throughout life, for example, by different interactions and new experiences (Paananen, 2008, 19; Kaasila, 2008, 41; Riessman, 1993, 2). Therefore, the stories can offer many kinds of information about several themes. According to Heikkinen (2015, 151), narrative research is the exploration focusing on the stories and telling as a moderator and builder of information.

Our data was gathered from 26 elementary school 9th graders and upper secondary school 1st graders' written essays under the headline "Music and me". This data comprised 14 essays (essays nr 1-14) from upper secondary school pupils and 12 (essays nr 15-26) by elementary school pupils. The essays were around one page, but there were also some, which were remarkably longer. The data was collected in the beginning of spring 2018. Appropriate permissions were acquired from the school principals, pupils' parents and pupils. The pupils reported first their age, grade level and gender. They were informed that they were able to stop writing any time or reject participating in the research.

Results

A. Music experiences

The pupils' experiences included memories of music listening, music as a hobby and music studying. These were divided into three main categories.

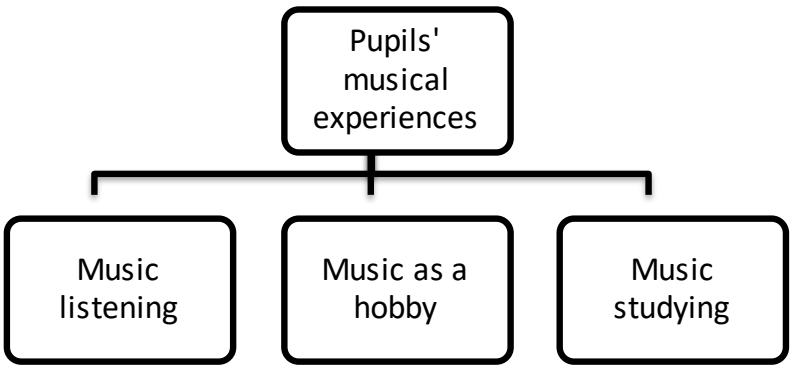

Figure 3. Pupils' musical experiences' main categories

B. Music as a hobby

In descriptions of music as a hobby, four upper categories were found: the influence of the hobby, starting the hobby, giving up the hobby, not having a music hobby (See Figure 4). Under these, we defined several subcategories. The influence of the hobby: psychological factors, social factors. Starting the hobby: own will, influence of others (peers, parents, teacher, etc.). Giving up the hobby: lack of motivation, influence of others, major challenges. Not having a music hobby: conception of own skills, lack of interest.

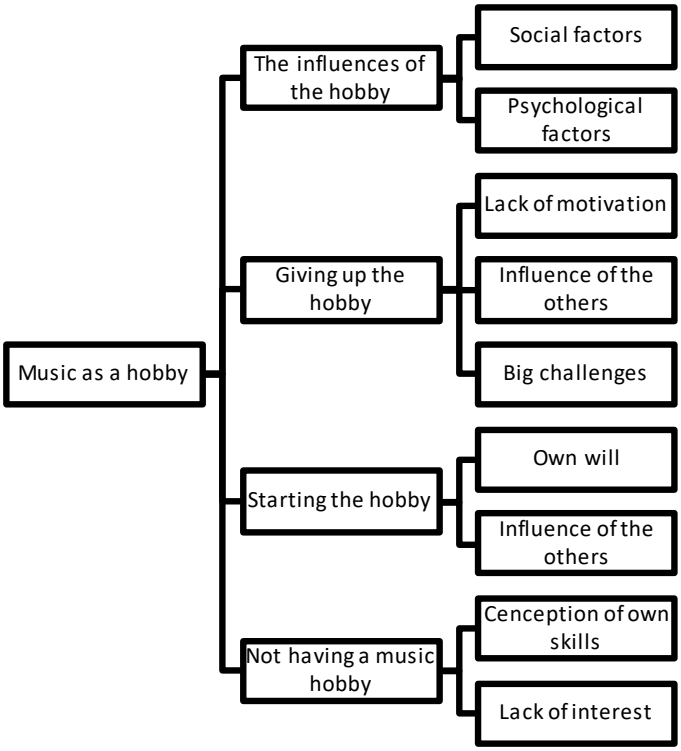

Figure 4. Music as a hobby: High categories and subcategories

Many pupils thought that music can be counted as a hobby only when it takes place in some formal institute like a music school. Only a few pupils named music listening in leisure time as their hobby. Those who never had a music hobby validated it explaining that music never interested them so much or that their interests were elsewhere.

"I have never taken instrument lessons or had music as a hobby in any way. There is no particular reason for it. My hobbies have been focused on sports and music doesn't fascinate me as a hobby." (6)

"I have never had enough interest that I would have wanted to bring music as a hobby into my life." (25)

Some of the pupils validated their lack of music hobby explaining that it would not benefit them in any way. Several essays showed that very few pupils saw any future professional use of music (compare Swanwick, 1988).

"I don't have a music hobby anymore because I feel that I don't have time for any useless hobbies." (1)

Those who had music as a hobby saw it as important. They described singing in a choir, singing lessons or playing piano, guitar, drums, flute or kantele. They wrote that taking up music as a hobby had psychological and social effects; some found like-minded friends and felt togetherness in the hobby.

"I like choir singing and it was the highlight of the week. I made a lot of friends who were excited about music." (9)

Music hobbies also improved pupils' well-being. Instrument playing brought them positive effects like easing stress and calming their mood or refreshing it.

"I have had music as a hobby because I like it and it eases stress focusing thoughts elsewhere."(22)

The stories had many descriptions of starting the hobby and giving it up. Often, pupils told that the hobby had started as an idea from their parents, not by their own will.

"I have had singing and playing as a hobby because in our family music has always been an important thing." (26)

Several pupils used the word "forced" in the description of starting a musical hobby, but many also added their own interest to it.

"I played guitar, because my mom partly forced me, but I wanted it a little, too." (2)

"I have played the drums because my parents forced me but I also wanted to play some musical instrument." (7)

According to Juvonen (2000), if the music hobby did not start of the student's own will, the level of interest in it easily drops and the hobby stops. The same was observed in this research, too.

"I would not like to touch a music instruments anymore, because I played guitar and I have mixed memories of the hobby. I was in the second grade, I liked to play somehow, but soon my interest dropped and I gave up the hobby."(10)

In one case the hobby started inspired by an idol, in this case a choirmaster. Idols may be found also in a young person's own close circle of acquaintances. In addition, some pupils mentioned the positive influence of the family members in starting a music hobby.

"Our choirmaster played the flute in one of our choir's concerts and it sparked an interest which has lasted until today. I started flute lessons the very next autumn." (9)

The reasons for giving up the music hobby were big challenges, lack of motivation and the influence of the others. Continuing to practise was often seen as too challenging; some also felt instrument playing was too difficult. Kosonen (2009) thought that this could be because of modern people's impatient characteristics.

"I was not interested in practising, if I didn't succeed in the first try, I thought that it is no use to practise." (2)

"I have an impatient temperament and I lost my nerves when something didn't go as I wished." (6)

Sometimes the reasons for giving up a hobby were outside of the pupils' control. The reasons mentioned were a bad atmosphere during lessons and a poor teacher.

"I sang in a choir because I like singing. I liked being in the choir for a short time, but later I felt like the others did not like me, so I gave up. I continued singing at home." (17)

Those who had a music hobby linked its significance with enjoyment, well-being and togetherness with a group. Often, if these elements were not present, the hobby was given up. The reasons for starting a hobby were own will and influence or even being 'forced' to start a music hobby by others.

C. Music listening

From music listening experiences, two upper categories were found: music taste and purpose of use (Figure 5). The subcategories of music taste were expression of music taste and development of music taste. The purpose of use was managing the emotions and music as a part of everyday life, passing of time.

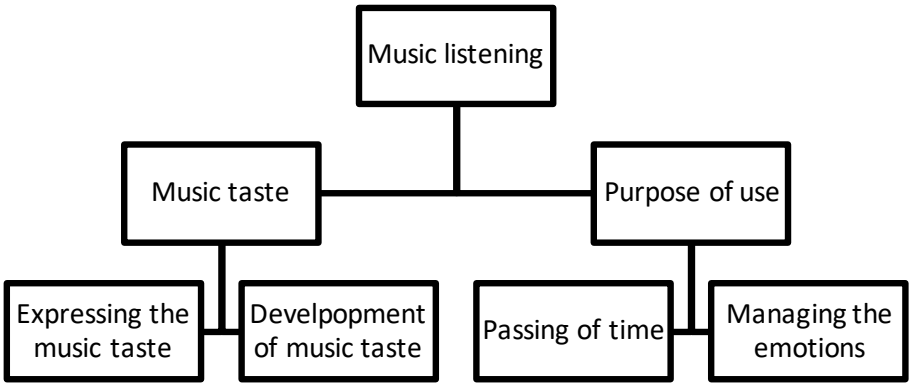

Figure 5. Music listening: Upper categories and subcategories

"With music, I escape from difficult days." (26)

Among musical activities, listening is the most important for the respondents. Many of them focused on describing their music taste and its significances. This category had the widest amount of data. Many respondents told that although they did not believe they have musical talent or musicality and they do not have a music hobby, music listening is still a significant part of their life.

D. Music taste

Almost all respondents had a clear vision of good and bad music, and many named genres to which they listened, but also those to which they did not want to listen. Several pupils did not tell what kind of music they listen to but rather told what they did not listen to.

"I don't listen to classical music or any Finnish heavy metal or hip hop." (1)

Most of the respondents defined their music taste by naming the genres, but some did it by mentioning artists and bands.

"I listen to everything from Katri Helena through Eminem to Disturbed. From day to day, the music genres keep changing. Lately I have been listening mostly to Nickelback and Avenged Sevenfold. I listen to classical music the least." (6)

"I listen mostly to rap music and least some heavy metal music." (16)

The most popular genres were pop and rap music. On the other hand, several respondents mentioned that they did not like rap music while pop music was mentioned only in a positive sense. Those music genres to which pupils did not listen were, among others, classical music, traditional hit music, folk music, rock and heavy music. Pupils did not give reasons for why some genres felt positive and the others negative.

E. The development of music taste

The music tastes of the respondents were either changing or permanent. Many told that they had favoured the same music all their life and some described how their taste had changed as they grew from childhood to young adulthood. Music taste changed from children's songs to pop music or from Finnish music to international music.

"My music taste has changed along with age. As a child I listened to merry children's songs and traditional dance music thanks to my daddy. After that I listened to Finnish pop rather much and I was for a long time a fan of Antti Tuisku. Next, I moved to Apulanta and Robin, which lasted for about a year and then I forgot about them. My cousin introduced me to a band called Black Veil Brides, which was a hard experience. After that, I found Ed Sheeran, and now he is the best." (17)

For many respondents, the circle of acquaintances has had an impact on their music taste, as the former reference showed. In addition to a father, also siblings, cousins and boyfriends often influenced music taste. In addition, radio broadcast had affected the music taste for many respondents.

"My boyfriend has influenced the change in my music taste as he has introduced more heavy metal music to me." (6)

The impact of others weakened as the respondents grew older. Many needed more individuality and they wanted to separate themselves from the masses with their music taste. Many ninth graders and upper secondary school pupils had a need to separate themselves from the music taste of peers and close people to show their growing to adulthood.

"I like to listen to indie bands and I listen to them quite a lot. I listen to rap the least. My music taste has changed a lot because as a child the others had a strong influence on my music taste." (13)

"My music taste has changed and become wider during the last year. A year ago I listened to"teen pop" meaning, in practise, list hits like One Direction and Justin Bieber." (6)

"I have a very negative attitude to mass music." (14)

Many descriptions told that music taste changes according to situation or mood. Only a few respondents saw that their music taste had not changed during their life at all. This kind of permanent music taste was substantiated by saying that they simply had always liked certain music.

F. Expressing the music taste

The expressing of the music taste was divided into two subcategories: private and public music taste. The respondents were divided into two groups: those who never shared their music taste with others and those who wanted somehow to express the music, which they liked. To many of the pupils, music taste was an intimate experience. They did not discuss their own favourite songs with peers and their music taste did not show in any way outside. In addition, there are many levels of privacy; several respondents informed that they never spoke about their favourite music and some said that they would tell, if somebody asked.

"I never tell anyone what music I listen to, and if someone asks I just say: "This and that." (4)

"I don't express my music taste, but if somebody asks I tell them what I listen to directly without shame." (22)

Public music taste meant sharing one's own favourite music with others, music listening together, humming favourite songs publicly and dressing in a certain way. Only few respondents said that they expressed their music taste in any way.

"I express my music taste by talking about the pieces of music and if it is more like heavy metal music, I dress in black and use a lot of jewellery." (17)

Only two respondents informed that they expressed their music taste through their clothing. Both of them referred to heavy metal music and the black clothing, which is associated with it. Although music listening is an important part of life, music taste is a very private experience and due to this privacy, students do not want to show it in public.

G. The purpose of music use

The purpose of use is divided into two subcategories: music as time passing and managing emotions. These are quite similar to the definitions of Saarikallio (2007; 2009) about music's psychosocial significances.

"In leisure time, I listen to music almost all the time. When I wake up in the morning, Spotify is open, and I close it in the evening." (9)

The music as a time passing subcategory includes descriptions of everyday music listening. The respondents described how music was listened to continuously at home and in other environments of everyday life. Music was listened to during homework, work, travelling, sports and when trying to sleep. For many, music is a part of life around the clock.

"At logging sites and in summertime building work, I listen to music several hours a day." (8)

"I listen to music every day, sometimes a couple of hours. I always listen to music when I do my homework and study for examinations. When I am cleaning, music is my best friend!" (17)

Most respondents listen to music daily and use it for passing time, for example when travelling. They are also very conscious of the effects of listening. In addition to revitalization during work and passing time, the respondents mentioned the usage of different kinds of music for different purposes.

"When I study, I can concentrate best while listening to classical music in the background, but when I'm training at the gym I prefer faster pop and heavy metal music. Music listening is almost essential because different music styles help in controlling myself better. When I want to escape the world or ease stress, the best way is to read a good book and listen to Beethoven." (9)

The significances of music listening included many descriptions related to emotions. Music listening helps to concentrate; it refreshes and lifts moods. The respondents describe how they use certain types of music for lifting their mood.

"With music, I escape from difficult days. If you have a good feeling, it can easily be destroyed with music and the other way round, during a bad day I listen only to positive music and it lifts up my feelings. Without music I would not survive bad days." (26)

Secession, which Saarikallio described (2007), was especially important for the respondents. Several used the words "a way to escape from reality" when they described the purposes of their music use. This kind of secession felt like the most important significance in music listening.

"Music listening is very important for me because it is a means of escaping from reality." (1)

"Music is important; I can stay in my private world while listening." (4)

Music also offered an opportunity to handle difficult matters arising during adolescence, such like the stress, anger and depression. Music listening was perceived as a good tool to handle one's own emotions.

"Music listening helps to get away from depression's deep swamp, which makes it really important." (17)

There were only a few respondents, who explained that they did not listen to a lot of music. For the rest, music listening was a daily occurrence with different purposes of use.

I. Music studying

The music studying category was divided into three upper categories: content, teacher and influences (Figure 6). The idea was to collect pupil's experiences of music studying in the school environment and memories of the music lessons. The content was divided into two subcategories: elementary classes and secondary school. The teacher category

was divided into understanding, motivation and development of the skills. The influence category was divided into skills and interest.

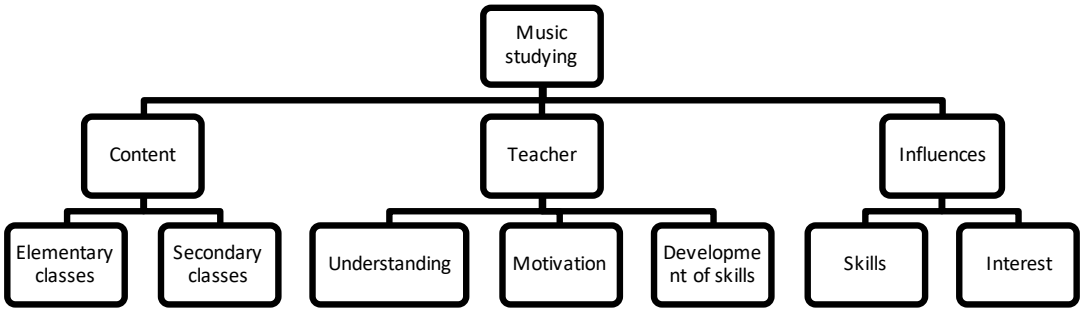

Figure 6. Music Studying: Categories and subcategories

J. Content

Although curriculum defines the content of music education, curriculum implementation depends greatly on the teacher. The memories from music lessons in this research are school-specific and the aim is to create a context for the pupils' musical experiences.

"We sang Don Cat and Mexico express." (2)

The memories of ninth graders and secondary high school pupils about elementary school music lessons are from many years back and many respondents only remember small details like playing some musical instrument or singing a certain song. Many respondents remembered the high amount of singing in elementary school classes and the instrument the recorder was mentioned most often.

"In secondary school we played guitar and sang into a microphone." (17)

There were more memories from the secondary school music lessons. Many respondents highlighted guitar playing and music theory teaching. There were also memories of singing into a microphone, playing the drums, music history teaching and record panels. Some remembered a lot of instrument playing and some did not. Memories of guitar playing were mostly negative and only a few respondents saw them as positive.

K. Teacher

The teacher's influences were divided into three subcategories: motivation, understanding and developing skills. The pupils had contradictory views about the significance of the music teacher. Some said that they did not see that the music teacher had any effect on their music attitudes. Most respondents saw the content of the music lessons as more important than the teacher. A couple of pupils defined the significance of the teacher through good and bad teacher definitions.

"The music teacher had the following significance: if the music teacher was bad, the lessons were poor and no one had motivation for music, but if music teacher was good, everybody had a good feeling and if the music teacher understands us young people and our music taste it makes music lessons more fun." (26)

Many respondents thought that the content of the music lessons was dependent on the teacher. They remembered associations of their music teachers and what they did in music lessons. The background of the teachers was not clear in the stories.

"The school music lessons depend of the music teacher. Some teachers plan versatile lessons and some only play instruments and sing, some really teach only music theory." (18)

The most significant characteristic of a music teacher was their ability to motivate pupils to learn music. The music teacher should make music lessons and their content interesting, which makes participating more fun. The music teacher was also seen as important in instrument playing, helping pupils to develop further. An understanding attitude by the teacher was essential. The teacher should listen to pupils and understand their age level.

L. Influence of music lessons

The influence of the music lessons is divided into two subcategories: skills and interest. Both included positive and negative points of view. Many of the respondents thought that the school music education had weakened their interest in music. Swanwick (1988) had the same results in his research: the pupils had a positive attitude toward music but a negative attitude toward music at school.

"In the beginning the instrument playing was fun, but then it turned boring and stupid. In other ways, music lessons became more a burden than enjoyment." (17)

Some respondents felt their skills were developing thanks to music lessons. They had experienced development as musicians, singers and music listeners. For them, music education had offered new information and points of view.

"Now I know the background of the music I listen to and I have found new music for listening and I have learned to play instruments." (23)

"My appreciation of musicians has risen." (22)

Some pupils saw the skills learned in music lessons as useless and wasted. According to Swanwick (1988), pupils seeing music lessons as useless from a professional point of view may explain this. Respondents did not find musical instrument learning useful at all. Many also experienced being forced to play instruments. The negative attitudes may be related to the respondents' conception of their own poor skills.

"I hated playing guitar because I was poor at it. I did not want to sit in lessons because I had no interest in learning guitar playing. The lessons passed while I played with my mobile phone or talked with friends. I was not a model pupil." (6)

"Music studying at school was very boring and difficult when the children are forced to play instruments and sing although they don't necessarily want to do it. Actually, I was very sick of them. School music education has weakened my interest in playing music because it is obligatory." (14)

Some of the pupils thought that music lessons had increased their interest in music, but a majority of the respondents thought that school music education had a negative influence on their attitude toward music. Many explained that their interest in music had consistently weakened from elementary school to secondary school. The reason for this flagging interest was the content of the lessons, first of all musical instrument learning.

"Sometimes we had a good time in secondary school music lessons when we had record panels and other stuff like that. Guitar playing was too forced, which still affects my attitude towards music as a hobby." (1)

"In elementary school, I was eager to play different instruments like the drums. Now that I have reached secondary school, my enthusiasm in music has lowered. Nowadays I prefer music listening than participating in music making, playing or singing." (25)

Pupils experienced that music lessons did not respond to their own interests. Those who had music as a hobby had a positive attitude toward school music education, while the others felt the school music education weaken their interest in music.

M. Music-identities

Identities in music describe the conceptions of people themselves in the music context and they sample the respondents' musical conceptions. Music-identities are built in personal musical experiences and include music taste, values, music activities like instrument playing and singing. We explore music-identities using the IIM model of Hargreaves, Mills and MacDonald (2002). The respondents were not asked to define their music-identity. That appeared in their musical experiences. Some respondents saw themselves as musical, but most respondents lacked this kind of self-assessment. Musical identity is a feature of most people and it is not bound to musical talent or musicality.

Pupils' music-identities were divided into four identity types: versatile music hobbyists, comprehensive music listeners, everyday music users and music avoidance. Only a few respondents are totally described in the identity-type and they have characteristics of several identity types. Identity can also be under change and context bound.

N. Versatile music hobbyists

Based on their narrative stories, eight respondents were classified as versatile music hobbyist music-identity carriers. Typical characteristics were having music as a hobby and music's high significance to their whole life.

"I breathe music." (17)

Table 1. Versatile music hobbyists' characteristics

ESSAY NUMBER	IDENTITY-TYPE CHARACTERISTICS
4, 12, 13, 17, 18, 19, 23, 26	Music as a hobby
	Music has a big significance in life
	Experience of own musicality
	A will to develop in music
	Music listening is important
	Wide music taste
	Public music taste
	Positive and negative experiences from music lessons

Versatile music hobbyists' music-identity was mostly defined by the music hobby and their studies focused on their musical hobby in free time. All music hobbyists carried out their hobby in some formal institute like a music school or adult education centre. The hobby consisted of instrument lessons or choir singing. Many respondents had started their hobby already at an early age and they saw their music hobby as having a significant role in their whole life.

"Music has always meant for me a field of art where there are countless possibilities to go in different directions." (9)

Music hobbyists feel that they are musically talented. To their minds, this is defined by playing a musical instrument. They also wish to develop further in the field of music and they often have a precise conception of their own skills and where they still have possibilities to develop.

"I practise instrument playing many hours a day… My strength is solo playing. I would like to develop in music theory." (13)

Those who have a music hobby are also eager music listeners and they see it as important as instrument playing. A lot of time is used for music listening and it is seen as important.

"I listen to music every day. In the bus in the morning and afternoons I listen to music, otherwise the day would not start properly. I listen to music whenever it is possible." (26)

Music hobbyists are well aware of the many different possibilities in music listening. They use music as a support for concentration, help for having privacy and managing their emotions. They search for, for example, a better mood through music listening. From all music-identity types, music hobbyists have the widest music taste; they listen to music from one side of the musical spectrum to the other. Still, they try to separate themselves from the masses with their music taste and they would rather listen to music other than pop music when it comes from the radio.

"I listen to music very much. According to Spotify, I have listened to more than 30 000 hours of music in one year. Mostly it is heavy music, for example heavy metal, hard rock and almost any metal music except black metal or death metal. I also listen to classical music, pop music, blues and jazz music – everything. There is not a style I would not listen to, but my listening focuses on

heavy metal and the music of today. I also listen to music from the 40s, 50s, 60s and 70s and especially music from 80s." (23)

Music hobbyists are not afraid of expressing their music taste and they share their listening experiences with others. With regard to school music lessons, respondents are divided into two groups: Those who study music in a target-oriented manner see music lessons often unnecessary and did not want to learn music, choosing optional music courses at school. These hobbyists concentrated especially on their music instrument studies during free time and did not see the school music lessons offering them challenges enough. Target-oriented music hobbyists usually focused on classical music studies.

"During the instrument lessons I play versatilely scales, songs teach the technical matters and new ways of using the flute's voice… I feel that I master my instrument well, but I always look forward to learning new things from the lessons because one can never be perfect and it is always possible to learn something new." (9)

The other group consisted of music hobbyists whose hobby was not especially target oriented. They had a positive attitude toward school music lessons because they enjoyed above all instrument playing in music lessons. The music instruments of their hobbies, drums and guitar were also more suitable for band playing-oriented music lessons.

O. Comprehensive music listeners

This music-identity type forms the largest number of respondents, there were eleven respondents belonging to this group. The most important characteristic is the importance of music listening, but also their negative attitude toward school music lessons differentiates them from the other identity groups.

"The day is not beautiful if I have not listened to music for at least for a moment." (2)

Table 2. Identity characteristics of the group comprehensive music listeners

ESSAY NUMBER	IDENTITY-TYPE CHARACTERISTICS
1, 2, 6, 10, 11, 14, 19, 21, 22, 24, 25	Has given up music hobby/ has not had a music hobby Music listening is important Music has a high significance Negative conception of own musical talent Continuous music listening The aim in music listening is managing emotions Music taste describing oneself Negative experiences from school music lessons

The clearest characteristic feature among this identity-group was that they underlined the fact of their not being musicians, but music listeners. Listening to music is so

important to them that they almost saw it as a musical hobby. They never had music as a hobby carried out in a formal music institution, or it had ended in early childhood.

"Listening to music is more important to me than playing musical instruments." (19)

"I don't play a musical instrument at all during a week, but I listen to music all the time." (11)

Music listening forms a big part of this identity-type's life because listening is continuous; they listen to music for many hours every day. The comprehensive music listeners' music-identity group is conscious about the impact of music on them; they use music for facilitating their work and especially in managing their own emotions.

"I listen to music a lot. I like to listen while travelling and doing different tasks at home, It means a lot, because when you are down the music helps get you into a better mood and forget your sorrows for a moment." (6)

The group members' music taste is quite distinct, they have a clear vision about what is good and bad music.

They seek for both communality and individuality in music listening. They feel that their music taste represents their personalities and their music choices highlight a need for individuality. Comprehensive music listeners do not express their music taste by clothing, but they eagerly share their music listening habits with others.

"I do not show my music taste except when I play my favourite music for others." (25)

Although music was defined as a big part of their life, members of this group did not see themselves as having musical talent. They related musicality to instrument playing, not music listening.

"I don't feel that I am musical because I do not play any music instruments in my free-time." (24)

"I am not a particularly musical person; I just like listening to music quite a lot." (25)

Comprehensive music listeners had negative experiences from school music lessons. Many experienced that the school music education had lessened their interest in music. The group had an especially negative attitude toward instrument playing and they had a negative conception of their own skills.

"In secondary school we sometimes had fun, when we had record pools and that kind of thing but guitar playing felt too forced and it may still effect my negative attitude toward music." (1)

"Nowadays I like more listening to music than participating in instrument playing or singing." (25)

This group considered that the most important music teacher's task was motivating the pupils and creating an encouraging atmosphere in the classroom

P. Everyday users of music

This music-identity group included four respondents. Their typical characteristics were music listening for passing the time and the small significance of music for their life.

"If I don't have anything else to do, I listen to music." (16)

Table 3. Identity characteristics of the everyday music user music-identity group

ESSAY NUMBER	IDENTITY-TYPE CHARACTERISTICS
3, 7, 8, 16	Music listening as a part of everyday life
	Small significance of music
	Music listening does not have effects
	Wide music taste
	Private music taste
	Neutral attitude toward school music lessons

The everyday music users have a neutral attitude toward music, they do not have music as a hobby and their music listening is not on an everyday basis. They do not seek help for managing their emotions by music; their music use is more associated with passing of time and background listening while doing everyday tasks.

"Usually I don't listen to music at all, because in woodcutting and building work in the summertime I listen to music many hours a day." (8)

This music-identity group is not very particular about the music they listen; they do not seek music from Spotify. They listen to the music that is played on the radio. Because music does not provoke strong emotions for this group, they listen to any kind of music. Music taste is not an important factor in defining themselves.

"The school music lessons didn't weaken or strengthen my interest in music My own musical skills have developed thanks to school music lessons, but these skills are useless for anything and I am not going to develop them anymore because I am not a musical person." (3)

The everyday music users have a neutral attitude toward school music lessons, they saw the lessons as mostly nice and they felt they had learned to play musical instruments thanks to the lessons. On the other hand, they did not see any use for these acquired skills.

Q. Music avoidance music-identity group

This group consisted of three respondents; their essays were the shortest of all. A typical characteristic was that music had no significance at all in their life.

"Music doesn't have a big significance in my life." (20)

Table 4. Music avoidance music-identity group characteristics

ESSAY NUMBER	IDENTITY-TYPE CHARACTERISTICS
5, 15, 20	Music doesn't have high significance in my life Negative conception about own musicality Does not want to develop in music Private music taste Neutral attitude to school music lessons

For this identity group, music does not have any significance in their life; they have never had an interest in having music as a hobby and they do not have any musical skills according to their own self-assessment. They see that musicality is a precondition for having music as a hobby.

"I don't want to develop in music because I am not musical." (5)

Listening to music does not have a major role in the everyday life of this identity-group, and music is listened to occasionally. They do not aim to manage any emotional experiences when they listen to music. Music listening is for this group a private experience and they do not discuss the music they listen to with anyone else. The respondents in this identity-group experienced that school music lessons did not increase their interest in music. They saw music as an unimportant school subject and that is why they had a neutral attitude toward music lesson contents. They did not see the teacher's significance in music lessons' meaningfulness.

Summary of the Music-identities

In the table below (Table 5), we have summarized different identity types. There are five characteristics, which distinguish music-identity types one from another. These are music as a hobby, the significance of music, conception of own musicality, music taste and the experiences from school music lessons.

Table 5. Summary of music-identities' characteristics

THE IDENTITY TYPE	MUSIC AS A HOBBY	THE SIGNIFICANCE OF MUSIC	CONCEPTION ABOUT ONE'S OWN MUSICALITY	MUSICAL TASTE	EXPERIENCES FROM SCHOOL MUSIC LESSONS
Versatile music hobbyist	Yes	Very strong	Positive	Public	Positive / Negative
Comprehensive music listener	No / has had earlier	Strong	Negative	Public	Negative
Everyday user of music	No	Weak	Negative	Private	Neutral
Music avoidance	No	No significance	Negative	Private	Neutral

The idea of music-identity types is to understand the kinds of actors among young pupils and how different kinds of experiences affect the building of these identity types. Musical identities also help in understanding how different experiences during school music lessons impact pupils' attitudes toward music lessons.

The musical hobby is the most common among the versatile music hobbyist identity-group and declines in popularity towards the music avoidance group. The identity types are presented in Table 5 in the order from the greatest to the least music significance in the group's life, starting from the greatest and ending with the least significance.

Most of the respondents saw the significance of music as great in their life. Still, the respondents differentiated into two groups: the ones who had music as a hobby and those who underlined only their music listening without playing any musical instruments. The groups also differed by their experiences from school music lessons: the hobbyists had both positive and negative experiences from the lessons, while music listeners had only negative experiences. In addition, the music listeners had a negative conception of their own musicality.

The rest of the respondents were divided into two groups: everyday music users and the music avoidance-group. The differences between these two groups were, in addition to significances of music for their life, in the purpose of using music for different purposes. The everyday music users use music, for example, when they are working while the music avoidance group does not use music for any purposes. For both groups, music was a hobby and their conception about their own musicality was negative.

The concept of musicality (or musical talent) was closely related to the demand of having music as a hobby; usually manifested in playing some musical instrument in some formal institution. This was also the reason why music hobbyists assessed themselves as musical. Although the significance of music was great also for music listeners, they did not see themselves as musically talented. The music hobbyists and comprehensive music listeners have a public music taste; they express the music they listen to through clothing and sharing music with others. The music taste of the everyday music users and music avoidance-identity group is private: they do not wish to share the music they listen to with others and it does not show in their appearance.

The results show that only some music hobbyists have positive experiences from school music lessons, and the most negative group was the comprehensive music listeners. The everyday music users and music avoidance group, who both reported a minor significance of music in their life, had quite neutral attitudes toward school music lessons. The greater the significance of music, the more negative experiences the respondents had from school music lessons. The only exception for this was a small group of music hobbyists who had positive experiences.

Conclusions

The pupils' music taste is quite strongly related to others in elementary school and at the beginning of secondary school. However, as they grow older the influence of others diminishes. This research supports LeBlanc's (1987) findings in this respect. When getting older, pupils want to draw apart from the music taste of others, and they seek

individuality. The results show that for most of respondents, music taste is private and a smaller part of them had a public music taste. This supports the thoughts of Saarikallio (2009): music is a strong expression of self, but there was hesitation to show music taste to others.

Most of the pupils listen to music daily and use it consciously in managing their emotions, changing their mood, and supporting their concentration. It also brings good feelings, relieves stress and offers an escape from the reality which Saarikallio (2007) also had described. Although support from parents was important in having music as a hobby, it had also negative effects when the respondent felt forced to have a musical hobby.

In elementary school, experiences of music lessons focused on singing and in secondary school on band playing. The teacher's personality had a strong effect on the classroom atmosphere but also on motivating and developing pupils' skills. They were also required to understand pupils. Some respondents felt they gained skills during music lessons, but they were not useful at all. The pupils' interest in music flagged from elementary school to secondary school, especially instrument playing was an interest-weakening element. Most of the respondents saw school music lessons as weakening their interest in music, although the significance of music was strong in their life. This raises questions about the content of music lessons: *How could they be developed to be more suitable for pupils' experience of the world?*

Music-identities were condensed into four identity types: versatile music hobbyists, comprehensive music listeners, everyday music users and music avoidance group. This is like in a postmodern subject a bigger or smaller part of total identity. These identities develop according to pupils' musical experiences both at school and outside school (compare Green, 2011). As pupils spend a lot of time at school, the significance of school in building one's music-identity is remarkable. Music lessons have an impact on the conception of a pupil's own musicality (compare Lamont, 2002). Music identities are built in interaction with peers (Compare Anttila, 2006). The conceptions of musicality and musical identities can have a long-lasting effect on the personality and development of a young person. Music is a major part of life during adolescence and it helps with managing emotions and escaping from reality. A music teacher should be able to use this information to create a positive music relationship with all of their pupils.

References

Ahonen, K. (2004). *Johdatus musiikin oppimiseen* [Guidance to Music Learning]. Helsinki: Finn Lectura (in Finnish).

Antikainen, A., Rinne, R. & Koski, L. (2013). *Kasvatussosiologia* [Educational Sociology]. Jyväskylä: PS kustannus (in Finnish).

Anttila, M. (2006). Musiikin opiskelumotivaatio yläkoulussa ja lukiossa [Music studying motivation in secondary school and secondary high school]. In M. Anttila, & A. Juvonen. *Musiikki koulussa ja nuoren elämässä*. *Kohti kolmannen vuosituhannen musiikkikasvatusta,* osa 3 [Music at School and in Young People's Life: Towards the music education of the third millennium, part 3] (pp. 15-164). Joensuu: Joensuu University Press (in Finnish).

Bronfenbrenner, U. (1979). *The Ecology of Human Development*. Cambridge, Mass: Harvard University Press.

DeNora, T. (2000). *Music in Everyday Life.* USA: Cambridge University Press.

Folkestad, G. (2002). National identity and music. In R.R. MacDonald, D.J. Hargreaves, & D. Miell (Eds.), *Musical Identities* (pp.151-162). Oxford: Oxford University Press.

Green, L. (2011). The globalization and localization of learning, teaching and musical identity. In L. Green (Ed.), *Learning, Teaching, and Musical identity. Voices across cultures* (pp. 1-19). Bloomington: Indiana University Press.

Hall, S. (1999). *Identiteetti* [Identity]. Tampere: Vastapaino (in Finnish).

Hall, S. (2003). Kulttuuri, paikka, identiteetti [Culture, place and identity]. In M. Lehtonen, & O. Löytty (Eds.), *Erilaisuus* [Differency] (pp. 85-128). Tampere: Vastapaino (in Finnish).

Hargreaves, D.J., Miell, D. & MacDonald, R. (2002). What are musical identities and why are they important. In R.R. MacDonald, D.J. Hargreaves, & D. Miell (Eds.), *Musical Identities* (pp. 1-20). Oxford: Oxford University Press.

Heikkinen, L.T. (2015). Kerronnallinen tutkimus [Narrative research]. In R. Valli, & J. Aaltola (Eds.) *Ikkunoita tutkimusmetodeihin 2. Näkökulmia aloittelevalle tutkijalle tutkimuksen teoreettisiin lähtökohtiin ja analyysimenetelmiin* [Windows to Research Methods 2: Points of view to beginning researchers to theoretical starting points and analyze methods] (pp. 149-167). Jyväskylä: PS kustannus (in Finnish).

Helve, H. (2008). Nuorten eettisten ja kulttuuristen identiteettien ja arvojen muutos [The change in young peoples' ethical and cultural values]. In A.R. Lahikainen, R-L. Punamäki, & T. Tamminen (Eds.), *Kulttuuri lapsen kasvattajana* [Culture Education of a Child] (pp. 280-299). Helsinki: WSOY (in Finnish).

Jorgensen, E.R. (2002). Toward a social theory of musical identities. In B. Stålhammar (Ed.), *Music and Human Beings: Music and identity* (pp. 27-45). Örebro: Universitetsbiblio-teket.

Juvonen A. (2000). *"...Johnnyllakin on univormu, heimovaatteet ja -kampaus..." Musiikillisen erityisorientaation polku musiikkiminän, maailmankuvan ja musiikkimaun heijastamina* ["...Also Johnny has a uniform, tribal clothes and hairdo... The path of musical special orientation in the reflections of musical self-conception, musical worldview and musical taste: Doctoral theses in University of Jyväskylä]. Väitöskirja, JKL:n Yliopisto (in Finnish). Availeble in internet: https://jyx.jyu.fi/dspace/handle/123456789/25573

Kaasila, R. (2008). Eri lähestymistapojen integroiminen narratiivisessa analyysissä [Integrating different approaches in narrative analysis]. In R. Kaasila, R. Rajala, & K.E. Nurmi (Eds.), *Narratiivikirja. Menetelmiä ja esimerkkejä* [Narrative Book: Methods and examples] (pp. 41-67). Rovaniemi: Lapin yliopistokustannus (in Finnish).

Kosonen, E. (2009). Musiikkia koulussa ja koulun jälkeen [Music at school and after school]. In J. Louhivuori, P. Paananen, & L. Väkevä (Eds.), *Musiikkikasvatus. Näkökulmia kasvatukseen, opetukseen ja tutkimukseen* [Music Education: Points of view in education, teaching and research] (pp. 157-170). Jyväskylä: FiSME (in Finnish).

Lamont, A. (2002). Developing musical identities and the school environment. In R.R. MacDonald, D.J. Hargreaves, & D. Miell (Eds.), *Musical Identities* (pp. 41-59). Oxford: Oxford University Press.

LeBlanc, A. (1987). Development of music preference in children. In J.C. Peery, I.W. Peery, & T.W. Draper (Eds.), *Music and Child Development* (pp. 137-157). New York: Springer.

Leppänen, T., Unkari-Virtanen, L. & Sintonen, S. (2013). Kriittinen musiikkikasvattaja ja musiikkikasvatuksen traditiot [Critical music educator and traditions of music education]. In M.-L. Juntunen, H.M, Nikkanen, & H. Westerlund (Eds.), *Musiikkikasvattaja. Kohti reflektiivistä käytäntöä* [Music Educator: Towards reflective music education] (pp. 321-348). Jyväskylä: PS-kustannus (in Finnish).

Louhivuori, J. (2009). Näkökulmia musiikkikasvatuksen merkityksiin [Points of view in music education significances]. In J. Louhivuori, P. Paananen, & L. Väkevä (Eds.), *Musiikkikasvatus. Näkökulmia kasvatukseen, opetukseen ja tutkimukseen* [Music Education: Points of view in education, teaching and research] (pp. 11-27). Jyväskylä: FiSME (in Finnish).

Lundberg, D., Malm, K. & Ronström, O. (2003). *Music, Media, Multiculture: Changes in Swedish music landscape.* Tukholma: Svenskt visarkiv.

Marcia, J.E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551-558.

MacDonald, R.A., Hargreaves, D.J. & Miell, D. (2002). *Musical Identities.* New York: Oxford University Press.

Moisala, P. & Antikainen, P. (Eds.) (1995). *Musiikkitunteja maailmalta* [Music Lessons from the World]. Helsinki: Hakapaino (in Finnish).

Ojanen, M. (1996). *Mikä minä on. Minän rakenne, kehitys, häiriöt ja eheytyminen* [What is Self: The structure, development mall functions and harmonizing]. Tampere: Kirjatoimi (in Finnish).

Paananen, S. (2008). Saksalainen elämänkertametodologia oppimisen tutkimuksessa [German life-story methodology in the research of learning]. In R. Kaasila, R. Rajala, & K.E. Nurmi (Eds.), *Narratiivikirja. Menetelmiä ja esimerkkejä* [Narrative Book: Methods and examples] (pp. 19-40). Rovaniemi: Lapin yliopistokustannus (in Finnish).

Rastas, A. (2008). Kuinka rasismi värittää kulttuuria ja identiteettejä? [How racism colours culture and identity]. In A.R. Lahikainen, R-L. Punamäki, & T. Tamminen (Eds.), *Kulttuuri lapsen kasvattajana* [Culture Education of a Child] (pp. 246-265). Helsinki: WSOY (in Finnish).

Riessman, C.K. (1993). *Narrative Analysis*. Sage Publications.

Ruud, E. (2002). The role of music in the development of identity. In B. Stålhammar (Ed.), *Music and Human Beings: Music and identity* (pp.59-71). Örebro: Universitetsbiblioteket.

Saarikallio, S. (2007). *Music as Mood Regulation in Adolescence*. Jyväskylä: Jyväskylän yliopisto.

Saarikallio, S. (2009). Musiikki ja nuoren psykososiaalinen kehitys [Music and the psychosocial development of young people]. In J. Louhivuori, P. Paananen, & L. Väkevä (Eds.), *Musiikkikasvatus. Näkökulmia kasvatukseen, opetukseen ja tutkimukseen* [Music Education: Points of view in education, teaching and research] (pp. 221-231). Jyväskylä: FiSME (in Finnish).

Saastamoinen, M. (2006). Minuus ja identiteetti tutkimuksen haasteina [Self and identity as challenges for the research]. In P. Rautio, & M. Saastamoinen (Eds.), *Minuus ja identiteetti* [Self and Identity] (pp. 168-178). Tampere: Tampereen yliopistopaino (in Finnish).

Spychiger, M.P. (2017). From musical experience to musical identity: Musical self-concept as mediating psychological structure. In R. MacDonald, D.J. Hargreaves, & D. Miell (Eds.), *Handbook of Musical Identities* (pp. 267-287). Oxford: Oxford University Press.

Suutari, P. (2013). Moni-identtisyys ja etnisten vähemmistön musiikki [Multi-identity and music of ethnic minorities]. In P. Moisala, & E. Seye (Eds.), *Musiikki kulttuurina* [Music as Culture] (pp. 257-276). Helsinki: Suomen Etnomusikologinen Seura (in Finnish).

Swanwick, K. (1988). *Music, Mind and Education.* London: Taylor & Francis Group.

Talib, M.-T. (2002). *Monikulttuurinen koulu* [Multicultural School]. Helsinki: Kirjapaja (in Finnish).

Tarrant, M., North, A.C. & Hargreaves, D.J. (2002). Youth identity and music. In R.R. MacDonald, D.J. Hargreaves, & D. Miell (Eds.), *Musical Identities* (pp. 134-150). Oxford: Oxford University Press.

Tulamo, K. (1993). *Koululaisten musiikillinen minäkäsitys, sen rakenne ja siihen yhteydessä olevia tekijöitä. Tutkimus peruskoulun neljännellä luokalla* [Pupils' Musical Self-concept, Its Structure and Factors Connected to It: A research in elementary school's 4th grade]. Helsinki: Sibelius-Akatemia (in Finnish).

Received 09.09.2020
Accepted 09.12.2020

EXPLORING THE RELATIONSHIP BETWEEN MUSIC AND CHILDREN'S COGNITIVE ABILITY

Mingyujia DAI

University of Sussex, Falmer, United Kingdom
email: daimingyujia@126.com

Nigel A. MARSHALL

email: University of Sussex, Falmer, United Kingdom
N.A.Marshall@sussex.ac.uk

Abstract
The relationship between music and brain has long been the concern of many research studies. Initially, Rauscher, Shaw and Ky (1993) reported preliminary results for what they termed 'the Mozart effect', based on the belief that music with a complex structure, and especially the music of Mozart, could briefly improve the spatial-temporal reasoning ability of adults. This initial, pioneering study paved the way for a significant number of additional studies expanding on the range of musical features, the breadth of cognitive abilities, and the number of individuals included in the research population. However, the debate on the reliability and stability of the Mozart effect has never ceased.
The aim of this current study was to explore the extent to which a) the Mozart effect could be repeated through a series of brief musical conditions working with young children, rather than with the more usual older populations, and b) the spatial reasoning ability of young children could be improved as a result of listening to the music of Mozart, to the more culturally familiar music of Li Huan Zhi and in one further condition of silence.
Keywords: *the Mozart effect, children, cognitive abilities, music, relationship*

Introduction

The development of technology has created a world in which music can be enjoyed at any point in time, and in almost anywhere on the globe. Indeed, today, music has spread to all aspects of our lives (Rentfrow, 2012) and fulfils a vast range of functions including, background entertainment, mood regulation, social cohesion, self-reflection and social connection (Schäfer, Sedlmeier, Städtler & Huron, 2013). Other research studies have further argued that music can be used as a treatment for a wide range of illnesses (Brackney & Brooks, 2018), or to influence both our online and in shop purchases (Areni & Kim, 1993; Hwang, Oh & Scheinbaum, 2020; Lai & Chiang, 2012; Rodgers,

Yeung, Odindo & Degbey, 2021). However, the idea that music can improve cognitive development (Beauvais, 2015) is derived, in part, from studies revolving around the 'Mozart effect' (Rauscher & Shaw, 1998).

The '*Mozart Effect*' originally referred to the temporary improvement in people's spatial-temporal reasoning ability following exposure to music by Mozart, or music written in the classical style of Mozart. In a pioneering study by Rauscher, Shaw & Ky (1993), 36 college students experienced each of three conditions namely: (1) listening to Mozart's Sonata for Two Pianos in D Major (K448) for 10 minutes, (2) listening to a 10-minute relaxation instruction, and, finally, (3) sitting in silence for 10 minutes. Following each condition, participants' spatial reasoning ability was measured using a pattern analysis test, a multiple-choice matrices test and a multiple-choice paper folding and cutting test (PF&C), derived from the Stanford-Binet intelligence scale. Findings suggested that participants' performance on each task increased more in the listening to Mozart's sonata condition, than after either the relaxation and silence conditions. However, the increase was also found to be short-lived.

The possible significance of this initial work generated a sizeable volume of further research (Moscucci, Verrusio, Gueli & Cacciafesta, 2015), most of which has been dedicated to extending the definition of the Mozart effect. For example, Rideout, Dougherty & Wernert (1998) found that Yanni's music has the same effect as the music of Mozart and similarly, Ivanov & Geake (2003) found the same effect for Bach's music. Smith, Waters & Jones (2010) adopted a within-subjects design in which young adults participated in three different listening conditions, namely a Mozart piano sonata, listening to a series of motivating statements and sitting in silence. Following each condition, all participants completed the '*Revised Minnesota Paper Form Board Test*' (RMPFB) which assessed the participants' spatial and mental visualization ability. Participants' overall mood was also evaluated before and after each condition. Overall, results supported the Mozart effect with the test scores of participants after listening to Mozart music being higher than scores achieved in the other two conditions. In contrast, Padulo, Mammarella, Brancucci, Altamura & Fairfield (2019) failed to find any support for the Mozart effect amongst their sample of 179 undergraduates and 183 older adults. In this study, participants were randomly divided into one of four conditions, namely a) listening to Mozart KV 448, b) an amplitude modulation tone, c) a frequency modulation tone, and finally, d) white noise. Although the results found no significant effect on the performance of young people's spatial-temporal reasoning tasks, but demonstrated significant impact on the spatial-temporal reasoning ability of the older adults.

Cacciafesta et al. (2010) carried out two studies with two groups of elderly participants. The two groups were of similar age; however, one group was diagnosed with a mild cognitive impairment. This study was notable in that for the first time all the participants completed a series of tests with each one corresponding to different cognitive abilities, namely, a) spatial-temporal reasoning, b) episodic learning, c) ideational-praxis abilities, d) Rey's 15-word test of immediate recall, e) the trail making test of attention, and f) the digit span for number memory. Following this battery of tests, participants listened to Mozart and completed similar post listening tests. 15 days later, they participated in the second identical experiment in which the musical stimulus used was by Beethoven. Results from the extensive series of measures found

that the music of Mozart made a more significant impact on elderly participants with mild cognitive impairment than those without.

Several experiments extended the age range of previous studies to include younger participants. For example, McKelvie & Low (2002) found similar results amongst on younger participants 55 grades 7 and 8 students, who were randomly divided into four groups: two groups experienced Mozart's music, and two experienced dance music from 'Aqua'. The test was to complete nine paper folding and cutting. Results suggested that the children's pretest and protest performances were similar in both Mozart and Aqua conditions. A second experiment involving 48 grades 7 to 8 students in eight procedural groups and a control using relaxation music found no overall effect. Further work with 135 grade five students found no effect or significant difference on spatial reasoning test between popular music and Mozart music (Crncec, Wilson & Prior, 2006). However, in a sample of 8120 children (aged 10 – 11 years) Schellenberg & Hallam (2005) found that pop music appeared to impact on their spatial reasoning ability more than music by Mozart.

Hence, since the first reported work by Rauscher, Shaw & Ky (1993), the effect of music on individual development has induced a significant number of further studies, and whilst some have offered support for the Mozart effect (Smith, Waters & Jones, 2010; Cacciafesta et al., 2010), others have not (McKelvie & Low, 2002; Crncec, Wilson & Prior, 2006). However, to date, there has been little agreement as to what precise mechanism sits behind the effect experienced through engaging with the music of Mozart. Essentially, there are two basic groups of theories for explaining any such effects, namely the priming effect, which argues that music causes similar firing patterns in the brain that are involved in the process of spatial-temporal reasoning (Rauscher & Shaw, 1998; Jausovec, Jausovec & Gerlic, 2006). Whilst a second argument suggests that the enjoyment of the musical stimulus causes changes in mood and arousal, thereby improving task performance (Nantais & Schellenberg, 1999; Thompson, Schellenberg & Husain, 2001).

Further confirmation of the priming effect was obtained in the works of authors such as Kozelka & Pedley, (1990), Husain, Thompson & Schellenberg (2002), Jausovec, Jausovec & Gerlic (2006), Verrusio, Ettorre, Vicenzini, Vanacore, Cacciafesta & Mecarelli (2015), Giannouli, Kolev & Yordanova (2019). Though support for the theory of mood and arousal came from Thompson, Schellenberg & Husain (2001), Husain, Thompson & Schellenberg (2002); Schellenberg, Nakata, Hunter & Tamoto (2007), Pekrun et al. (2017).

Further studies have attempted to explore and isolate the individual factors, which may affect the participants' performance in spatial reasoning tests and hence, posit a number of reasons for the lack of homogeneity amongst the previous studies investigating the Mozart effect. For example, Gaser & Schlaug (2003) compared the physical make up of brains from 20 male professional musicians, 20 male amateur musicians and 40 male non-musicians, and found significant differences in the region of the brain associated visual-spatial pattern recognition with, and therefore they argued that musicians should develop higher levels of spatial reasoning ability. Similarly, Brochard, Dufour & Després (2004) found that compared with non-musicians, musicians were faster in associating visual stimuli with specific motor responses resulting from years of daily instrumental practice and from their music

reading experience. Therefore, they argued that increased levels of ability in visual-spatial reasoning tasks could well be the result of musical training.

In addition, the results of a longitudinal study by Schlaug (2005) on children aged 5 to 7 showed that 9 to 11-year-old children with an average of four years of music training had significantly higher levels of spatial reasoning about it. The authors explain the variety of skills in reading music and playing musical instruments. Similarly, Rauscher & Hinton (2006) through a longitudinal study of preschool children showed that compared with the control group, children who received music instruction before the age of seven, showed better performance in spatial-temporal and numerical reasoning tasks. Furthermore, they found that the impact lasted for two years. Essentially, music training may enhance spatial reasoning because the musical notation itself is spatial.

Schellenberg (2005) also argued that music improves abstract reasoning because a tune is determined by information about relationship. The llisteners recognize a specific tune whether it is played fast or slow, on a piano or guitar, at a high or a low pitch. In other words, the tune is abstract and the listener is required to generalize patterns that have similar but not the same related information (for example, variations of the theme). Thus, Schellenberg (2005) argued that through this training, learning abstract thinking and understanding the similarities of music under different backgrounds promoted intellectual development more widely. Similarly, Miendlarzewska & Trost (2014) argued that musical training develops children's attention and memory. Therefore, the transfer skills of executive function, self-control and sustained concentration may translate into better results in other subjects and may even translate into higher overall IQ. However, in contrast Giovanni & Fernand (2017) argued that musical training cannot reliably enhance the cognitive or academic skills of children and adolescents, and the previous positive findings may be due to confounding variables.

Having given due consideration to the literature, there is still a lack of clarity as to the extent to which the Mozart effect actually impact on a range of cognitive abilities and factors which might influence the effectiveness of that impact. One thing is clear, namely, that any experience, which positively affect the cognitive development of children must be an important area for future research. Hence, **the current study set two research questions:**

- *To what extent does the Mozart effect impact child?*
- *If we can replicate the Mozart effect, which mechanism can produce the Mozart effect?*

Method and Sample

Our research procedure employed 87 children (students) aged between 9 and 10 years old in the autumn of 2020. All participants had received approximately six years of general, school music education including three years in kindergarten and three years in primary school. Seven participants had also received extracurricular music training on musical instruments. The stimuli for the experiment lasted for 10 minutes. All children experienced three distinct stimuli conditions namely: listening to excerpts of

Mozart's Sonata for Two Pianos in D Major, K 448 for 10 minutes; sitting in silence for 10 minutes; listening to Li Huan Zhi's Spring Festival Overture for 10 minutes.

The silence and Mozart Sonata condition replicated the original stimuli used by Rauscher, Shaw & Ky (1993). However, as other studies had also utilized a further comparative condition (Thompson, Schellenberg & Husain, 2001; Crncec, Wilson & Prior, 2006), we also adopted one further comparative condition. Li Huan Zhi's Spring Festival Overture was chosen for the other stimulus in this experiment because it represented a number of factors (which previous work had suggested) could create a similar effect to that obtained by the music of Mozart, namely, a) complex structure, b) major mode, c) a fast tempo, and d) cultural familiarity and preferences. Li Huan Zhi's music fulfilled all criteria: a fast-tempo piece, in a major mode and based on the theme of the traditional Chinese Spring Festival, which represents joy, unity, friendship, and mutual congratulations for Chinese people and was therefore deemed to be cultural familiar and preferred.

Procedure and Measurement

The main measurement tool used in the original experiments was the Fitzgerald Paper-folding Test, which required participants to imagine what would be the shape of a folded and cut piece of paper, if it were to be unfolded. Responses required participants to select one of five possible figures. Other tests used in the experiments were not suitable for such young children. Two versions of the Fitzgerald Paper-folding Test, which each have 10 questions. In this study, the images for the first set of 10 questions were rotated by 180 degrees to form a third set. Whether there would be a practical effect for such an operation will be explain below.

In addition, supplementary questionnaires were employed in order to assess mood, arousal, and comprehensive information questionnaires. The mood and arousal questionnaire included the evaluation of two indexes (1) mood status, e.g. very unhappy; unhappy; neutral; happy; very happy, and (2) emotional level, which was divided into five levels with numbers from 1 to 5. This questionnaire was used to analysethe extent to which the music could cause changes in participants' mood and arousal, which could have affected their task performance.

Before the formal experiment, nine students participated in a pilot study in order 1) to check whether the Paper-folding Test was suitable for students in primary school, and 2) to help determine which grade students were most appropriate for this experiment. The pilot test was carried out during the summer vacation; so, of these nine students some were going to enter grade 6 (two children), grade 5 (four children), grade 4 (1 child), and grade 3 (two children) when school recommenced in the autumn. The nine participants completed all experiments at home through the Internet due to the need to isolate, because of the Covid-19 virus. They completed three sets of Paper-folding Tests, each of which had 10 questions. Each test lasted for 10 minutes. A brief interview was conducted with all nine participants in order to check the appropriate level of language used in the instructions. As a result of the feedback, some statements have been rephrased and shortened. In terms of the paper-folding tests, except for one student in grade 5 and one in grade 6, who found them relatively easy, the other participants found the test to have a moderate level of difficulty.

Following the pilot study, we adjusted the sequence of three conditions. The Mozart condition was presented first, followed by the silent condition and finally, the Li Huan Zhi condition. The participants were devided in two groups, and although the experiments were not carried out at the same time, the tests in both groups were both carried out during the last period of the morning and all three conditions were completed within one hour. The experiment was carried out in the following sequence:

Sequence One: a) oral explanation, b) mood and arousal questionnaire pre-music, c) listening to Mozart's music (10 minutes), d) mood and arousal questionnaire post music, e) test 1 (7 minutes), f) questionnaire 1.

Sequence Two: a) mood and arousal questionnaire A, b) silence (10 minutes), c) mood and arousal questionnaire B, d) test 2 (7 minutes), e) questionnaire 2.

Sequence Three: a) mood and arousal questionnaire A, b) listening to Li Huan Zhi's Spring Festival Overture (10 minutes), c) mood and arousal questionnaire B, d) test 3 (7 minutes), e) questionnaire 3.

All original content involved in the experiment was originally written in English but, as the participants in this study are all Chinese, questionnaires, information sheet and consent form were all translated into Mandarin Chinese. To ensure the accuracy of translation, a cross-translation process was used with another fluent Chinese/English speaker.

Results

All data was analysed using SPSS 21 software and presented according to each research question.

Research Question 1: To what extent does the Mozart effect impact children?

A normal distribution of data was seen for Test 1 ($p > 0.05$) and Test 2 ($p > 0.05$), while a non-normal distribution was found for the results of Test 3 ($p < 0.05$). Therefore, Wilcoxon signed rank tests were used to compare the differences in scores between Test 1 and Test 3, and between Test 2 and Test 3. A paired-samples T-test was used to compare the differences between Test 1 and Test 2.

Participants' performance in test 1 was higher in the Mozart condition (mean score=4.6) compared to the Li Huan Zhi condition (mean score=3.87), but lower than those obtained in the silent condition (mean score=4.77). Although mean scores were higher in the silent condition than in the Mozart condition, the Wilcoxon Ranks test found no significant differences between them ($p > 0.538$). However, a significance was found to exist between the Mozart and Li Huan Zhi conditions ($p > 0.046$) and a high level of significance between the Silent and Li Huan Zhi conditions ($p > 0.00$). The results suggest that children performed better on the spatial reasoning test in the Silent condition, closely followed by the Mozart condition and significantly better than in the Li Huan Zhi condition. Therefore, the Mozart effect was not supported.

On the other hand, the average time, which participants took to complete the tests, proved to be interesting. The mean time required to complete the test in the silent

condition (mean = 2.69 minutes) was significantly shorter than that the completion time required for the Mozart condition (mean = 4.03 minutes). The Li Huan Zhi condition required a completion time of 2.77 minutes. The Wilcoxon signed ranks test revealed no significant difference in the completion times for the silent and the Li Huan Zhi conditions ($p>0.940$), yet a significant difference was found to exist between the completion time required for the Mozart – silent condition ($p>0.000$) and the Mozart – Li Huan Zhi condition ($p>0.000$). Therefore, in this respect, the Mozart condition did not support any level of improvement on the tasks, but also appeared to hinder performance in terms of the time required to complete the task.

Research Question 2: Which mechanism is more likely to produce the Mozart effect?

As stated, we found no support for the Mozart effect amongst our research population, however, turning next to the mood index of participants, we found a significant difference in mood between the pre & post listening test in the Mozart condition indicating a positive increase from 3.66 to 4.08, ($p< 0.05$). In addition, the Mozart condition revealed higher levels of positive mood index than those obtained after sitting in silence (3.63) and in the Li Huan Zhi condition (3.82), and the increase in mood between the Mozart and silent conditions reached a level of significance ($p >0.05$). Therefore, this suggests that Mozart's music did lead to a significant improvement in mood among participants. In addition, post listening measures in the Mozart condition found higher levels of arousal (3.38) than those obtained in silence condition (2.94), although this did not reach a level of significance ($p> 0.05$). However, combined with the previous results, the performance of tasks after the Mozart condition was not found to improve compared with performance after the silence condition. In other words, even if Mozart's music caused positive changes in participants' mood and arousal, it did not help the improvement of subsequent task performance.

Moreover, by comparing the level of liking/disliking, the level of familiarity and the level of concentration when listening to two pieces of music, we found no significant difference in participants' concentration when listening to the two different pieces of music ($p> 0.670$). That is, the participants' concentration in the two conditions was almost identical (2.21 & 2.18 respectively). However, the difference in the level of liking/disliking ($p< 0.08$) and level of familiarity ($p< 0.00$) between the Mozart and Li Huan Zhi conditions were significantly different. Clearly, participants liked and were more familiar with the Li Huan Zhi's Spring Festival Overture (4.18) compared to the Mozart (3.84). However, combined with the previous results, preference and higher familiarity did not appear to create an improvement in mood or the level of arousal amongst participants. We therefore concluded that preference and familiarity might not significantly affect on, or improve task performance. Overall, we argue that our results do not support the preference, mood and arousal hypothesis as an explanatory mechanism for the Mozart effect.

Discussion

Results of the study indicate that listening to Mozart's music for a short period does not immediately improve children's ability in completing spatial-temporal reasoning tasks, whether in terms of accuracy or speed. This finding is consistent with the findings of

McKelvie & Low (2002) and Crncec, Wilson & Prior (2006). We also found that the results did not support the preference, mood and arousal hypothesis. However, there are several possible reasons for this particular result amongst our population of Chinese primary school children. Firstly, we have to consider the simple fact that music may not be able to prime spatial-temporal reasoning ability. Indeed, as music and visual images are two different stimuli and they are processed through their own mechanism in their respective regions of the brain (Baddeley & Hitch, 1974; Giannouli, Kolev & Yodanova, 2019), it is unlikely that they are actually to prime each other, or, perhaps, some form of link develops later in life. As noted in the literature, individuals may learn and establish a relationship between the two forms of stimuli as they mature (Brunel, Carvalho & Goldstone, 2015), and therefore this kind of priming may occur. Admittedly, there are some similarities between music and space. For example, musical notes themselves are spatial (Schlaug, 2005) as notes in different positions on the stave represent different pitches. Through this vertical spatial reading, people translate notes into specific pitches. In addition, our participants were children, whereas evidence of a priming effect has previously only been found in studies with adults (Jausovec, Jjausovec & Gerlic, 2006; Cacciafesta et al., 2010) and therefore we suggest that different factors affect performance ability at different ages/stages of development.

Our results, however, did suggest that listening to 10 minutes of Mozart's music could affect positively on mood. Pekrun et al. (2017) argued that positive emotions could preserve cognitive resources and assist people in focusing on tasks. However, it is possible that children's emotional regulation system is not sufficiently mature and so once music is finished, any emotional state it created may quickly fade and therefore having little or no impact on the task (Crncec, Wilson & Prior, 2006). In terms of the arousal hypothesis, Schellenberg, Nakata, Hunter & Tamoto (2007) suggested that performance on tasks might have a greater relationship with arousal than with mood. Our experimental data found that whilst Mozart condition significantly improved the children's level of arousal after listening to music, the data also showed that sitting in silence also slightly improved children's level of arousal, although this was not statistically significant.

He, Wong & Hui (2017) argued that both a level of arousal that was too high or too low would hinder any subsequent task performance, while a moderate level of arousal tended to result in the best overall performance. Hence, from this perspective, we acknowledge that our stimuli and instrument were possibly insufficiently sensitive to either promote, or measure the optimum performance on the tasks. In addition, we cannot completely exclude the possibility that other variables may have affected the reliability of our data. Certainly, the status of the participants may not have been consistent. With approximately 45 children sitting in one classroom setting, it was inevitable that there would be some interference or inattention amongst the students as the self-control ability of students in fourth grade is weak compared with adults. In addition, individual differences may also have affected the level of performance. Children need to reach an optimal level of arousal according to their own situation, to help them to perform to the best of their ability. Moreover, the effectiveness of measurement methods could also have exerted a level of impact on the experimental results. Due to the limitation of the experimental conditions, only participant self-assessment measure was available for gauging the degree of mood and arousal. Everyone relies on their own subjective consciousness to make such a judgment, which

could easily have led to a deviation of the data standard and affected the experimental results in this study. Finally, the design of the experiment was not detailed.

Our experimental results show that Mozart's K 448 and the Li Huan Zhi's Spring Festival Overture had the same degree of influence on mood and arousal, but task performance in the Mozart condition surpassed the performance in the Li Huan Zhi condition. One reason for this may be that music that is more familiar is more likely to be distracting, and the participants in this study were more familiar with either the Spring Festival Overture or the cultural style of this music than Mozart K 448, and this could have evoked memories and/or associations and distractions (Ferreri, Laura et al., 2015).

When music causes activation unrelated with the task currently being undertaken, the residual activation remains in the brain for a period of time (Giannouli, Kolev & Yodanova, 2019), and the resources of working memory are limited (Funahashi, 2017). Hence, it is always possible that a degree of residual activation remained which led to students' inability to focus fully on the subsequent test, thus affecting their level of execution. This could have been resolved by extending the period in between the three conditions, however, given the concentration span of young children (Marshall & Hargreaves, 2007), any extension to the time taken to complete the experiment in full would have created further problems. Ethically, this could also have meant removing children for their usual school timetable, something, which was not desirable and technically not allowed.

Conclusion

This study explored the extent to which listening to different musical conditions could improve the participants subsequent spatial-temporal reasoning ability. To date, the debate on the Mozart effect has mainly focused on its reliability and the occurrence mechanism. The original research populations of studies on the Mozart effect were adults and most related studies have followed on this tradition. Thus, relatively few studies have focused on the Mozart effect on children, and even fewer have found evidence of the effect on children. Therefore, this study attempted to further explore the impact of the Mozart effect on children and try to deeper understand the mechanisms underlying this impact. However, as the media continues to report on the cognitive benefits which the Mozart effect is claimed to bring, and therefore it has become as much a tool for marketing products, as an area of empirical study.

Acknowledgements

The authors would like to thank Principal Luo Zhi, for kindly agreeing for us to use the school as a base for our research and we acknowledge the help of Tu Yin for her cooperation and assistance. Finally, thanks go to all the children in the primary school in Changde City, Hunan Province, China.

References

Areni, C.S. & Kim, D. (1993). The influence of background music on shopping behavior: Classical versus top-forty music in a wine store. In L. McAlister, & M.L. Rotschild (Eds.), *Advances in Consumer Research*, vol. 20 (pp. 336-340). Provo, UT: Association for Consumer Research.

Baddeley, A.D. & Hitch, G.J. (1974).Working memory. *Psychology of Learning and Motivation,* 8, 47-89.

Beauvais, C. (2015). The 'Mozart Effect': A Sociological reappraisal. *Cultural Sociology,* 9(2), 185-202.

Brackney, D.E. & Brooks, J.L. (2018).Complementary and alternative medicine: The Mozart Effect on childhood epilepsy - a systematic review. *The Journal of School Nursing,* 34(1), 28-37.

Brochard, R., Dufour, A. & Després, O. (2004). Effect of musical expertise on visuospatial abilities: Evidence from reaction times and mental imagery. *Brain and Cognition,* 54(2), 103-109.

Brunel, L., Carvalho, P.F & Goldstone, R.L. (2015). It does belong together: Cross-modal correspondences influence cross-modal integration during perceptual learning. *Frontiers in Psychology*, 6, Article 358.

Cacciafesta, M., Ettore, E., Amici, A., Cicconetti, P., Martnelli, V., Linguanti, A., Baratta, A., Verrusio, W. & Marigliano, V. (2010).New frontiers of cognitive rehabilitation in geriatric age: The Mozart Effect (ME). *Archives of Gerontology and Geriatrics*, 51(3), e79-e82.

Crncec, R., Wilson, S. & Prior, M. (2006). No evidence for the Mozart Effect in children. *Music Perception,* 23(4), 305-317.

Ferreri, L., Bigand, E., Bard, P. & Bugaiska, A. (2015).The influence of music on prefrontal cortex during episodic encoding and retrieval of verbal information: A multichannel fNIRS study. *Behavioural Neurology*, Article ID 707625.

Funahashi, S. (2017). Working memory in the prefrontal cortex. *Brain Sciences*, 7(12), Article ID, 49.

Gaser, C. & Schlaug, G. (2003). Brain structures differ between musicians and non-musicians. *The Journal of Neuroscience,* 23(27), 9240-9245.

Giannouli, V., Kolev, V. & Yordanova, J. (2019). Is there a specific Vivaldi effect on verbal memory functions? Evidence from listening to music in younger and older adults. *Psychology of Music,* 47(3), 325-341.

Giovanni, S. & Fernand, G. (2017). When the music's over. Does music skill transfer to children's and young adolescents' cognitive and academic skills? A meta-analysis. *Educational Research Review,* 20, 55-67.

He, W.J., Wong, W.C. & Hui, A.N.N. (2017). Emotional reactions mediate the effect of music listening on creative thinking: Perspective of the arousal-and-mood hypothesis. *Frontiers in Psychology*, 8, Article 1680.

Husain, G., Thompson, W.F. & Schellenberg, E.G. (2002). Effects of musical tempo and mode on arousal, mood, and spatial abilities. *Music Perception,* 20(2), 151-171.

Hwang, A.H., Oh, J. & Scheinbaum, A.C. (2020). Interactive music for multisensory e-commerce: The moderating role of online consumer involvement in experiential value, cognitive value, and purchase intention. *Psychology & Marketing*, 37(8), 1031-1056.

Ivanov, V.K. & Geake, J.G. (2003). The Mozart Effect and primary school children. *Psychology of Music,* 31(4), 405-413.

Jausovec, N., Jausovec, K. & Gerlic, I. (2006). The influence of Mozart's music on brain activity in the process of learning. *Clinical Neurophysiology,* 117(12), 2703-2714.

Kozelka, J.W. & Pedley, T.A. (1990). Beta and mu rhythm. *Journal of Clinical Neurophysiology*, 7, 191-207.

Lai, C.-J. & Chiang, C.-C. (2012). Effects of placement point of background music on shopping websites. *Work*, 41(1), 5419-5421.

Marshall, N.A. & Hargreaves, D.J. (2007). Musical style discrimination in the early years. *Journal of Early Childhood Research,* 5(1), 32-46.

McKelvie, P. & Low, J. (2002). Listening to Mozart does not improve children's spatial ability: Final curtains for the Mozart effect. *British Journal of Developmental Psychology,* 20(2), 241-258.

Miendlarzewska, E.A. & Trost, W.J. (2014). How musical training affects cognitive development: Rhythm, reward and other modulating variables. *Frontiers in Neuroscience,* 7, Article 279.

Moscucci, F., Verrusio, W., Gueli, N. & Cacciafesta, M. (2015). Mozart Effect and its clinical applications: A review. *British Journal of Medicine & Medical Research,* 8, 639-650.

Nantais, K.M. & Schellenberg, E.G. (1999). The Mozart Effect: An artifact of preference. *Psychological Science,* 10(4), 370-373.

Padulo, C., Mammarella, N., Brancucci, A., Altamura, M. & Fairfield, B. (2019). The effects of music on spatial reasoning. *Psychological Research,* 84(6), 1723-1728.

Pekrun, R., Lichtenfeld, S., Marsh, H.W., Murayama, K. & Goetz, T. (2017). Achievement emotions and academic performance: Longitudinal Models of Reciprocal Effects. *Child Development*, 88(5), 1653-1670.

Rauscher, F.H. & Hinton, S.C. (2006). The Mozart Effect: Music listening is not music instruction. *Educational Psychologist*, 41(4), 233-238.

Rauscher, F.H. & Shaw, G.L. (1998). Key components of the Mozart Effect. *Perceptual and Motor Skills,* 86(3), 835-841.

Rauscher, F.H., Shaw, G.L. & Ky, C.N. (1993). Music and spatial task performance. *Nature*, 365, 611.

Rentfrow, P.J. (2012). The role of music in everyday life: Current directions in the social psychology of music. *Social and Personality Psychology Compass*, 6(5), 402-416.

Rideout, B.E., Dougherty, S. & Wernert, L. (1998). Effect of music on spatial performance: A test of generality. *Perceptual and Motor Skills,* 86(2), 512-514.

Rodgers, W., Yeung, F., Odindo, C. & Degbey, W.Y. (2021). Artificial intelligence-driven music biometrics influencing customers' retail buying behavior. *Journal of Business Research*, 126, 401-414.

Schellenberg, E.G. (2005). Music and cognitive abilities. *Current Directions in Psychological Science,* 14(6), 317-320.

Schellenberg, E.G. & Hallam, S. (2005). Music listening and cognitive abilities in 10- and 11-year-olds: The blur effect. *Annals of the New York Academy of Sciences,* 1060(1), 202-209.

Schellenberg, E.G., Nakata, T., Hunter, P.G. & Tamoto, S. (2007). Exposure to music and cognitive performance: Tests of children and adults. *Psychology of Music*, 35(1), 5-19.

Schäfer, T., Sedlmeier, P., Städtler, C. & Huron, D. (2013). The psychological functions of music listening. *Frontiers in Psychology,* 4, Article 511.

Schlaug, G. (2005). Effects of music training on the child's brain and cognitive development. *Annals of the New York Academy of Sciences*, 1060(1), 219-230.

Smith, A., Waters, B. & Jones, H. (2010). Effects of prior exposure to office noise and music on aspects of working memory. *Noise & Health,* 12(49), 235-243.

Thompson, W.F., Schellenberg, E.G. & Husain, G. (2001). Arousal, mood, and the Mozart Effect. *Psychological Science,* 12(3), 248-251.

Verrusio, W., Ettorre, E., Vicenzini, E., Vanacore, N., Cacciafesta, M. & Mecarelli, O. (2015). The Mozart Effect: A quantitative EEG study. *Consciousness and Cognition,* 35, 150-155.

Received 12.01.2021
Accepted 15.02.2021

DEVELOPING MULTIDISCIPLINARY STUDIES OF MUSIC IN PRIMARY TEACHER EDUCATION - EDUCATIONAL DESIGN RESEARCH RESULTS FROM THE FIRST CYCLE

Eveliina NIKALI

University of Turku, Finland
e-mail: evenik@utu.fi

Antti JUVONEN

University of Eastern Finland
e-mail: antti.juvonen@uef.fi

Inkeri RUOKONEN

University of Turku, Finland
e-mail: inkeri.ruokonen@utu.fi

Abstract
The aim of this educational developmental study is to develop optimal multidisciplinary studies in music education for class teacher education at the University of Turku, which could respond to the work requirements of future teachers. The research consists of four design cycles, which were carried out in 2013–2017. The data includes the written feedback from 77 student teachers at the end of their music studies, as well as group interviews and materials from three future workshops with 5 participants.
This article focuses on the first cycle from 2013 to 2014. The research questions were to find out: How do the student teachers appraise the aims and contents of the music study modules considering the class teacher's requirements in working life? What kind of developmental ideas did the student teachers have concerning the study modules? The data consisted of 77 student teachers' writings. The data was analyzed using content analysis. The students' fields of knowledge were divided into three classes: 1) the aims of musical activities, 2) ways of action in music education, 3) content and materials. The results showed that students wished for an open and supportive learning atmosphere and consideration for music's impact on wellbeing. They also favored, learning by doing, teaching at a suitable level, activating pupils, supporting different action techniques, practical content, and materials.
Keywords: *class teacher education, music studies, developmental research*

Introduction and Theoretical Background

The aim of this study is to develop music teacher education multidisciplinary studies at the University of Turku, in response to changes in society and the challenges of music education in elementary schools. The research presented in this article is part of a broad educational design research concerning the multidisciplinary studies of primary teacher education in music at the University of Turku, Finland. Music Education Studies (5credits) as a part of the multidisciplinary studies module is based on subjects taught in basic education and includes several broad-based competences: thinking and learning to learn, cultural competence, interaction and expression, looking after oneself, managing daily activities and safety, multiliteracy, ICT competence, working life competencies and entrepreneurship and participation, empowerment and responsibility. After completing this study module, students will have the competence to teach all subjects taught in classes 1–6 and the students will be familiar with the broad-based objectives for skills required by the curriculum criteria as well as the discipline-specific objectives and content, e.g. music. The main aim of this educational design research is to develop music education studies so that the knowledge, key concepts, musical and didactical skills are of the highest competence for teaching music at elementary school level. In this article the structure of the main educational design research is introduced, and the first developmental research cycle is reported more thoroughly.

Suomi (2019, 219) states that teacher education in Finland today does not meet the requirements of a qualified class teacher in the field of music education. The future teachers estimated their own skills in music education for classes 1–4 as reasonable, but for classes 5–6 only as passable compared to the National Core Curriculum for Basic Education (2014.) The student teachers were concerned about their lack of skills and somewhat anxious about teaching music in their future profession.

In the Finnish education system, the class teacher is responsible for teaching music and fulfilling the aims of music education from the 1st to the 6th grade. Music education should include versatile musical activities and creative productivity. In classes 1–2 there are 1–2 hours of music per week, and in classes 3–6 two hours per week. In addition, in classes 1–6 there are six optional hours available for the arts and skills, which the school can decide where to target. In most schools, music usually acquires one of these hours and it is often used for the 3rd grade.

Suomi (2019, 226) questions in what way class teachers should be educated, what is the assignment of this education, and what kind of requirements can be placed on education. The same questions were asked when the first writer (E.N.) of this article worked as an elementary school music lecturer in the school practice of Turku University. This also became the main question of this article.

As teacher educators, there was possible to notice the anxiety about teaching music at the start of periods of teaching practicing, with many student teachers wishing not to be chosen to teach music. When searching for the reasons for this it was found that the student teachers had not gained the skills which are necessary in the elementary school's music education during their studies. Those who started playing piano during their studies had not developed sufficient skills to risk playing the piano during music lessons and accompanying the pupils' singing. The student teachers did not know the

teaching materials, music book series and their supportive materials and could not use them to help in planning the teaching. The materials, which they used, were badly outdated. The problem was that the music teachers in teacher education did not have experience of teaching in a school and were not interested in following the teaching during teaching in practice school. The teaching training perceived too fragmentary and included piano studies and a wide music history section. The idea of modern music education was lacking.

Similar results were found in the research of Vesioja (2006, 239) in the 1980s. She explored class teachers as music teachers and the interviews showed that the education did not offer know-how of schoolwork or practices of the school or how music should be taught. Moreover, Juvonen (2008, 128) found similar results showing that teacher education could not fulfill the preconditions needed in classroom work for music education. In the report, which was concerned with the need for know-how in the field of music teaching, the challenges, and visions regarding the education of music subject teachers were observed. The report highlights the low number of music lessons in elementary schools as well as the same problem in teacher education; a situation which has led to many incompetent teachers teaching music in our schools who cannot fulfill the curriculum requirements (Muukkonen, 2011, 28). In addition, Mäkinen (2020, 8) in her dissertation states that to develop as a multiskilled and versatile music educator we need to have well guided teaching practice periods, integration between all art and skill subjects, and a better awareness of the needs of the pupils.

Developmental design research about multidisciplinary music studies in teacher education was very rare in 2013 although there was a considerable need for a critical exploration of the studies.

The aim of this research is to develop the music studies of the teacher training education at the University of Turku using a design research method. The research also aims at developing the student teachers' ways of thinking to make them more flexible and able to respond to the needs of a continuously changing school system. The student teachers should acquire experiences of mastering the subject and preparedness to teach music, but also abilities to plan and carry out music teaching according to the national core curriculum for basic education demands. The research in hand also functions as a medium for professional growth for E. N.

The number of music teaching units in Finnish teacher education curricula has drastically declined over the past few decades for economic reasons. The same developmental line seems to go on to the future every time when the curricula are renewed. Public debate has speculated about the role of music education in teacher education due to the ever-decreasing number of music lessons (Puukka, 2017; Muukkonen, 2011). The number of compulsory music lessons in the curriculum of the University of Turku has been drastically reduced: in 1979 – 1980, music education offered 158 contact hours in music for all students, in 1993 – 1994, the number of lessons was reduced to 78 hours, and in 2016 – 50 hours (Curricula Guides of the Faculty of Education, Department of Teacher Education, 1979–2016). This low number of teaching lessons in music as well as the content of the teaching has also caused anxiety for the students. Two master's theses have been made about these music studies in 1984 and 2018. Both clearly show the need for developing the studies.

Studies on music in teacher education have had quite similar results. Vesioja's (2006, 110) research showed that in interviews with those students who did not choose music as minor subject and only studied music in the multidisciplinary studies considered these studies insufficient, especially concerning music teaching in the 5th and 6th grade. Tereska's (2003, 202) research about student teachers' musical self-concept (N=590) showed that one third of the students did not want to teach music because of their insufficient readiness and lack of skills. In the licentiate research of E.N. it was found that many students (especially the new students) were quite dissatisfied with the music studies offered by the University of Turku's teacher training. They saw the minor subject studies as insufficient and some of the courses did not correspond at all with the practical needs of music teaching in schools. Moreover, the quantitative measurements showed the same results and the need for extra education (Nikali, 2003, 114). Juvonen found a lack of resources and a low number of lessons in his research, which explored studies in three teacher-training units (Juvonen, 2008, 97, 128).

The Finnish National Core Curriculum for Basic Education was also renewed during this research. Initially, the National Core Curriculum for Basic Education (2004) was used and later the National Core Curriculum for Basic Education (2014). In the new National Core Curriculum for Basic Education (2014), the education in music has been diversified and now directs the method of working and content to more versatility. The harmonizing thematic entities of the National Core Curriculum for Basic Education (2004) have been replaced in the new 2014 National Core Curriculum for Basic Education with wide-ranging know-how area targets which go through the aims of each subject supporting the goals and content. The new National Core Curriculum for Basic Education (2014) also emphasizes playing more music together, the pupil's active participation and creative musical activities. The teachers should have a wide mastery of the subject material to be able to design a curriculum for their own school and implement it. The national curriculum for basic education has influenced, or it should have influenced the musical educational curriculum in teacher training and the ways it is implemented. The National Core Curriculum (2014) is based on the Dewey method: learning by doing (Dewey, 1934; Väkevä, 2004, 111). In the background there is also praxial music education philosophy (Elliot, 1995). The curriculum highlights the pupil's opportunity to participate in communal, knowledge producing learning in diverse learning environments using technology and its applications. The music studies in teacher training should be able to respond to the continuing diversifying demands, for instance, in the field of technology and educate future teachers to be able to cope in situations of continuous change. The usage of technology has increased in music education and teachers need more experience and training to handle this (Inter alia Ruippo, 2015).

The criteria of the entrance examination for teacher training have an impact on what abilities the elected students have. In the entrance examination of the University of Turku teacher education there was an opportunity to give a voluntary music performance in addition to the exam until 1986 (Selection guide of the Faculty of Education Department of Teacher Education, 1986). This is not possible anymore which means that students are at quite different starting points when the music studies begin. Some have had music as a hobby their whole life while others may have only an elementary school music education in their background. This is a considerable challenge for the music studies in teacher training. The multidisciplinary studies in music should offer every student teacher a readiness to accomplish music education

according to the versatilely recommended by the curriculum at elementary school level. Vesioja (2006) in her dissertation considered that if we wish to make every student teacher be able to teach music professionally in order to offer pupils an excellent music education, we should give students the opportunities to learn the needed skills and know-how during their studies. To reach this goal we should increase the number of contact teaching hours and voluntary courses as well as offer enough time to learn to play the piano. Vesioja (2006, 273) suggests that piano studies should continue throughout the whole teacher training course and that students should be well motivated. Suomi (2019, 30) discovered that previous music skills were an important factor in the entrance examination in teacher training and candidates with prior skills had more musical preparedness. Swedish researcher Bladh (2002) explored, in a longitudinal study, the socialization process into music teacher's profession and moving to working life. The research showed that the practices in academic institutions and the realities of real-life school are very far away from each other and teacher-training education does not meet the needs of school cultures.

Structure and the Aims of the Research

The theoretic background of this research is built on developmental research which is also called design research or sometimes called educational design research (Kiviniemi, 2015); this type of research is still quite rare in educational science (Kananen, 2012; Juuti & Lavonen, 2013; Korhonen, 2013; Pernaa, 2013; Sormunen, 2020). Educational design research uses already existing knowledge in problem solving, but also, produces new knowledge through developmental processes. Wang and Hannaf (2005, 5-6) see design research as a systematic but still flexible research method. The aim of the research is to develop new educational conventions and new ways of acting through repetitive analysis, planning and development work. Design research aims to change or develop pedagogical conventions and conduct research in interactive cycles where the planning, plan implementation, analysis and new planning are performed sequentially (Hyvönen, 2012). Design research also targets finding results, which promote sustained innovation (Scardamalia & Bereiter, 2014).

Design or Design Based Research is a methodology whose results can directly apply to practice. Important in the research is the analysis of the target and making an impact on it. Design research is intended to provide a methodological starting point to understanding learning. The researcher works together with the actors involved in the target, which makes it also an effective way to develop one's own work as the researcher and the actors collaborate in recognizing real problems in learning and teaching and finding innovative solutions to these problems. Design research offers a good starting point for investigating the multidisciplinary studies in music, and developing methods and applications (Bell, 2004; Barab & Squire, 2004; Gravemeijer & Cobb, 2006; Reeves 2006).

The aim of the research by E.N. is to develop the University of Turku's teacher training multidisciplinary studies in music to respond to the changes in society and challenges of 2014 elementary school music curriculum. In the 2014 curriculum, the requirements for music education are more varied than in the old 2004 curriculum. Music teaching should be functional, and the content areas should be taught through singing, playing, listening, improvising, composing, and integrating it with other school subjects. The

pupils must be acquainted with music cultures and styles versatilely. There must be possibilities to use information and communication technology (ICT) and its many applications on computers, iPads, and smartphones. Every qualified class teacher should have a formal competence to teach music in elementary school. The previous research has shown the weaknesses and inadequacies in the field of music education. This research targets an exploration of how musical matters should be taught and what critical matters need to be changed. We aim at producing such study modules that every student teacher would obtain as wide a picture of elementary school music teaching as possible and the best possible abilities to carry out versatile music education in their future work. The developing process should be carried out using student feedback, the observations of the future workshops and other courses and their teachers, together with the observations of the teaching of practice school's music teachers. The whole research will answer the following question: *How should the multidisciplinary study modules in multidisciplinary studies of music be developed in a way that student teacher would get adequate preparedness in the music education work required from a class teacher in elementary school?*

The target group of this research were the University of Turku teacher training students from the Turku campus who participated in the multidisciplinary studies in music from 2013 to 2017 (N=318). The data were collected anonymously at the end of the study module as an evaluation questionnaire. The questionnaire consisted of both closed and open-ended questions. Since 2014, the feedback has been collected using the Moodle platform with feedback questions and an essay. The research data also consisted of the essays and group interviews collected during the future workshop. The future workshop helped in mapping the needs and ideas for the design cycle and analyzing opportunity for the tested solutions. The research data are presented in Table 1.

Table1. The feedback and number of essays at the end of the study modules

	ACCOMPANIMENT – PIANO PLAYING	LECTURES	DIDACTICS	PLAYING TOGETHER	ESSAYS IN THE END OF THE STUDY MODULES	FUTURE WORKSHOPS
2013–2014 (Collected in writing on paper)	77	77	77	77	77	3 groups (3 x 5 students)
2014–2015	17	42	62	26	74	4 groups (1 x 6 students 1 x 7 students 1 x 4 students 1 x 10 students)
2015–2016	11	44	47	29	75	4 groups (2 x 5 students 1 x 4 students)
2016–17	11	21	18	19	92	1 group (4 students)

Jung and Mullert (1987) in Vienna originally invented the future workshops. The aim of the first future workshops was to activate the grass roots level to provide criticism on current circumstances. Later Jung noted that he had started something very new. The

participants' interest in the developed task was much more intense and livelier than in traditional meetings. The participants also had an opportunity to express their own thoughts, hopes and imaginations and further the founding of a better society as they applied themselves to work on a matter, which was important to themselves.

Jung's idea was used to make the student teachers critically estimate their multidisciplinary music studies and based on this provide ideas and plan their studies from a new starting point (Jung and Mullert, 1987, 5-13). The future workshops were recorded for later analysis, and any single student cannot be recognized from the recording.

The course feedback was collected anonymously after the last piano playing group lesson and was given anonymously. Answering was voluntary, and the student teachers were informed at the beginning of the study module about the use of the feedback in the development work of the module. After writing the feedback, we had a group discussion where developmental suggestions were collected (Inter alia Valtonen & Viitanen, 2020). The students chose to participate in the future workshops voluntarily.

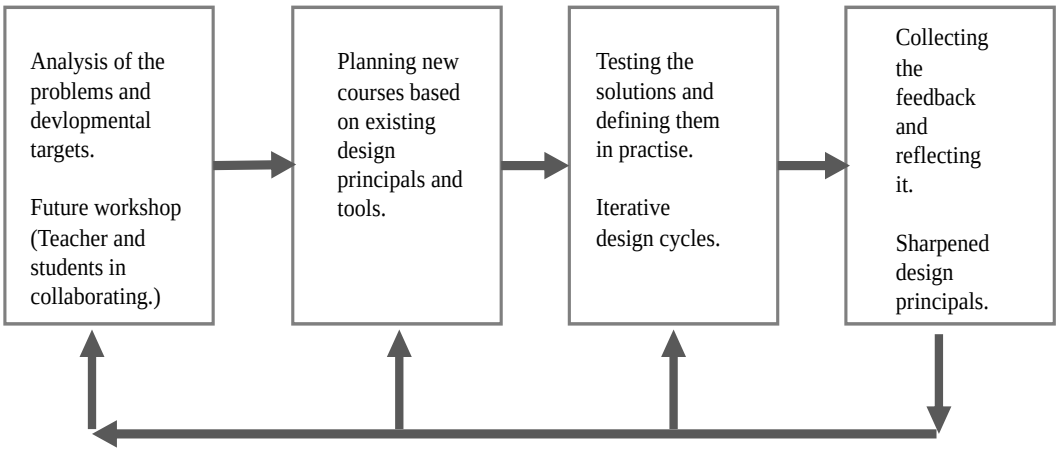

Figure 1. The structure of the design research (retold by Reeves, 2006)

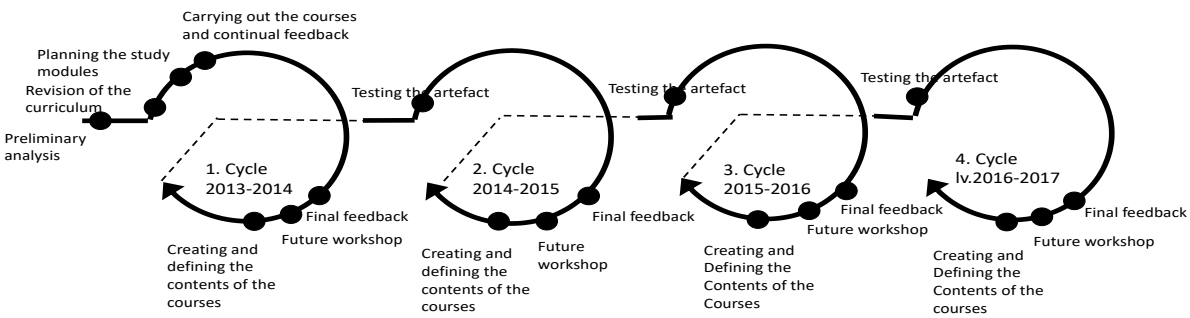

Figure 2. Design-cycles

The structure of this design research is shown in Figure 1. The design cycles were carried out by placing the phases of the Reeves' (2006) theoretical model as a natural part of the teacher education's rhythm through the year. The research included four cycles in 2013–2017 (see Figure 2).

Research Design of the First Cycle

The idea of the first cycle was to map the starting point and situation when starting the design research about teacher training for multidisciplinary studies in music. We have reported the results of the first cycle in this article. The student teachers were asked to evaluate at the end of the study module the offerings of the study module concerning their work as a class teacher. Next, we describe the action in the first cycle and the research design connected to it.

The Content of the Music Study Modules in the First Cycle

During the first cycle, the Finnish elementary schools worked according to the curriculum from the year 2004. The aim of the University of Turku's teacher training in multidisciplinary studies in music was to raise the student teachers' interest in music and the teaching of the subject; in addition, it aimed to develop the skills and know-how as regards teaching elementary classes 1–6 and linking these to the practice of teaching. The content included singing and voice usage, school instruments, music knowledge (including music theory), teaching situations, history of music styles, accompaniment abilities and the basics of arrangement and piano playing (Turun yliopiston luokanopettajakoulutuksen opetussuunnitelma 2011–2013). Because the written curriculum and the executed real-life curriculum did not meet each other, the content of the curriculum used in the year 2013 was changed to fit better the requirements of the schoolwork. The change was possible because of the changing personnel (two new music teachers were hired). The curriculum at the time included in the music's multidisciplinary study modules the following numbers of teaching hours:

- 11 hours music history lectures,
- 14 hours playing together,
- 10 hours accompaniment.

The greatest changes were made in the lecture module, which was divided into 7 hours of music didactics and 4 hours of music therapeutic effects. The accompaniment was developed so that it was possible to choose piano or guitar. Earlier only the piano was offered. In addition, the contents of the didactics, demonstration lessons and music playing together were re-organized using the teachers' own experiences, fresh music materials, books and considering the elementary school curriculum and its contents as starting points. A new Moodle area was used to collect all the materials and schedules. Teacher students doing their multidisciplinary studies in their earlier courses wrote about their own musical background according to the questions asked. In autumn 2013, the students wrote a brief narrative about their musical know-how, skills, and expectations of the music studies.

After making the changes, the study modules were as follows:

- 7 hours of didactics lectures;
- 15 hours of didactic demonstrations;
- 4 hours of music's therapeutic effects, student teacher's musical self-concept;
- 2 hours of voice usage;
- 7 hours of subjects included in the curriculum: content of school music education, special features of each class grade, instruments used in different grades, the structure of music lessons, and ideas for planning lessons.

In the didactic demonstration lessons the knowledge of the elementary school's curriculum was developed, its aims and content were discussed to help the student teachers understand what they should learn in order to be able to teach school pupils. Practical sessions included teaching music theory, using musical instruments in school, teaching singing and rhythmic practices, which were performed in the same way as in a class with real pupils. In the practical part, the task was presented to other students as if it were happening in a real classroom. The materials were collected in Moodle to be assessable to everyone. After the practices, they were discussed and their suitability for the class grade for which they were planned was evaluated.

Playing together was taught in the way it should be done in the school. In every situation, the tasks were fulfilled in reality. The content elements of the training module were percussion instruments (djembe, bongo and congas, basics of bass, ukulele, kantele), drum set rhythms (slow polka, waltz, basic beat, some drum fills), melodies with boomwackers and the basics of improvising and making arrangements.

The studies started in autumn 2013 with lectures. First, the group demonstrations in didactics started, then playing together and accompaniment. Playing together and accompaniment lasted until the spring semester. During the last session, we discussed the completely multidisciplinary study entity, its positive and negative points of view. This was done after each student teacher provided their own feedback on each music study module. Finally, we collected developmental suggestions for the following year using a group interview.

When planning the new study modules, the students' feedback was taken into account, and similarly all changes were adjusted to support the National curriculum from the year 2004, and also the teacher education's own curriculum concerning all school subjects.

The Future Workshop

A future volunteer workshop was then organized to focus on multidisciplinary music study modules and prepare a vision for music research for the next year, its goals and content. Student teachers participated in three future workshops (see Table 2).

Table 2. Ideas for future workshop work

THE ASSIGNMENT FOR THE FUTURE WORKSHOP
1) PREPARING AND PLANNING OF THE IDEAS:
How would you change the teacher education's multidisciplinary studies in music if you had all possible resources in use?
How would you organize it?
What kind of course modules would you prefer?
What contents would the courses include?
Write down the key words.
Crazy ideas are welcome.
2) THE STAGE OF PROBLEMS:
What have been the worst problems in music studies?
Wat factors encumber current and future teaching visions?
How would you solve these problems?
3) CREATE A CONCRETE PLAN ABOUT THE PROBLEMS AND THE RESTRUCTURING
What do these renovations require from different actors?
How are problems solved?
What actions do these changes require?
Planning the study modules and their content.

Research Questions and Methods for the First Cycle

Research data for the first cycle were collected from the student teachers via a developmental evaluation questionnaire. Data from the group interviews and future workshops were taken into account. The research questions for the first research cycle were:

- *How do the student teachers appraise the aims and contents of the music study modules considering the class teacher's requirements in working life?*
- *What kind of developmental ideas did the student teachers have concerning the study modules?*

In the first cycle carried out in 2013–2014 the data consisted of 77 students' writings, discussion and three future workshop materials each with five students. The writings included appraisal feedback about didactic lectures, literal assignment, didactical demonstration lessons, accompaniment piano lessons, playing together, independent work, and assessment. After the appraisal feedback, a free structure group interview was carried out about the matters, which the student teachers had raised.

In developmental research an important assignment for the data collected (feedback, discussions, future workshops, observations) is to aid the developmental work already during the processes. Therefore, a broad analysis and pedagogical solutions based on them have been done during the whole process to advance the educational planning and curriculum work on schedule.

The data is qualitative consisting of questionnaire data (open questions), group interview data, future workshop discussions and the data produced based on them. In the analysis, we use databased content analysis. According to Miles and Huberman (1994), databased analysis or inductive data analysis can be divided into a three-stage

process: 1) reducing of the data 2) clustering of the data and, 3) abstraction of the data (creation of theoretic concepts). Before starting the analysis, the unit of analysis should be defined. It is controlled by the research question and the quality of the data.

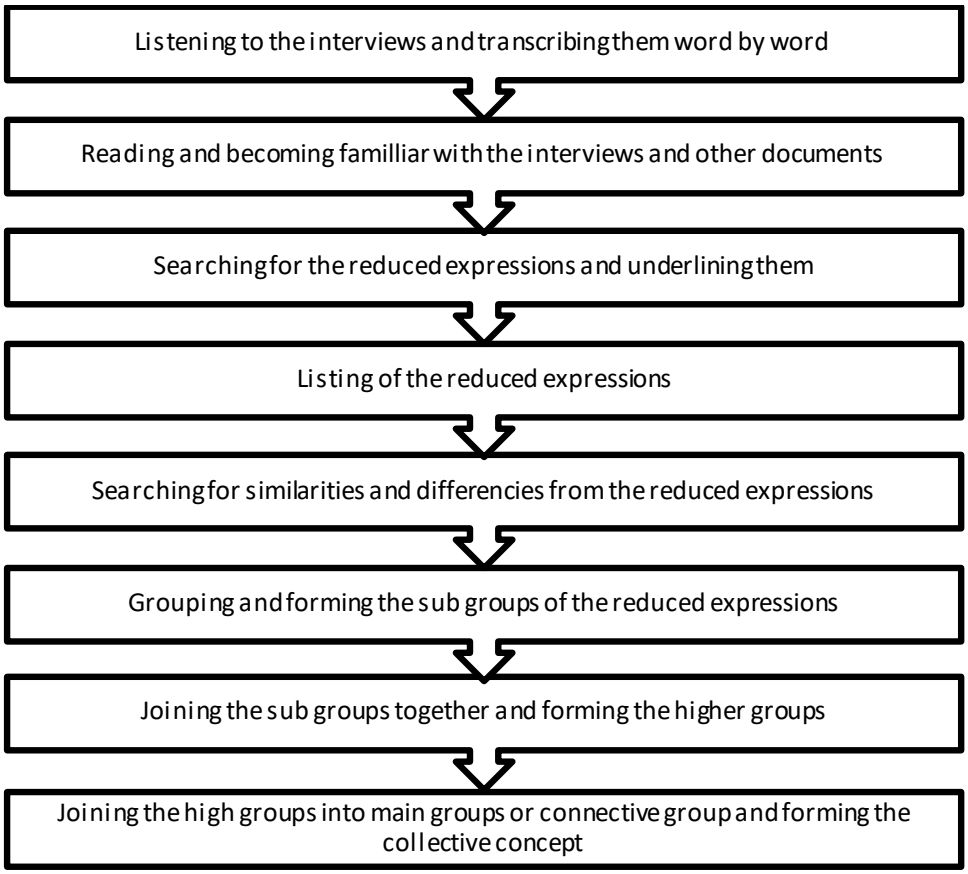

Figure 3. The progress of databased content analysis

In this study, the reduction and compressing of the information from the data was controlled by a research assignment: developing of the multidisciplinary studies in music. We read the student teachers' writings several times and selected the factors arising from the data. The students had written mainly about positive and negative matters and about developmental ideas. We collected the issues mentioned from the answers for a proper analysis under each higher headline (didactic lectures, literal assignment, didactical demonstrations, free accompaniment, playing together, independent work and assignment). We also mentioned the number of mentions. We also collected all the original expressions under the same reduced expression. After this, we went through the clustering of the data looking for the concepts describing the same phenomenon. The sub-groups were named with a concept, which described the content. The classification was continued joining the subgroups together to form higher groups and forming the main groups by joining these higher groups. After this the data was abstracted and concepts formed. We separated the essential data and formed theoretic concepts based on this selected data. Clustering is a part of the abstraction process. Abstraction is a process where the researcher builds a description of the research target using the concepts, which were just built.

As researchers, we tried to understand the viewpoints of the student teachers, who are being explored. Because we are dealing with the databased content analysis, the examples describe the theoretic model of the databased content analysis. Because of the databased approach, we cannot define what kind of classifications can be formed based on the data (Tuomi & Sarajärvi, 2018, 122-127).

Results

In the results, we first present the student teachers' appraisals of the offerings of the study modules concerning the requirements that meet the working conditions of the class teachers in real life. After this, we present the developmental ideas for each study module, which have come from the student teachers. In the analysis of the data, we have used the whole data (questionnaire, group interview and future workshop). The data were explored thoroughly and after that, it was clustered into reduced expressions. The expressions describing similar matters were classified into subgroups which were named using concepts expressing the content. After a new exploration, the subgroups were used to form higher groups. In addition to this, we present examples from the data to describe the higher groups built by the analysis. The number after the quotation shows the identification mark of the student, *pt* means a comment about playing together, *fa* means a comment about free accompaniment, *did* means a comment about didactic courses. If there is none of these abbreviations, the comment concerns the whole studies in general.

The analysis of the first research question *How do the student teachers appraise the aims and contents of the music study modules considering the class teacher's requirements in working life?* produced three main groups of which the supporting elements of essential abilities and skills are presented in Table 3.

Table 3. The elements supporting abilities and skills in music teaching

REDUCED EXPRESSION	SUBGROUP	HIGHER GROUP
Courage Confidence Ideas Ascending of the self-confidence Enjoyment Experiences of success Inspiring atmosphere	Open and inspiring atmosphere Wellbeing	The target of the action
Doing things for your self	Activating ways of action	Ways of action in music education
Suitable level of teaching Hints and tips Usefulness Good materials	Useful assignments and materials	The contents and learning materials

The factors supporting abilities and skills of music education have been divided into three higher groups:

a) The target of the musical activity,
b) The method of action in music education,
c) The content and learning materials.

The concepts, which best describe the most preferable aims of abilities and skills in musical activity targets appraised by the student teachers were an open and inspiring learning atmosphere and the therapeutic effects of music. The student teachers experienced the contents and aims of the study modules as positive and encouraging. The participating students who were carrying out their orientating practice had clearly more positive attitude to music teaching than students who carried out their advanced studies (SO4). The students participating in the research also stated that the studies had positively affected teaching of music in the practice study module.

> *"I got a lot of tools and self-confidence in music teaching. I would never have believed that I would voluntarily teach music in subject practice module."* (4)

In the second partial research by Mäkinen (2020) the practice study module strengthened the trust in being able to teach music even with fewer abilities and skills. The students also saw the practice as meaningful because it developed their image of a professional teacher and their musical skills (Mäkinen, 2020, 64).

The beginning of the multidisciplinary studies in music in the autumn causes varied emotions and feelings in the teacher students. Some even express their fear of starting these studies. This is caused by their negative experiences of school music education or a discouraging atmosphere at home. In addition, Suomi (2019, 118–119) raises the issue about student teachers' negative school experiences in music, the respondent's own lack of skills, a negative classroom atmosphere or the teacher's poor knowledge, know-how, and skills (see also Anttila, 2006, 176). This creates more challenges for music education in teacher education, as a negative attitude may be difficult to change during the education. Therefore, it is especially important that student teachers with different levels of skills mentioned that the studies were a source of enjoyment because there was a 'convivial atmosphere', and a 'relaxing atmosphere', which gave an especially positive learning experience. Students who experience themselves as poorly skilled seemed to learn when the progress was done slowly, and teaching started from music skills and knowledge. This way they felt safe regardless of their uncertainty. Students with more developed skills did a considerable amount of application work in their teaching.

The skilled students differentiated their teaching upwards and worked as supervisors to the others. Mäkinen's research (2020, 58) also showed that that the students experienced that their musical skills and abilities developed during their education, and they got consolidation in teaching music. Suomi's research showed that about one fifth of the respondents in their feedback raised the importance of a motivating, supporting and positive atmosphere during the piano lessons. The less musically skillful students, especially, saw encouragement as being very significant and it strengthened their motivation and encouraged their ability in music teaching (Suomi, 2019, 189).

> *"I got courage in believing that with my current skills I can give a good music lesson."* (14)

> *"I got courage in organizing the music-playing task and I got many ideas for music playing."* (35)

> *"It is unbelievable how much the studies gave self-confidence for the future working life."* (5)

"I think that the multidisciplinary studies in music were quite practical and well connected to real music lessons at school. I have formed a comprehensive and versatile picture of school music education and my attitude to music teaching is very positive." (21)

"The studies helped to understand how a music lesson is organized at school. It was good to see how playing songs using musical instruments can be made easier or more difficult and what kind of roles can be given to pupils as well as what kind of playing assignments are suitable for different class levels." (19)

"I got ideas for giving a music lesson without skills of playing instruments." (7)

The student teachers had clear expectations of multidisciplinary studies in music. They were mostly satisfied with the aims and contents of the study modules. The group didactic lessons were rated well conducted and the content important. Students endorsed an approach in which the teacher taught part of the lessons and student teachers gave short teaching sessions in pairs. The practicing in a pair created safety. The active role of the students was seen as important: it was nice to make the practice performance and see the others do the same. Additional advice was needed to understand that the hands-on presentation was supposed to be a mini-lesson in school. Moreover, putting all the materials into Moodle was good as they were available to everyone in the group and they received a great deal of readymade materials.

The students required tools to handle the elements of music, music theory and teaching music theory in school. There was also some speculation about whether the teaching should be carried out in a more teacher-directed way or not.

"The concepts used in music (notes, time values of rests etc.) These could be taught more and cut of the presentations of world music." (8)

"The teaching could have been more teacher-directed. It was interesting to see classmates' productions, but maybe good teaching would offer more." (68)

"It was nice that the classmates taught the subjects to the others, they stuck in my mind better. Especially I learned a lot about the subject I taught to the others." (12)

Playing together was the best study module, which was where the students learned the most according to their comments. Their own playing skills were improved, and the students learned how different tasks could be taught to pupils in school. The student teachers related that they had gained confidence in organizing the instrument playing tasks and many ideas for music making. They believed that they would survive the Practice school music teaching thanks to the demonstrations given in playing together.

"The circling of the instruments was a working way in taking other than those instruments, which were easy or familiar." (25)

"It was useful to see through own playing which pieces of music and arrangements are suitable for each class level." (13)

"The group sizes worked well, and the mood was in the floor every time. The atmosphere was relaxed, and nobody had to fees ashamed when making mistakes. I learned more during this study module about music than in the whole elementary school." (2)

"I enjoyed enormously in these lessons." (14)

"I have experienced the music courses useful. Although I may not have been the most daring experimenter r fastest learner, I have seen how tasks can be carried out. I had two music lessons in my practice period and one of them succeeded better than I never could have believed. These demonstration lessons have offered good abilities and skills to the future." (1)

"Playing together is just great. I learned and dared more than I never could have imagined. I got lots of tools and self-confidence to music teaching. I could never imagine to be voluntarily teaching music in practicing period. I was so glad about it! I see especially useful the making of arrangements and I would like to have more of it I the studies." (40)

The students were especially satisfied with the concrete hints, which also created feelings of safety in being able to succeed having fewer musical skills. Mäkinen also noticed that music teaching created anxiety for some students, but the students still have an understanding that despite their own poor musical skills it is possible to teach music in school (Mäkinen, 2020, 57-60).

At the end of the course in playing together, the students made a school instrument arrangement together in pairs. It was the best part of the course, because it was practical and it brought the concepts of music close to the students and helped in practice lessons.

"Making the arrangements was the best part of the course. As practical as possible. It develops the know-how, which is needed when teaching music at school. It also brings the musical concepts close to the student, this is needed more." (38)

At this stage of the learning, the students are aware of their own learning style and how they can learn in the best way. There were five teachers teaching the multidisciplinary studies in music in 2013–2014. Accompanying them, there were two teachers, one of them was changed in the spring season. Each teacher worked according to his/her own pedagogical point of view. There were considerable differences between the teachers, for example, in differentiation and evaluation practices. When teaching the whole class cohort, it is important to offer teaching where every student gets the opportunity to learn new issues and receive suitable teaching for their own particular level. It is also important that they receive understanding through their own learning of how a pupil learns at school and what kind of issues they should be offered. The student teachers saw differentiation both down and upwards as very important issue.

"I think that I got just the right level teaching, I felt that different skilled players integrated well together during the lessons." (6)

"I did not get suitable teaching for my own level." (11)

"Differentiation did not work at all." (22)

"Rotation of the instruments is a working way to grab other than familiar or easy instruments." (45)

"The lectures offered a good explanation why we practiced just these issues during the demonstration lessons." (27)

The multidisciplinary music studies were evaluated on a scale from 1-5. Each sector (didactics, playing together and piano accompaniment) was evaluated separately. In addition to this, the student teachers wrote an essay. To support the evaluation of playing together the students also made a self-assessment according to commonly agreed evaluation scale. The whole assessment process was perceived as unclear and, according to the students, the criteria needed to be defined.

"The evaluation taught me more than an examination would have done. It is meaningful to reflect one's own level and what kind of teacher I want to become (what do I require from myself). This could be done already in autumn so that I could grab myself by the neck." (23)

"The essay was welcome alternation compared to a book examination, but the issue was rather light and superficial. My text became rather flimflam. The evaluation of the essay was also questionable." (3)

"The essay felt in the beginning like useless, but while writing I noticed that it is interesting and useful to reflect one's own music teacher identity." (35)

What kind of developmental ideas did the student teachers have concerning the study modules? This was the second research question in this article, and in answering it, the students offered many ideas. These concerned the practical organization of the studies as well as their content. The creation of a positive learning atmosphere was seen as important as was the creation of a belief in one's own skills and abilities.

"It would be very important to create a belief of survival of everything right in the beginning of the studies, a belief that I can do this." (24)

Juntunen (2017) listed in her inauguration lecture the ideals of a music teacher. A music teacher should be able to carry out the requirements of the national core curriculum and should be able to act according to the typical teacher ideals of the era and be able to respond to the continuing challenges of society and working life. Suomi (2019) states that a class teacher needs experience in music. This is, in practice, impossible to gain during the studies because reaching expertise requires many years of experience. The feedback of the student teachers mirrors the situation of current teacher education where the number of studies compared to the competence required in music teaching is completely underestimated (Suomi, 2019, 65, 197). The requirements for the teacher are enormous. The fact that music can be taught even with a lower level of knowledge and skills is quite reassuring. According to Mäkinen's research (2020), a class teacher teaching music does not need to be an expert; it is enough if they have sufficient skills and ability to use versatile methods. A positive attitude and pedagogical skills were seen as important (Mäkinen, 2020, 49, 59). Pupils are known to want their teachers to be

emotionally skillful. This means that during teacher education, student teachers should learn knowledge about the content of music, pedagogy, and personal music skills but also be able to meet the pupils appreciatively and warmly, which implies that the teacher should have emotional skills. The pupils do not expect to have an eminent musician as their music teacher, what they wish for is a nice, pleasant teacher (Mäkinen, 2020, 65).

The student teachers were very unsatisfied as regards the resources of their studies. They wished for more contact teaching to be included in the multidisciplinary music studies. There are so many issues to learn and go through and because of the small number of lessons, many things were taught in one lesson only. The issues were taken to a deeper level already in the following lesson. The evaluation of the courses was experienced as unclear, and the students wished for equality in evaluation among the teachers. In addition, more literal learning sections were requested so that those with poor instrument skills could show their abilities better.

"Bring back the skill level groups." (9)

According to the students, a skill level division in the groups would help each student to receive proper teaching that was suitable for their current skills level.

Many students remark that they do not remember anything or very little from the lectures. Their wish was that the lectures would be changed to small group lessons or that the lectures would be held closer to the time for the group lessons. This way they would understand the connection between the issues better. Presently, all the lectures are in the beginning of the autumn season.

The students requested that the small teaching assignments, which were performed during the group demonstrations would be given more clear instructions if they were to be a miniature school lesson. Furthermore, in Juvonen's research (2008, 89) the student teachers expressed their dissatisfaction with the number of teaching lessons devoted to musical instruments. They also found the group lessons frustrating. In Mäkinen's research (2020; see also Muukkonen, 2011) the student teachers underlined the importance of playing musical instruments and they wished to learn the necessary skills during their studies. The continuing cuts in the number of teaching lessons in art and skill subjects make this challenging. In Suomi's research (2019) the student teachers suggested in their developmental ideas that the number of instrument teaching lessons should be increased, and the teaching should be divided over several years. The mapping of the starting level and differentiating were seen important. Small group teaching was experienced as positive since the more skillful could help the less skillful students. The instrument teaching was also criticized for the teacher's poor skills, which is in line with the findings the same as in this research. Some teachers favored skillful students and the behavior of the teachers was experienced humiliating which often caused fear and anxiety among the less skillful students (Suomi, 2019, 190-192).

"The free accompaniment course was unnecessary, in 20 lessons one cannot learn to play piano or guitar." (23)

"For someone who cannot play the teaching speed was too fast. It should be much slower and include more repetition. A part of the issues went past and was high-flown, for example, the guitar chords." (15)

"Playing together and free accompaniment should be more integrated." (31)

"The same materials in free accompaniment and playing together." (48)

Simplified chords visible (10)

"A skillful player could practice making transcriptions of the songs." (18)

The students also suggested that the materials in the free accompaniment course and the playing together course should be the same, so that the songs would become familiar thanks to repetition. The lessons in these subjects were 45 minutes long and some students experienced that they would be better if they were one and a half hours long, so that they could concentrate on certain issue more. The playing together course would function better, if the teaching would proceed the same way as elementary school teaching: first the rhythm instruments and after them the other school instruments and the band instruments. For each instrument, the students wished for at least three differentiating levels.

"More material production." (33)

"Some homework could be helpful, too." (39)

"Music technology, notation programs, amplifiers, public address equipment…" (24)

"The technology, which is in use in school practice, should taught and learned during the education!" (49)

On the practical level of teaching, the technology, which is in use in the school practice, is not only a question of teaching time, but also of resources. The resources in practice schools for equipment are huge compared to those in the teacher education funding. The use of music technology is at a quite low level in other Finnish teacher education units (Suomi, 2019, 196).

"It would help if the materials for the playing together lessons would be in Moodle one week before for everyone to get familiar with, the drum rhythms, notations etc." (46)

"Practice schedules on the classroom doors." (55)

The students wished that the multidisciplinary course students would also be given their own schedule for practicing in the music classes. It would also be important to display the materials on the music class walls, for example, guitar chords etc.

"We need tools for the situation that there is no musical equipment in the school." (61)

The practice school and teacher education have excellent equipment for music teaching. Therefore, the students were worried about what to do if there was no or very little music equipment in the school where they would be working. They requested hints for this kind of situation.

"We need more teaching in music theory and pedagogy, how it should be taught at school. "(57)

"Better familiarization to music theory for 'dummies'. Theory and its applications should be taught more." (26)

"The elements of music should be taught more! They stayed unsound. Could they be connected to playing together?" (17)

During their studies, students noticed how important it is to understand music theory and have sufficient skills to be able to play music together or teach questions to pupils at school (see Suomi, 2019; Mäkinen, 2020). It is possible that the student will not get the opportunuty to teach music at all while teaching the teachers in the hands-on training modules. This was seen as a very bad situation, which should be avoided.

"Everyone must teach music in Practice school, otherwise student teachers could start being afraid of teaching music at all." (69)

Pupils' assessment was seen as a difficult issue and more tools were requested. Suomi's research (2019, 196) also showed that there was very little information on evaluation included in the teacher education studies. The students saw evaluation as a very important part of a teacher's work and that is why every class teacher should acquire sufficient skills also in evaluating music during their teacher education. While the course evaluation was unclear the students wished for transparency and setting the criteria for the evaluation at the beginning of the courses.

"Clear criteria in all courses." (54)

Although the courses were already planned to be as practical as possible considering music teaching in school, the student wished for more practical hints. They also noticed the need for teaching singing and voice usage; this was only dealt with in one lesson in their studies. According to Suomi (2019, 195), these issues were taught rather poorly also in other teacher education units in Finland.

"…I would have needed more hints for handling the children in practice." (28)

"Lesson planning was too small. Planning could be included in demonstration lessons, too." (10)

"I would like more information on the use and maintenance of voice and how to teach children to sing." (65)

The amount of independent work is large, and the students wished for more supervising and focusing on the independent work. They wished to receive clear homework and instructions for practicing different issues at home (see Table 4).

Table 4. Independent work

INDEPENDENT WORK	N = 77
I practiced a lot.	22
I practiced accompaniment.	14
I practiced just a little.	12
I did not understand that playing together could be practiced.	9
Practicing the instruments of the playing together course was challenging, as I did not have the instruments at home.	7
I invested most in the practicing lessons.	4
I could not practice at home; I needed more supervision.	1

"I have used hundreds of hours in practicing guitar playing and I have found myself a new interest and a hobby." (80)

"I did not practice independently instrument playing. Those instruments used in playing together would have been useful to practice, but I was too busy. Clear homework in playing instruments would not be a bad idea at all." (66)

"After the free accompaniment lessons, I always did my homework but got anxious when I could not play correctly. I am not satisfied to my amount of practicing." (83)

"I have played piano and guitar rather much at home and I have clearly got more exited in playing during the study module." (33)

"I have needed a teacher also, to my independent practicing. Luckily, my classmates have been able to help me." (86)

"I invested in the lecture." (63)

"I suggest continuing to study the class diary - it specifies the goals. For example, I train two hours in a week and I will write down what I learned and where I have more to learn. Also concerning the demonstrations: what did I learn? A part of issues is always forgotten, but in a diary, all the hints would be available." (29)

Conclusions of the First Cycle

The number of lessons in the curriculum of the multidisciplinary studies in music during 2013– 2014 and 2014–2015 remained the same:

- lectures 11 hours;
- didactics 15 hours;
- playing together 14 hours (in two groups);

- free accompaniment piano or guitar 20 hours (in 2013–2014 three groups, in 2014–2015 two groups).

In 2014–2015 a student with good skills in accompaniment could earn release from the free accompaniment study module through a proficiency test. There were 60 hours of contact teaching altogether and 73 hours of independent work (see Table 5).

Table 5. The changes in the contents of the courses in the years from 2013–2014 to 2014–2015

Multidisciplinary studies in music 5 credits 2013-2014 Contact teaching 60 hours, Independent work 73 hours	**Multidisciplinary studies in music 5 credits 2014-2015** Contact teaching 60 hours, Independent work 73 hours
Lectures 11h (7h + 4h) Music's therapeutic influence and musical self-concept 4h Voice usage 2h Finnish National Core Curriculum for Basic Education and Teacher training school curriculum Music content by the class grades, the instruments Special features of music in different class levels The structure of a music lesson and planning Listening education	**Lectures 11h (7h + 4h)** Informational lecture: content of independent work, course assignments, assessment methods, walking rules etc. Music's therapeutic influence and musical self-concept 4t Finnish National Core Curriculum for Basic Education and Teacher training school curriculum Music's contents by the class grades, the instruments Special features of music in different class levels The structure of a music lesson and planning Listening education Music theory lecture (voluntary)
Didactics 15h Music theory, rhythmics, elementary school curriculum, instruments, and contents of teaching in different class grades, song teaching and listening education, students didactical teaching moments	**Didactics 15h** Voice maintenance, singing teaching, principals of lesson planning, rhythmics, listening education, music and movement, music technology (iPad), students didactical teaching moments
Playing together 14h (two level groups) Rhythm and plate instruments, boomwackers, congas, bongos, djembe, kantele, ukulele, drum set, bass, guitar. Improvising, school orchestra arrangements	**Playing together 14h (two level groups)** Rhythm and plate instruments, boomwackers, congas, bongos, djembe, kantele, ukulele, drum set, bass, guitar, recorder. Improvising, school orchestra arrangements
Free accompaniment piano or guitar 20h (three level groups)	**Free accompaniment piano or guitar 20h (half a group)** (A student with good skills in accompaniment could earn release from the free accompaniment study module through a proficiency test)

The developmental work concerning multidisciplinary studies in music was strongly supervised by students' own reflections and their immediate interaction and feedback. Mostly, the experiences from 2014–2015 were positive as regards the teaching and the content of the course modules. As the term went by it became clear which issues should be changed and which could remain the same. The research data strengthened the personal reflections of the first writer of this article. In 2013–2014 a new two-year curriculum was created. While working with the curriculum the feedback and the ideas for development from the student teachers were discussed with all teachers. Taking into account the data from this research and the information collected from students in previous years the decision was made to change from giving a numerical evaluation for the whole study entity of multidisciplinary studies in music into a simple pass/fail evaluation. The courses playing together and free accompaniment were altered to be taught so that half of the group now changes after 45 minutes from playing together to free accompaniment and visa verse. This minimizes the number of students' free time between the lessons. It is now possible to pass the free accompaniment through a proficiency test, which shows the skills gained earlier by the student. The schedule of the multidisciplinary studies in music is made challenging by the practice study module (the second teaching practice) which is awarded nine credits, and is organized to take place in the spring season and carried out at the practice school. It is a time when other teaching cannot take place. Because all lessons in the playing together course could not be allocated in autumn season, some of them were taught in April and May. A long break in the studies made the spring term lessons more difficult. The schedule was changed so that there are 10 hours of playing together in the autumn and 4 hours in spring term.

During the spring and summer of 2014, the development work concerning the study modules of multidisciplinary studies in music was completed. The research data, which were collected from the students was analysed thoroughly and compared to the elementary school's national curriculum and to Turku University's own teacher education's curriculum. The teachers' experiences were also taken into account. These three basic elements formed the essential starting point when new plans for the next year's teaching were planned and built.

During the year, some challenges occurred in evaluation and methods of action, and many issues needed refining. It was decided to have an information lecture to start the next term, which would cover all the important issues concerning the multidisciplinary courses in music. Information was offered about music theory lectures, the rules concerning absence, individual work, group division of playing together and free accompaniment courses, and issues of evaluation. The contents of didactics and playing together were reorganized and suitable content (like symphony orchestra and part of the voice usage) were moved from group lessons to lectures. The contents of the playing together course was changed to start from the 1st grade instrument playing and going forward to higher grades and band playing. The issues taught in the lectures were linked to group lesson content more clearly and the whole structure of the course was clarified to the students.

The music theory integrated in accompaniment and playing together courses did not offer sufficient skills in music theory, and therefore a music theory lecture was arranged for willing students who were in the beginning of their music studies. It started from the very beginning of music theory learning. The final literal assignment of the didactics course was changed so that in addition to the starting assignment written in the autumn

the student fulfills it in the spring when the studies have ended. The instructions for the students short teaching instances during the didactics demonstrations were clarified and the contents of the teaching instances were refined.

Discussion

The target of this four-cycled design research has been to develop optimal multidisciplinary studies in music for class teachers in teacher education, which would strengthen the student teachers' skills and abilities. These studies are under continuous discussion among those who work in the field. The continued cutting of resources is strongly contradictory to the results of multiple research studies that have been made about teacher education music studies. The results show the need to restore the resources and number of contact teaching hours to the level of the 1980s. However, there has been no movement in this direction, quite the opposite: year after year the number of contact teaching lessons is decreased. The question therefore is what music studies should be like to be able to answer the challenges set by the new curriculum and the development of society using only the current resources.

The first research question of this research article - *How do the student teachers appraise the aims and contents of the music study modules considering the class teacher's requirements in working life?* - provided many answers from the student teachers. The most important of these were an open and encouraging learning atmosphere, the therapeutic influence of music supporting wellbeing, individual practicing and surviving in music teaching at school, a suitable level of teaching, activating and supportive ways of action in the classroom, practical content in the lessons together with motivating and suitable levels of materials. All these are issues that have to be taken into account when organizing and planning the studies.

The second research question - *What kind of developmental ideas did the student teachers have concerning the study modules?* - offered many new ideas for the development of the study. Most of the ideas were related to the implementation of the answers to the first research question. Based on long experience from working as a music teacher in teacher education and the results of this research, we reached the conclusion that teacher education should use the same style teaching ideas and methods as are used in the school world. Teaching must be of good quality and include consideration of the entry-level learner, as well as skillful differentiation and encouragement. We can see from the data collected from future cycles those developmental issues in which we succeeded during the year 2014–2015.

References

Anttila, M. (2006). Musiikin opiskelumotivaatio yläkoulussa ja lukiossa [Motivation of learning music in secondary school and gymnasium]. In M. Anttila, & A. Juvonen (Eds.), *Musiikki koulussa ja nuorten elämässä. Kohti kolmannen vuosituhannen musiikkikasvatusta, osa 3* [Music at School and in the Life of Adolescence: Towards the music education of the third millennium, part 3]. Joensuu: Joensuu University Press (in Finnish).

Barab, S. & Squire, K. (2004). Design-based research: Putting a stake in the ground. *The Journal of the Learning Sciences*, 13(1), 1-14.

Bell, P. (2004). The theoretical breadth of design-based research in education. *Educational Psychologist*, 39(4), 243-253.

Bladh, S. (2002). *Musiklärare –i utbilding och yrke. En longitudinell studie av musiklärare i Sverige.* Göteborg: Göteborgs Universitet, institutionen för musikvetenskap. Skrifter från Institutionen för musikvetenskap, Göteborgs universitet nr.71.

Curricula Guides of the Faculty of Education, Department of Teacher Education 1979–2016. University of Turku: Faculty of Education.

Dewey, J. (1934). *Art as Experience.* New York: Berkley Publishing Group.

Elliot, D.J. (1995). *Music Matters*: *A new philosophy of music education.* New York: Oxford University Press.

Gravemeijer, K. & Cobb, P. (2006). Design research from a learning design perspective. In: J. van der Akker, K. Gravemeijer, S. McKenney, & N. Nieveen (Eds.), *Educational Design Research* (pp. 17-51). Abingdon: Routledge.

Hyvönen, P. (2012). *Design-tutkimuksen lähtökohtia* [Starting Points of Design Research]. Oulun Yliopisto (in Finnish). Retrieved 16.04.2018 from http://www.slideshare.net/pirikko/dbr-johdanto-2012

Jung, R. & Mullert, N. (1987). *Tulevaisuusverstaat* [Future Workshops]. Karkkila: Waskipaino (in Finnish).

Juntunen, M-L. (2017). *2000-luvun musiikinopettaja kantaa yhteiskunnallista vastuuta* [The Music Teacher of 2000s Carries Social Responsibility] (in Finnish). Retrieved 03.06.2020 from http://www.koulujenmusiikinopettajat.fi/2000-luvun-musiikinopettaja-kantaa-yhteiskunnallista-vastuuta/

Juuti, K. & Lavonen, J. (2013). Design of a primary school physics web-based learning environment: The teacher´s role in the educational design research project. In T. Plomp, & N. Nieveen (Eds.), *Educational Design Research, part B: Illustrative cases* (pp. 49-69). Enschede: SLO.

Juvonen, A. (2008). Luokanopettajaopiskelijoiden musiikkisuhde [Starting the music relationship of student teachers]. In A. Juvonen, & M. Anttila (Eds.), *Luokanopettajaopiskelijat ja musiikki: kohti kolmannen vuosituhannen musiikkikasvatusta osa 4* [Classroom Teacher Student and Music: Towards the music education of the third millennium, part 4] (pp. 1-155). Joensuu: Joensuun yliopistopaino (in Finnish).

Kananen, J. (2012). *Kehittämistutkimus opinnäytetyönä. Kehittämistutkimuksen kirjoittamisen käytännön opas* [Development Study as a Final Project: Practical guide in writing a developmental research]. Jyväskylän ammattikorkeakoulun julkaisuja. Jyväskylä: Jyväskylän ammattikorkeakoulu (in Finnish).

Kiviniemi, K. (2015). Design- eli suunnitteluututkimus opetus- ja kasvatusalalla [Design research in teaching and educational science]. In R. Valli, & J. Aaltola (Eds.),

Ikkunoita tutkimusmetodeihin I. Metodin valinta ja aineistonkeruu: virikkeitä aloitteleville tutkijoille [Windows to Research Methods I. The choice of the method and collecting the data: ideas for starting researchers] (pp. 70-85). Jyväskylä: PS-kustannus (in Finnish).

Korhonen, T. (2013). Tieto- ja viestintätekniikka kodin ja koulun yhteistyön tukena - design -tutkimuksen käytännön toteuttaminen [Information and communication technology supporting the collaboration between school and home – practical execution of a design research]. In J. Pernaa (Ed.), *Kehittämistutkimus opetusalalla* [Developmental Research in Education] (pp. 163-179). Opetus 2000 –sarja. Jyväskylä: PS-kustannus (in Finnish).

Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis*, 2nd edition. California: Sage.

Muukkonen, M. (2011). Koulujen musiikinopetuksen järjestämisen haasteita ja näkymiä musiikin aineopettajakoulutukseen [The challenges in managing schools' music education and visions in teacher education]. In M. Muukkonen, M. Pesonen, & U. Pohjannoro (Eds.), *Muusikko eilen, tänään ja huomenna. Näkökulmia musiikkialan osaamistarpeisiin.* Musiikkialan toimintaympäristöt ja osaamistarve – Toive, loppuraportti. Sibelius-Akatemian selvityksiä ja raportteja 13/2011 [A Musician Yesterday, Today and Tomorrow: Points of view in need of know-how in music field] (pp. 26-39). Helsinki: Cosmoprint Oy (in Finnish).

Mäkinen, M. (2020). *"The Teacher Does Not Rage and Makes Music with Us": Student teachers' professional growth into a versatile music teacher:* Dissertation in Education. Joensuu: University Press.

National Core Curriculum for Basic Education (2004). Helsinki: Board of Education.

National Core Curriculum for Basic Education (2014). Helsinki: Finnish National Agency for Education.

Nikali, E. (2003). Musiikinopetuksen nykytila ala-asteella. *Turun ala-asteiden musiikinopettajien näkökulma* [The Situation of Music Education in Elementary School. The point of view of elementary school teachers in Turku: Licentiate thesis]. Turun yliopiston Kasvatustieteiden laitos (in Finnish).

Pernaa, J. (2013). Kehittämistutkimus tutkimusmenetelmänä [Developmental research as a method]. In J. Pernaa (Ed.), *Kehittämistutkimus opetusalalla* [Developmental Research in Education] (pp. 9-26). Opetus 2000- sarja. Jyväskylä: PS-kustannus (in Finnish).

Puukka, P. (2017). *Musiikkia opetetaan vastoin tahtoa ja ilman ammattitaitoa – peruskoulun musiikinopetuksen taso heittelee* [Music is Taught Against the Pupil's will and without Professional Skill – the Quality of Elementary School's Music Education is Varing] (in Finnish). Retrieved 18.08.2020 from https://yle.fi/uutiset/3-9919098

Reeves, T. (2006). Design research from a technology perspective. In J. van den Akker, K. Gravemeijer, S. McKenney, & N. Nieveen (Eds.), *Educational Design Research* (pp. 52-66). London: Routledge.

Ruippo, M. (2015). *Musiikin verkko-opetus. Yhteenvetoraportti Sibelius-Akatemian aluekehityshankkeesta vuosina 2001–2003 ja sen jälkeisestä verkko-opetuksen kehittämisestä* [Web-based Music Teaching: A summary report of the rural area development project conducted by Sibelius Academy in 2001–2003 and the development of web-based teaching afterwards] (in Finnish). Retrieved 20.03.2020 from http://ruippo.fi/lisensiaatintyo/

Scardamalia, M. & Bereiter, C. (2014). Knowledge building and knowledge creation: Theory, pedagogy, and technology. In R.K. Sawyer (Ed.), *Cambridge Handbook of the Learning Sciences*, 2nd edition (pp. 97-118). Cambridge: Cambridge University Press.

Selection Guide of the Faculty of Education Department of Teacher Education 1986. University of Turku: Faculty of Education.

Sormunen, K. (2020). *From Inclusive Practices to Personal Strategies: Teachers and students designing together digitally supported science learning*. Helsingin yliopisto. Helsinki Studies in Education, number 76 - URN: ISSN: 2489-2297

Suomi, H. (2019). *Pätevä musiikin opettamiseen? Luokanopettajaksi valmistuvan musiikillinen kompetenssi perusopetuksen opetussuunnitelman perusteiden toteuttamisen näkökulmasta. Väitöskirja* [Competence to Teach Music? The musical competence of graduating primary teachers in terms of the implementation of the National Core Curriculum for Basic Education]. Jyväskylä: Jyväskylä University Printing House (in Finnish). Retrieved 20.03.2020 from http://urn.fi/

Tereska, T. (2003). *Peruskoulun luokanopettajiksi opiskelevien musiikillinen minäkäsitys ja siihen yhteydessä olevia tekijöitä* [Elementary School Teacher Students' Musical Self-concept and Factors in Connection with It]. Helsingin yliopiston opettajankoulutuslaitoksen tutkimuksia 243. Helsinki: Helsinki University Press (in Finnish).

Tuomi, J. & Sarajärvi, A. (2018). *Laadullinen tutkimus ja sisällönanalyysi* [Qualitative Research and Content Analysis]. Vantaa: Tammi (in Finnish).

Turun yliopiston luokanopettajakoulutuksen arkistoitu opetussuunnitelma 2011–2013. Retrieved 26.08.2020 from https://nettiopsu.utu.fi/opas/opintojakso.htm?rid=5178&idx=11&uiLang=fi&lang=fi&lvv=2013

Valtonen, A. & Viitanen, M. (2020). Ryhmäkeskustelut laadullisena tutkimusmetodina [Group discussions as qualitative research method]. In A. Puusa, & P. Juuti (Eds.), *Laadullisen tutkimuksen näkökulmat ja menetelmät* [The Points of View and Methods of Qualitative Research] (pp. 118-130). Tallinn: Gaudeamus (in Finnish).

Vesioja, T. (2006). *Luokanopettaja musiikkikasvattajana* [A Class Teacher as Music Educator]. Joensuun yliopiston kasvatustieteellisiä julkaisuja, no 113. Joensuu: Joensuun yliopistopaino (in Finnish).

Wang, F. & Hannafin, M.J. (2005). Design-based research and technology-enhanced learning environments. *Educational Technology Research and Development,* 53(4), 5-23.

Väkevä, L. (2004). *Kasvatuksen taide ja taidekasvatus. Estetiikan ja taidekasvatuksen merkitys John Deweyn naturalistisessa pragmatismissa* [The Art of Education and Art Education: The meaning of aesthetics and art education in John Dewey's naturalistic pragmatism]. Acta Universitatis Ouluensis E Scientiae Rerum Socialium 68. Oulun yliopisto (in Finnish).

Received 21.10.2020
Accepted 09.12.2020

Notes for contributors

SUBMISSION OF MANUSCRIPTS

Manuscripts, ideally between 5000 and 8000 words (including abstract, diagrams, references and tables), should be sent as an attachment in original format or Word document format (DOC). Manuscript should be submitted in English and only for *Problems in Music Pedagogy* in accordance with the publication manual of the American Psychological Association (APA).

REFEREEING

All manuscripts are normally reviewed by at least two referees (in addition to the Editor). Refereeing is anonymous unless a referee chooses otherwise. Referee comments are passed intact to authors, apart from editing. Proofs should be returned to the Editor as soon as possible. The Editorial Board has the right to reject a manuscript if after the first review it is submitted repeatedly with unsatisfactory corrections. The selection of articles for inclusion in the journal will be based on these reviews.

SPECIFICATIONS FOR CONTRIBUTIONS

Manuscript must be typewritten with a font size of 12 points (font *Times New Roman*) on one side of A4 paper. Contributors are asked to use MS Word 5.0 or a later version.

Style

Papers must be written in clear, concise style appropriate to an international readership.

Manuscript specification

Title. Include title of the paper, name(s) of author(s), affiliation, mailing address (include postal codes, e-mail address and fax-number).

Manuscripts should begin with an *Abstract* of up to 120 words that contains concise factual information on objectives, methods, results, and conclusions.

Key Word Index should follow, including a maximum of 5 Keywords.

The body of the text should begin with a statement of the objectives of the work. It should include citations of published related work and sections on *Methods, Results, Discussion* and *Conclusions* of the study.

An *Acknowledgement* section may follow the Conclusions.

Figures. Graphics files are welcome if supplied as Tiff, JPG. A minimum resolution for images is 600 ppi. The minimum line weight for line art is 0.5 point for optimal printing. When possible, please place symbol legends below the figure image instead of to the side.

Tables, drawing, diagrams and charts with a clear title should be numbered by Arabic numerals. The approximate position of these materials should be indicated in the manuscript.

Footnotes should not be used.

References. References (all reference in English) should be listed in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References. Basic formats are as follows:

For books

Hallam, S. (1998). *Instrumental Teaching: A Practical Guide to Better Teaching and Learning.* Oxford: Heinemann.
Yeric, J., & Todd, J. (1989). *Public Opinion: The Visible Politics.* Chicago: Peacock.

For journal articles

Peterson, J., & Schmidt, A. (1999). Widening the horizons for secondary schools. *Journal of Secondary Education, 3(8). 89106.*

For published conference paper

Edwards, K., & Graham, R. (1992). The all female expedition: A personal perspective. *Gender on Ice: Proceedings of a Conference on Women in Antarctica*. Canberra: Australian Antarctic Foundation, 75-81.

For chapters in edited books

Philpott, Chr. & Carden-Price, Chr. (2001). Approaches to the Teaching of GCSE. Chr. Philpott, (Ed.). *Learning to Teach Music in the Secondary School*. London, New York: Routledge, Falmer, 184-195.

Document on the World Wide Web (dated and author or sponsor given)
Brown, H. (1994). *Citing computer references.* Retrieved April 3, 1995 from
http://neal.ctstateu.edu/history/cite.html

ALL CONTRIBUTIONS AND CORRESPONDENCE SHOULD BE ADDRESSED TO:

Professor Jelena Davidova,
Problems in Music Pedagogy,
Daugavpils University,
Parades 1-205,
Daugavpils, LV 5400, Latvia.
Tel.: +371 29140287.
E-mail: jelena.davidova@du.lv

Problems in Music Pedagogy

Volume 20(1), 2021