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Thade Buchborn, Marina Gall, Sarah Hennessy, Margret Stumpfögger (eds.)

# Liberty – Equity – Creativity

Innovating and inventing music in the classroom

**Liberty**

**Equity**

**Creativity**

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Thade Buchborn, Marina Gall, Sarah Hennessy, Margret Stumpfögger (eds.)

# Liberty – Equity – Creativity

Innovating and Inventing Music in the Classroom

**Liberty – Equity – Creativity: Innovating and Inventing Music in the Classroom**  
**European Perspectives on Music Education 13**

edited by Thade Buchborn, Marina Gall, Sarah Hennessy, Margret Stumpfögger  
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# Table of Contents

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|                                                                                   |   |
|-----------------------------------------------------------------------------------|---|
| Margret Stumpfögger, Thade Buchborn, Marina Gall & Sarah Hennessy<br>Introduction | 5 |
|-----------------------------------------------------------------------------------|---|

## I. PERSPECTIVES ON CREATIVITY

|                                                                                                                                                             |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Gert Biesta (Ireland and United Kingdom)<br>Democratic Music Education between Creativity and Sensitivity<br>An Interview with Gert Biesta by Philip Winter | 15 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

|                                                                                                                         |    |
|-------------------------------------------------------------------------------------------------------------------------|----|
| Heidi Westerlund (Finland)<br>Why Should Children Compose?<br>From an Ego-Logical to Relational Eco-Logical Rationality | 29 |
|-------------------------------------------------------------------------------------------------------------------------|----|

|                                                                                                                                                           |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Elissavet Perakaki (Greece)<br>Musical Bridges to Inclusion<br>The Educational Journey of an Autistic Student<br>through Composition and Music Technology | 43 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----|

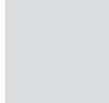
|                                                                                                                                                                 |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Thomas Geudens & Thomas De Baets (Belgium)<br>'From Chanting to Rapping'<br>(Creative) Music Making in Catholic Schools<br>in 20 <sup>th</sup> Century Flanders | 61 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

|                                                                                                                                                                                                               |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Johannes Trefß, Elisabeth Theisohn & Thade Buchborn (Germany)<br>How Can Teachers Initiate and Support Creative Processes?<br>Design Principles for Group Composing and Improvising<br>in the Music Classroom | 77 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

## II. YOUNG PEOPLE COMPOSING

|                                                                                                                                                                                                                                                                         |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Laetitia Pansanel-Garric (France)<br>The Creative Process: Between Composition and Transmission<br>Composing Music, Starting from a Diversity of Musical Practices<br>in a Pedagogical Context, in Order to Create a Shared Performance<br>– a Composer's Point of View | 101 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|

|                                                                                                                                                                                                                                                                                                                                          |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Vít Novotný (Czech Republic) & Teryl L. Dobbs (United States of America)<br>Fostering Children's Creativity and Artistic Freedom<br>through the <i>Terezín Relay Project</i>                                                                                                                                                             | 123 |
| Daniela Taylor & Jiřina Jiříčková (Czech Republic)<br>A Creative Musical Meeting with Leoš Janáček                                                                                                                                                                                                                                       | 135 |
| Verena Bons (Germany)<br>Songwriting with Ukuleles<br>How the 'Fairground Concept' Can Foster Children's Creativity                                                                                                                                                                                                                      | 153 |
| Verena Weidner, Katharina Hermann & Marc Godau (Germany)<br>'We Had the Ideas and He then Implemented Them.'<br>Songwriting in School as Networking                                                                                                                                                                                      | 169 |
| <b>III. TECHNOLOGY ENABLING COMPOSITION AND PRODUCTION</b>                                                                                                                                                                                                                                                                               |     |
| Philipp Ahner (Germany), Michael Ahlers (Germany), Wilfried Aigner (Austria),<br>Sabine Chatelain (Switzerland), Sandrine Desmurs (France), Daniel Hug (Switzerland),<br>Peter Mall (Germany) & Benno Spieker (The Netherlands)<br>From Sheet to Beat<br>Creativity and Composition as Useful Content<br>for (Digital) Lifelong Learning | 189 |
| Yannis Mygdanis (Greece)<br>Little Music Makers & Producers<br>Designing and Integrating Technological-Musical<br>Educational Scenarios for Musical Creativity Development<br>in an Elementary School in Greece                                                                                                                          | 207 |
| Phillip Feneberg (Austria/Germany)<br>Creating Music in VR<br>A Study on Virtual Reality Apps for Creating Music                                                                                                                                                                                                                         | 221 |
| Anna Houmann, Joakim Barfalk, Erik Lundahl & Per Berlin Englund (Sweden)<br>The Digital Student<br>Challenges and Opportunities Using EDI<br>in Swedish Music Education                                                                                                                                                                  | 243 |
| <b>The Editors</b>                                                                                                                                                                                                                                                                                                                       | 261 |
| <b>The Authors</b>                                                                                                                                                                                                                                                                                                                       | 263 |



Margret Stumpfögger, Thade Buchborn,  
Marina Gall & Sarah Hennessy

# Liberty – Equity – Creativity: Innovating and inventing music in the classroom

## Introduction

This book presents perspectives and perceptions of music education today connected to the theme “Liberty – Equity – Creativity: Innovating and Inventing Music in the Classroom”. This was also the theme of the 30<sup>th</sup> Conference of the European Association for Music in School/9<sup>th</sup> European ISME Regional Conference in Lyon (France) 2023. Exchanging approaches, ideas and research on improvisation and composition education is continuing an already existing discourse within the European Association for Music in School (EAS). In Vilnius in 2016 the very stimulating theme of the EAS conference “Looking for the unexpected – Creativity and innovation in music education” raised topics many participants wished to take up again within the EAS community. Indeed, one conference could not exhaust such broad and important issues. The 2023 conference in Lyon offered an opportunity to go into more depth about exploring, improvising, composing, creating music in school, or whatever we may call what children and young people do when invited to, spontaneously, or on their own. This shows, that the conference as well as the different chapters of this book mainly focused on creativity. At the same time, the theme opened up new perspectives that were addressed, but not featured in depth: liberty and equality. Both topics are worth exploring in more detail at future EAS conferences.

### **Terms, concepts and definitions of inventing music, composing and improvising**

Whilst exploring this theme, many questions arose. First of all, what do we mean, concretely, by innovating or inventing music in the classroom? Do we mean any activity arousing and involving creativity by exploring and playing with sounds? Do we mean

group improvisation? Do we mean a process leading to a recording or to performing on stage? Do we mean composing by writing down a score or graphic signs, or by working on sound editor software? Do we mean work that involves the use of digital devices? Do we mean a general approach including all these possibilities and more?

Another question to explore is what teaching composition consists of. Is it passing on theories and techniques about harmony and orchestration, voicing and arrangement, or about the use of sound software? Is it building up knowledge about different musical styles and forms, analyzing existing works to understand the musical processes within them so as to make use of them in one's own compositions? Is it fostering an imaginative use of sound and an original organization of sound events?

Improvising may be a step in a composition process but, essentially, it is a musical activity in its own right, not meant to produce a lasting form. Is teaching improvisation, therefore, part or distinct from teaching composition?

### **Justifications for inventing music in education**

A central question in educational contexts is why children and young people should be empowered to invent their own music. What is the use of stimulating creativity and sensitivity inside the classroom? Do creative situations foster critical inter-subjectivity? Are there democratic approaches to children's composing? When learning groups communicate with each other by means of sound events, can they override cultural and social codes of values by creating new musical forms and content? Is innovating and inventing music in the classroom an opportunity for inclusive teaching? What creative experiences are relevant for students? What can be expected of children and young people as composers? Is there a specific aesthetic genre of children's music? How does composing in school connect to the musical world beyond?

### **Approaches to learning and teaching creative music-making**

If we consider exploring, imagining and creating as equal in importance to singing, performing and listening, we have to explore, what are the best teaching approaches to foster children's creativity? Which concepts, settings or design principles may be applied successfully?

Inventing music is a process involving choices at every step, between all the possibilities offered by the materials and the tools available, and by the abilities and wishes of the composer(s) or the players. It is a constant process of selecting and rejecting a range of possibilities, of divergent and convergent thinking, of imagining and acting in turn. Inventing music in class can be described as a process of exploring, drafting, developing,

refining and fixing, entailing making choices and decisions possibly also including improvising, listening critically and analyzing, and finally performing. Guiding such a process in a collective pedagogical setting is a highly challenging task which requires both artistic and pedagogical competencies and an adequate professional training.

Pedagogic work in class, both for composing and improvising, engages intentionally the student's creativity. Therefore, the teacher needs to know about process-orientated and result-orientated teaching. Further, to give children space to develop their own ideas the teacher needs to facilitate not only lead the teaching and learning process. This may deeply modify the roles and relationships between teachers and students. This may lead us to reconsider the educational relationship. Indeed, in a creative process, adult musicians and/or teachers are necessarily involved in critical inter-subjectivity, not only as technical, pedagogical or artistic experts but also as sensitive people. In creative situations the teacher may not be the only expert in the classroom. One thing, however, seems to be clear. The surest way to succeed in innovating and inventing music with students is to do it firstly oneself, as a musician, in and out of school.

Volume 13 of *European Perspectives on Music Education* presents a wide range of articles written by authors from all over Europe. Each of them offers some answers to the questions noted above. Nevertheless, this book can reflect only some of the debates held during the Lyon conference in 2023. It shows that this second EAS conference about creativity and invention was truly engaging and very useful, but still could not exhaust the issue, as inventing music is an ongoing process.

The first section of the book brings together different **Perspectives on Creativity** drawing on theoretical positions and findings from empirical research. In the first chapter "Democratic music education between creativity and sensitivity: A world-centred approach" Gert Biesta (IRL/UK) uses the format of an interview to reflect the role of music, the arts and music in the context of education. Being an educator and musician, but not a music educator, he approaches these topics as an 'insider' and 'outsider' at the same time. Criticising the "global education measurement industry" and arguing for humane and world-centred approaches in education, he points out that the arts can provide opportunities for children and young people "to express themselves, to speak, be creative, articulate an identity," but highlights that the task of education is always "to bring what is expressed and who expresses themselves into a dialogue with the world" so that we can raise the question "whether what 'emerges' from the child or young person is going to help or hinder with living their lives well, with others, in the world." Along these lines he makes a case for a world-centred rather than a child- or young person-centred approach to education."

In her chapter "Why should children compose? From ego-logical to eco-logical rationality" Heidi Westerlund (FIN) examines some of the most prominent research frameworks in music education to show how they frame teachers' mental models when

including composing as part of education, while at the same time limiting possibilities for considering what composing in education could be and why it may matter in a repertoire-centred music education. She proposes an expanded and situational, more unscripted and open, relational and ecological rationality (Barrett & Westerlund, 2024) for composing in school.

“Being part of the music classroom: The role of composition and music technology in the integration of a student with autism” reports on a research project from Greece. In this study, Elissavet Perakaki explores the experience of a 13-year-old student with autism within a classroom music lesson. The emphasis is on how the group’s structure facilitated his participation. Data from interviews with a language specialist teacher, the music teacher, the student’s family and classmates and diary analysis reveal the significance of the student’s collaboration, the guidance provided by the music educator, the importance of music technologies for this young person, and the many advantages of involving students with learning, and other challenges in musical activities.

“From chanting to rapping: Innovating and inventing school music in Catholic schools in twentieth century Flanders” Thomas Geudens and Thomas De Baets (BE) reflect on the role of creativity in the Catholic schools in Flanders, the Dutch-speaking region in the north of Belgium. Through document analysis and study of the literature they reconstruct evolving approaches to creativity in the classroom in the Lemmens Institute and music in Flemish schools in the 20<sup>th</sup> century. Discussing the international influences and interactions between the Flemish and their surrounding countries over time, they present their regional findings in an international context.

The section closes with the chapter “Group Composing and Improvising in the Music Classroom: A comparative analysis of design principles” by Johannes Treß, Elisabeth Theisohn and Thade Buchborn (DE). In two design-based research studies they developed educational designs on composing and improvising in the classroom for secondary schools in Germany and researched how students act and interact in educational situations focusing on creative acts. Comparing their design principles on learning and teaching composing and improvising in schools, the authors looked for common principles that foster creativity in the classroom, but also for differences that are closely connected to improvising or composing and point to the specific characteristics of each form of creativity.

The second section **Young People Composing** contains practice and research papers dealing with projects and approaches to composing inside and outside the classroom. It starts with the chapter “Composing music in order to create a shared performance, starting from a diversity of musical practices in a pedagogical context – a composer’s point of view”. Laetitia Pansanel-Garric (FR) describes the project *Chantiers de la création* in which she was engaged as a composer in 2020–21. In this project, every year, over 150 school children are involved in a process of musical creation, alongside a composer, musiciens

intervenants working in school, and an ensemble of musicians from the Orchestre National de Lyon. The author shows how the joint performance on stage was set up, step by step, and how she came to compose in a new way by working in the crossfield of pedagogy and artistry, observing and collecting ideas rather than instigating them. However, her task “to direct the various artistic, human and technical components, combining them and placing them in a temporal and musical continuum” is composing in perhaps the original sense of the term.

In their practice paper “Fostering Children’s Creativity and Artistic Freedom through the Terezín Relay Project” Vít Novotný (CZ) and Teryl L. Dobbs (USA) provide a detailed account of a long standing project which has been running for 15 years. The project connects Czech students with the work of young people held in the Terezín ghetto (and later murdered in Auschwitz). Their poetry provides the inspiration for plays, music theatre and songs created by students of the Nature School, Prague, and shared with other students across the country. Peer learning, which was used at Terezín (Tichy & Pressburger, 2014) became a key element of this project. The authors share the practical approaches and strategies used to engage students in powerful creative responses.

“A Creative Musical Meeting with Leoš Janáček” reports on another project from Czechia. In this chapter Daniela Taylor and Jiřina Jiříčková (CZ) give a detailed description of a practical workshop for primary age students. The rationale combines a desire to explore the work of Janáček, who holds a prominent place in the musical culture of Czechia, as well as the music curriculum for schools; and the enduring influence of the writings of Comenius. The pedagogy of Orff-Schulwerk (Kotzian, 2019) and Comenius (Komenský, 1991) are both invoked in the activities which encourage exploration and creative music making.

The following two chapters both focus on song writing projects in different regions of Germany. In “Songwriting with Ukuleles: How the fairground concept can foster children’s creativity” Verena Bons (DE) provides insights into a secondary school project. She developed a program in which students learned the Ukulele in class and were invited to develop their own songs. The educational approach was based on a fairground concept that picks up characteristics of informal learning. Different fairground stalls focus on musical basics such as playing techniques and creative approaches which allowed the students to follow their own interests and needs on their way to playing the Ukulele and developing their own music.

In “*We had the ideas and he then implemented them.*’ – Songwriting in School as Networking” Katharina Hermann, Verena Weidner and Marc Godau (DE) report on a research project on songwriting in secondary school. They reconstruct the learning processes of two groups of students in a school project and provide additional insights into the teacher’s perspective. The research shows how songwriting in schools can take place as informal networking with peer-experts from outside the school. The findings highlight the importance of the development of networking competences outside of expected creative contexts.

**Technology enabling composition and production** is the last section of this volume. The four chapters focus on the importance of technology for creative musical processes in the (post)digital age. The first contribution “From Sheet to Beat: Examples and Findings on Teaching Musical Creativity and Composition Using Technologies” was created in the context of the EAS Special Focus Group DigiTime. Philipp Ahner (DE), Michael Ahlers (DE), Wilfried Aigner (AT), Sabine Chatelain (CH), Sandrine Desmurs (FR), Daniel Hug (CH), Peter Mall (DE), Benno Spieker (NL) first consider two theoretical frameworks that relate to the use of music technologies, particularly in relation to composing music: the technological pedagogical and content knowledge framework (TPACK) (Koehler & Mishra, 2009) and the technology acceptance model (TAM) (Davis, 1985). This is followed by an explanation of ways in which these constructs underpin work in their own music teacher higher education courses in Austria, France, Germany, The Netherlands and Switzerland.

In the chapter “‘Little music makers & producers’: designing and integrating technological-musical educational scenarios for musical creativity development in an elementary school in Greece” Yannis Mygdanis (GR) presents the work he designed and implemented with his young students (8–11 years) which used technological-musical educational scenarios for musical creativity development. As teacher-researcher he applied strategies and devised activities drawing on music production, maker movement, and music programming to foster the students’ creativity. His research asks whether such activities do promote musical creativity, and also investigates the children’s evaluative responses. Findings are positive and support the author’s interest to develop the research further with the aim of bringing these technologies into the music classroom more widely.

In the chapter “Creating Music in VR. A study on users’ creative experience when creating music in interactive, virtual environments” Phillip Feneberg (DE) considers virtual reality (VR) in the context of music education and explains an empirical study which explored 10–15 year olds’ thoughts and feelings about their experience of creating music in VR. Findings are presented in relation to three main areas: 1) the act of creating in multimedia spaces, 2) new perspectives in and through VR, and 3) the dimensions of experience.

In the closing chapter “The Digital Student – challenges and opportunities using the computer as instrument in music education” Anna Houmann, Joakim Barfalk, Erik Lundahl & Per Berlin Englund (SE) explain a funded practice-based research project focusing on EDI (electronic digital instrument), that was part of a national pilot project commissioned by the Swedish government (2017–2024) and involved collaboration between university teachers and researchers, and upper secondary school teachers and students (<https://www.ediguidelines.se/>). Aside from many reflections on the use of EDI in school classrooms, the forms and methods of teaching that were developed through this project are seen as realisation and documentation of the participants’ lived experience and views on how EDI teaching and learning can be explored and developed.

We would like to thank the authors for contributing to the creation of this book with their exciting chapters. Through addressing different perspectives on innovating and inventing music in the classroom, they have enriched the ongoing dialogue on liberty, equity and creativity. We hope this book may inspire teachers, researchers and policy makers in music education and beyond and wish all readers a stimulating read.

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# **I. PERSPECTIVES ON CREATIVITY**



Gert Biesta

# Democratic Music Education between Creativity and Sensitivity

An Interview with Gert Biesta by Philip Winter

*In May 2023 Gert Biesta gave one of the invited keynotes at the 30<sup>th</sup> Conference of the European Association for Music in Schools, which was held together with the 9<sup>th</sup> European Regional Conference of ISME, the International Society for Music Education in Lyon, France. In this interview with Philip Winter, Gert Biesta discusses the main ideas from his presentation and explains why he took this particular 'angle' for his contribution.*

Philip Winter: In your presentation you positioned yourself as a relative outsider to the field of music education. You could of course have declined the invitation by saying that this is not your field of expertise. So I am curious about what made you decide to contribute.

Gert Biesta: That is an interesting opening question! I did indeed highlight my position as an outsider, though I called myself a relative outsider. I have experience with music education, albeit as a receiver, and I also have quite a lot of experience with music, which I consider to be the art in which I am most at home. I play several instruments, I sing, I direct choirs, and have even composed a little, and I have a rather wide taste for music, and am also interested in music recording and music production.

But I think that what intrigued me most about the conference was its 'framing' in terms of liberty, equality and creativity, which signalled to me that the discussions would not just be about the 'technical' aspects of music education, but also about the societal, political and democratic dimensions. Such a positioning of music education is not very common as far as I know, so on the one hand I was curious about this, but I also felt that with such a 'framing' I might have something

to offer. Nonetheless, I was very much aware of the challenge of talking about big themes – creativity, democracy, music and education and their interconnections.

PW: Is your interest in these themes mainly intellectual, that is, as a scholar or researcher?

GB: Spending most of my time in academic circles, both as a teacher and as an author, I have, of course, an intellectual interest in these themes. But education is also a very practical field, and I see many things happening that I am deeply worried about. One thing that I keep seeing in discussions about the arts and education that people are neither really interested in the arts nor really interested in education. And I think that music suffers disproportionately from this problem. I think that just around the time of the conference an organisation in the Netherlands that works under the heading ‘more music in classrooms’ had relaunched itself, taking a broader angle on the arts and education. But what keeps irritating me about this organisation and the way it presents its ‘case,’ is that it keeps saying such things as that there needs to be more music in schools because this allegedly promotes children’s brain development. This statement is wrong at so many levels, but is first of all, in my view, an insult to music. Can you even imagine a composer who sets out on composing music with the intention to promote children’s brain development?

PW: This has something to do with one of the main points you discussed in your presentation, namely the disappearance of the arts from art education. Can you say a bit more about this?

GB: Yes. In terms of setting the scene for what I wanted to say, I discussed two ‘disappearances’, if we can use that word in the plural. The first is the disappearance of the arts from art education and the other the disappearance of education. These are of course bold claims, but for me this is a helpful way to describe what is going on. With regard to the disappearance of the arts from art education I refer mainly to the many instrumental justifications for having the arts in education, and the idea that we need music for brain development is one of these, but there are many other suggestions, such as that doing arts will drive up children’s test scores in language, mathematics, and science, will promote the development of creativity, morality, pro-social attitudes, empathy, 21<sup>st</sup> century skills, and so on. When you begin to look at it the list is almost endless.

PW: And what would you say is the main problem here?

GB: Put bluntly I would say that if we only have instrumental reasons for having the arts in education, that means only because they are supposedly good or useful for something *else*, then it first of all shows that we don't really care about the arts themselves but only about what the arts will bring about. That is not just a downgrading of the importance of the arts in themselves, but also reveals all kinds of hierarchies at work in education. A friend of mine once made the point brilliantly when another report had been launched about how music apparently makes children better at mathematics. He simply asked where the research was that shows that doing mathematics would make children better musicians! That question is never asked as far as I know, and thus shows exactly what is being valued and what isn't.

PW: You also said that instrumental justifications are vulnerable. What do you mean by that?

GB: If the only reason for having the arts in education is because they are good for bringing about something *else* – and the emphasis is on the 'else' – then it means that if people find other, quicker or cheaper ways to bring about this something 'else,' then actually there would no longer be a reason to have the arts in schools. And of course it is particularly the 'quicker and cheaper' that will appeal here, because the arts tend to be slow and costly.

PW: If instrumental justifications of the arts in education are problematic, what then would the alternative be?

GB: In my presentation I consider a rather old but, in my view, still valued and valuable alternative, namely the non-instrumental justification for engaging with the arts. This is the idea of arts for arts' sake, which highlights that the arts have a value in themselves and don't serve any purpose outside of the arts. The reason for engaging with art, in other words, is because art matters in itself. But there are people who don't really like this kind of justification, because it sounds like we are saying that the arts are actually useless. The point I made in my presentation, however, is that asking about the usefulness of the arts in education is actually what philosophers would call a category mistake.

A category mistake means that we ask a question that actually doesn't make sense in a particular context – you could say that the question is of the wrong category or in the wrong category. Because as long as we ask what the usefulness of the arts in education is, we see education as some kind of production process where everything we do needs to produce some kind of 'outcome' – and I have to

say that I also find the language of ‘outcomes’ and ‘learning outcomes’ deeply problematic for this reason. Education, however, is not a production process in which we produce things. Someone who has benefitted from education is not a ‘thing’ or an ‘outcome’ but, as the educational philosopher Richard Peters has formulated it somewhere, a human being with an ‘altered outlook’ – a human being who stands differently in the world.

PW: Does that have to do something with the notion of ‘existential possibilities’ you mentioned in your presentation?

GB: Indeed. I highlighted that in education we shouldn’t be asking what we as educators produce, but we should be asking what education means for our students, and how it alters their horizon of meaning. Similar, we should ask what education ‘makes’ – the making-metaphor is really problematic; we don’t make our students – but we should be asking what kinds of possibilities education makes possible for our students. Education, to put it simply, is a process of opening doors to the world and inviting our students to step through the door, both in order to meet the world and meet themselves there. It is about offering them the opportunity to explore different ways of meeting the world and existing in the world – different existential possibilities. And music is one such existential possibility; one way in which we, as human beings can be in and with the world.

PW: I can see that along the lines you are beginning to connect music and education very differently, not just because you can take music seriously in its own terms, but also because education ‘appears’ in a different way. ‘Opening doors to the world and the self’ is a helpful image here, that is indeed very different from the production of learning outcomes. So in what way, then, is there a danger that education disappears from music education?

GB: This is indeed the other line of the argument I presented, and I wanted to highlight this as well, particularly because I wanted to raise some questions about creativity – perhaps the only one of the three words from the conference title (liberty, equality, creativity) that I thought needed challenging, also for democratic reasons. We can talk a bit more about that in a minute. But with regard to the disappearance of education I was particularly thinking of what in the presentation I refer to as extreme curriculum- or knowledge-centred conceptions of education that just focus on training students for taking exams and putting them under huge pressure to get high grades. This trend is raging around the world, ‘supported’ by a global education measurement industry, and it not just creates a hugely one-sided view of

what education should be about, but also really damages the lives of children and young people – think, for example, about what’s happening in South Korea.

Now it is interesting, and in a sense encouraging, that the arts are often brought in to rebalance the curriculum and make it more ‘humane’, so we might say, because the ongoing pressure on measurable performance really ends up treating children and young people just as objects, rather than as subjects of their own life. But it is important to look carefully at how the arts are being brought in here. In my presentation I mentioned that the arts are often brought in because they allow children and young people to express their own voice, make their own sense, be creative, generate their own meaning, articulate their own identity and, along these lines, put the child or young person more in the centre of education.

PW: This sounds good.

GB: Yes, it sounds good, but there is an important question that is often forgotten. In my presentation I call it the ‘what if?’ question. The point is that if we only say that we need the arts in education because they allow for the expression of voice, creativity and identity, but forget to ask about the ‘quality’ of what is expressed, we miss a crucial educational point. After all, what if the voice that speaks is racist? What if the creativity that is expressed is destructive? What if the identity that emerges is only interested in itself? It is here, as I argue in my presentation, that we find the real educational work – and this work is quite difficult.

Of course education should provide opportunities for children and young people to express themselves, to speak, be creative, articulate an identity, but the educational task is always to bring what is expressed and who expresses themselves into a dialogue with the world – the social world, the natural world, the physical world, and so on. And this is because in education we need to raise the question whether what ‘emerges’ from the child or young person is going to help or hinder with living their lives well, with others, in a world that is real and thus makes some ways of being possible, but also puts limits and limitations onto what we can and how we can be.

In my work I refer to the task of education as arousing the desire in children and young people for wanting to exist, that is, live their lives, in and with the world in a grown-up way. Which for me also means that education should neither be curriculum-centred nor child- or student-centred, but should actually be world-centred. Which is also the title of a book I published in 2021.<sup>1</sup>

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<sup>1</sup> Biesta, G. (2021). *World-centred education: A view for the present*. New York/London: Routledge.

PW: So, is the disappearance of education you spoke about in your presentation about this forgetting to ask the 'what if'-question or, as you put it, the educational question?

GB: Indeed. You could also say that education is forgotten if we just think that art is about expression and that the school should be a place where children and young people can express themselves. If we say that, we forget that not everything that people express is automatically good or desirable, neither for themselves, nor for the world in which their lives take place.

PW: This idea that education is about arousing the desire for wanting to exist in the world in a grown-up way is something you discussed in more detail in your presentation as well. Can you say a bit more, both about existing in the world and this 'grown-up way'?

GB: Sure. Let me begin with the existing in the world. It's easy to say, but not that easy to grasp. The way I think about it, is starting with a beautiful insight from the philosopher Hannah Arendt who highlights that all human beings have the unique capacity to begin something, to take initiative. She actually refers to human beings as both 'beginners' and 'beginnings'. Now it's one thing for someone to begin, but beginning is not the whole picture. We can take initiative – we can do something, try to make something, say something – and sometimes the world in which we begin fits perfectly with what we intend to do or bring about. But often, and maybe more often than not, we encounter resistance. When we work with material – wood or stone or clay – we may have ideas about what we want to do, but not everything that we want is possible with the material. And the same holds in the social sphere. We may have a brilliant plan, but other people might tell us that it's not that brilliant, or not that interesting, or they may even find it problematic what I want to do.

PW: That is a frustrating experience.

GB: It is indeed frustrating from the perspective of the individual who is taking initiative, but it is also a tremendously important experience, because each time we encounter resistance we experience that the world is *real*, and not a phantasy or a construction or some entirely malleable or 'plastic' entity. So when we meet the reality of the world – the social, the physical, the material, the living world – we are stopped in our tracks, and this may feel frustrating. In my presentation I suggested that when we experience this, there are basically three responses. One is that we say that this is frustrating but that we still want to make sure our initiative 'arrives' in the world, so

we begin to push harder. This can be really important, because we sometimes need to push really hard to make something happen. But there is always the risk that if we push too hard, we begin to destroy the very world in which we try to arrive. There is always the risk, in other words, of what I have called world-destruction. Think of hammering on a piece of stone. The stone can take quite a lot, but if we hammer too hard or don't respect the piece of stone enough, the stone will just fall apart.

The other response when we encounter the resistance of the world and experience frustration, is that we say that the world is actually too difficult, not welcoming my initiatives, and that it's all not really worth the effort. So we begin to step back. This can be important as well, particularly in order to leave room for the world, make space for others and their initiatives. But the risk here is that if we withdraw *completely*, then we withdraw ourselves from the world – which is the risk, at the very extreme end of the spectrum, of self-destruction.

And from here a third option emerges, which is to try to stay somewhere in the 'middle ground' between these dangerous extremes of world-destruction and self-destruction. I often say that this is a 'difficult' middle ground, but I have a good friend who keeps reminding me that this is also the beautiful middle ground in which our lives really take place. But it requires work – and sometimes hard work – to try to stay in this middle ground, don't go too hard on the world, don't step away too much, but try to stay in dialogue.

PW: And for you this has a lot to do with art and education?

GB: Yes. I would first of all say that this middle ground is an educational space and, in a sense, *the* educational space, first and foremost because it teaches you something, namely that the world is real and that you are not alone in the world. It teaches you that in order to exist, to live your life in and with the world, you need to stay in dialogue. But I would also say that this dialogue is exactly what artists are constantly doing. They are constantly trying to figure out what it is to exist in this world. They try to explore the limits of this – the possibility of world- and self-destruction – and find all kinds of forms for what it means to exist in this middle ground. For me this is a very meaningful way to understand what all art is doing. It asks 'What is this world?' and 'What does it mean for me, for us, to exist in this world?' Literature and poetry do this. Dance and theatre. Painting and sculpture. And of course music as well. Art, then, is the ongoing attempt to be in dialogue with the world and give form to this dialogue.

PW: You mentioned that education is about arousing the desire for wanting to exist in the world in a grown-up way. What does notion of 'grown-up' mean? How does that fit into this picture?

GB: Grown-up-ness is a rather strange notion, but I think that it is an important one for this discussion. Quite a lot of languages have similar words and they all refer to a certain 'quality' of how people exist. Now what is unfortunate, is this idea of 'growth', because that suggests that children grow and then at some point, they are grown-up and are so for the rest of their lives. That, I think, is not true. I do think that Donald Trump is a horrible person for many reasons, but one of the biggest problems with him is that he doesn't behave in a grown-up way at all. He is only interested in himself and, also in connection with what I have just said, simply denies the reality of the world as what he encounters there conflicts with how he wants the world to be.

Grown-up-ness thus refers to a way in which we as human beings we can try to live our lives, and in the presentation, I used a very helpful phrase from the French educationalist Philippe Meirieu – who actually lives and has taught in Lyon – who says that to exist in a grown up way is to try to be in the world but not in the centre of the world. (And Trump, on the contrary, thinks that he is in the centre of the world and precisely in that way he is not really in the world.) Another way of putting is to say that trying to exist in a grown-up way is not simply running behind your desires, but always considering whether what you desire or what emerges in you as a desire is what you should be desiring. And this is both a question with regard to our own lives, and with regard to a planet that puts limits on our desires, that cannot simply give us all that we desire.

This question of grown-up-ness, trying to exist in a grown-up way, is a question that interrupts. It interrupts our desires, it interrupts our initiatives, and so on. Interruption is important here, because when we are interrupted, we take a moment to consider our desires and initiatives. So interrupting desires is educationally an important thing to encounter. But this is not about suppressing our desires and also not about destroying the desires of the new generation, but rather to help them decide which of all the desires will help with their lives, and which will get in the way. And this is not a question we only need to ask one time in our lives – it is a truly lifelong question. It is a question that is never resolved, but one that keeps returning throughout our lives. An ongoing challenge.

PW: Again, can you say what this means for the arts and for education?

GB: Yes. Again I would say that when I look at the arts – across the whole spectrum – I think that artists are constantly exploring what can be desired, what should be desired, what is desirable, what the limits and danger of desire are. It is, in a sense, an important dimension of what the arts are doing in exploring what it means to exist in the world – both the possibilities and the limitations.

PW: And for education?

GB: What I did in my presentation is to highlight the qualities which I think are important for education that wants to contribute to the grown-up existence of the new generation in and with the world, that wants to contribute to encountering desires and figuring out – almost literally – which desires are worthwhile and which not, also bearing in mind that our desires are important because they give us the energy for existing in the world and for wanting to exist in the world. The ‘lust for life’, to quote Iggy Pop!

The three qualities I mentioned are interruption, suspension and sustenance, and I think that they are crucial for education. Interruption is an important quality because when we encounter an interruption, particularly in the form of resistance, we don’t just meet the reality of the world, but we also encounter our own desires. So it is only when there is interruption in education that there’s something to pay attention to, something to work on with regard to the question of our grown-up existence. But this work takes time, which is the idea of suspension, of slowing down. Education needs to make time available, give time, and slow down things so that it becomes possible to come and stay into dialogue with the world, and also so that it becomes possible to figure out which of our desires are the ones that are going to help. And thirdly there is sustenance, which means both support and nourishment. This is an important quality because if in education we want to bring our students to the middle ground, we have to acknowledge that this middle ground is not always easy. That’s why support and nourishment for trying to stay there is crucially important as well.

PW: And here you see another connection with the arts?

GB: Yes, because I think that the arts, again across its whole range of forms and modalities does precisely this. Good art interrupts, and does so in meaningful ways. Good art slows down, gives time, focuses attention, provides ways of engaging. And good art also nourishes, helps to stay in the middle ground. So here you can see that the arts have profound educational qualities.

PW: Are these qualities a bit counter-cultural? After all, I don't hear a lot of educational policy makers talk in these terms. They seem to be more interested in student performance, effective instruction, exam results and the like.

GB: Indeed. These qualities do go against the 'grain' of contemporary education, where we are often told that the faster students go through the curriculum the better they are, but also that it should be the task of teachers to develop smooth individualised learning trajectories for students. While that may be useful if your only ambition is to pass an exam, I think that it is profoundly uneducational, because in such smooth, personalised trajectories students will not encounter anything, or at least nothing else than the task they need to perform on. But they will neither encounter the world, nor themselves, nor be given the time to figure out where they really are in relation to all this. So these qualities hugely matter educationally, and precisely in a time where the discourse seems to go in the opposite direction, it is important to highlight the importance of these qualities. And it is important to highlight that the arts are precisely 'here', so to speak.

PW: You did indeed refer to this as the educational work of the arts.

GB: Indeed. This is exactly what the arts have to give to education and in education. And precisely here I made some very modest comments about music – bearing in mind, as I said, that I feel an outsider. But I did say that this provides a very different outlook for music education – you could call it an existential outlook or, of course, an educational outlook. When you look at music from this angle, you can begin to see that music is first of all a particular door towards the world, a particular way in which we can exist in and with the world, so to have music in schools is first of all crucial because it offers a unique existential possibility. While it may not be an existential possibility that every child will want to pursue in the future, that doesn't mean that we shouldn't allow them – and I would also say: demand of them – that they step into this possibility, in order to find out what it is and does, so to speak.

But engaging with music – playing music, making music – is also an encounter with the reality of music. After all, music is not just anything or everything. So when we step into music, music will sometimes go smoothly with us, but will also resist, and precisely in this way music helps us to look for the middle ground and for trying to stay in the middle ground. One thing I find particularly important about music is the temporal dimension. Unlike the visual arts which often are a-temporal – a painting 'is' so you could say – music needs time and music needs its own time. You can't rush through a piece by Beethoven just because you're in a hurry. You need to find the 'right' time, so to speak. So music has this interesting suspending

quality which, again, is hugely important educationally. And music can sustain us, can 'hold' us in spectacular ways, from the soothing to the un-soothing, so to speak. It can hold us in the moment and can thus help us to stay in the middle ground.

PW: I have two more question. The first is about democracy. Where does democracy fit into this picture?

GB: Thanks for raising that point. For me the educational question, the what-if question, is in a sense also the democratic question. Some people think that democracy is just a matter of counting. We ask people for their preferences, we count the preferences, and we go with the majority. But such an 'arithmetical' account of democracy is actually not about democracy at all. It reminds me more of populism, where those who have the loudest voice or the biggest number simply get what they want. But real democracy can never just be about accepting all preferences people have, but is always about the question which of the preferences people have can and should be 'carried' by society as a whole. Democracy, to put it differently, is not about counting preferences, but about collectively examining and weighing preferences. It is, in the terms I have used, about figuring out, collectively, which of the desires individuals and groups have, are desirable for the lives we try to live together.

And the democratic values of liberty, equality and solidarity are there to provide a 'frame' – in my work I also call it an infrastructure – that helps us with this transformation of individual desires to what we can collectively 'carry'. Because in a democracy we value the freedom of all, but this also means that we value the freedom of all in equal measure, which means that the freedom of one individual or group should not undermine the freedom of other individuals or groups – not an easy issue of course, but that is what democracy is about. Here I often quote the Rolling Stones to highlight that democracy is not like a shop where you can just get what you want. In a democracy you can't always get what you want – which, in a sense, is also captured in the idea of solidarity, where sometimes we have to do a step back so that there is also room for others and their desires. This is of course a big discussion, but for me there is a clear 'internal' or 'intrinsic' connection between education and democracy and, as you will understand from what we have discussed so far, the arts are included in this as well, because in each domain we encounter the similar challenges of trying to exist in a grown-up way – in the world but not in the centre of the world.

PW: My final question is about sensitivity – an important word in the title of your presentation, also because you seem to suggest that we need to be or stay somewhere 'between' creativity and sensitivity.

GB: Yes, that's important not to forget. I hope I have already clarified why I think that just arguing that creativity is good and that education and the arts in education should promote creativity, is a problematic idea. And my main argument for that is that I cannot see that every act of creativity is automatically good and beneficial. So I would worry about an unconditional 'celebration' of creativity, and my counter-examples are rather dark, but I do think that being a good criminal requires creativity as well, and I can even think of worse examples that came out of creative thinking and doing. So if we are interested in creativity in education, the arts and in arts education, it has to be a 'qualified' creativity, a 'dialogic' creativity, a creativity that constantly wants to go to the middle ground rather than that it 'forgets' the reality of the world or simply tries to overrule it.

But it has to do with another important theme as well, which I discussed at the end of my presentation. I did this by asking to what extent education is a matter of understanding and should aim for understanding. This, again, is quite a popular idea. We hear a lot in education about the importance of sense-making and understanding and of providing children and young people with opportunities to develop understanding and make their own sense. Here students work with questions such as 'What does this mean?' and 'How can I make sense of this?' There are also people who approach the arts in this way, and would say that art is basically a matter of sense making – you will probably understand why I disagree with such a notion of art – and also that in education we should help students to make sense of art.

Of course there is a place for this, but sometimes art doesn't make sense and, more importantly, sometimes life doesn't make sense. What to do then? In my presentation I turned once more to Hannah Arendt who, somewhere in her work, gives a very strange definition of understanding as an "unending activity by which ... we come to terms with and reconcile ourselves to reality, that is, try to be at home in the world." This definition, which I really like, in a sense interrupts, because it's very strange as a definition of understanding if, that is, we see understanding as something 'mental', that is, as grasping, coming to know, and so on. One thing I like about what Arendt does here is that she gives an existential definition of understanding. She is saying: understanding is not something cognitive, is not a matter of meaning making, but is the ongoing challenge of trying to be 'at home in the world'. In my own words I would say: trying to stay in the middle ground.

Here the 'common questions' of sense making and understanding in a sense break down, and other questions become more important. Not 'How can I make sense of this?' or 'How can I learn about this?' or 'How can I master this?' but questions such as 'What is this situation asking of me?', 'What is this trying to tell me?', 'What is this trying to teach me?' These questions don't ask for activity or mastery or

sense making or grasping or understanding, but they ask for sensitivity, for opening oneself to the world and pondering what the world may be asking of you.

I am aware that I can be a bit extreme in my thinking, and would be inclined to say that it is this latter set of questions that are the only really relevant ones for education. And I would say that in my own teaching this question 'What is this asking of me?' is the question I keep coming back to and also the question I keep trying to bring to the attention of my students as a question to work with. Maybe it needs a bit of both – a bit of creativity and a bit of sensitivity, but I would say that if the arts cannot help us to remain sensitive, to remain open to the question of the world, then perhaps there is no point for the arts, at least not in education.

PW: Summing up then?

GB: Well, I think that in my presentation, and also in this interview, I have tried to outline an 'approach' that is able to take the arts seriously and that is also able to take education seriously and that, taken together, provides a way to take arts education seriously. It is an argument against the instrumentalisation of the arts in education, but also an argument against 'expressivism', against the unconditional celebration of voice, creativity and identity. I tend to think that this 'approach' can help to have better justifications for why we should have the arts in education, and can also help to have educational rather than 'expressivist' justifications for doing so. And from all that, I also sincerely hope that it can support all of those who work in music education with countering some of the simplistic expectations and pressures they are under. As said, I'm a relative outsider in the field of music education, so the translation of what I have presented needs to be done by those who are more 'at home' in the field, but I hope that I have provided an outlook for this work. And that work is important for the sake of music and the sake of education and, through this, for the future or our attempts at living together democratically, in the world but never in the centre of it.

PW: Thank you very much.

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Heidi Westerlund

# Why Should Children Compose?

## From an Ego-Logical to Relational Eco-Logical Rationality

### Introduction

Despite a decades-long call for increasing children's opportunities to compose as part of school music education, composing is not always required in school curricula (Devaney et al., 2023) and even when it is, it may rarely be practised (Laitinen et al., 2011). This may be due to teachers' and policy makers' understandings, their mental models (Meadows, 2009) that steer thinking and action regarding not only why composing matters but also what is meant by composing. Indeed, mental models play an important role in framing the (ir) rationality of composing in general education. For instance, Margaret Barrett (2006) has described a commonly held mental model according to which a composer is "a lone seeker of creative inspiration" (p. 195). Another common understanding among teachers is that composing is "a sophisticated skill or ability that requires many years of formal academic training" (Burnard et al., 2017, p. 39). When locating composing within a high level of practice and star culture, it is not surprising that teachers may not find much sense in having students compose in school contexts.

My own interest in composing in the classroom first arose in the 1980s after having been introduced, as a music teacher education student in Finland, to the composer, music educator, and environmentalist Raymond Murray Schafer's ideas of soundscapes and graphic notation. Although the curriculum framework for music in general education at that time already included composing, or musical invention, and teachers were expected to include composing in music lessons in schools in some form or another, Marja-Leena Juntunen's 2011 study (Laitinen et al., 2011) revealed that only half of Finnish students had experienced composing and musical invention during their schooling. Since Juntunen's study, several studies and doctoral dissertations have been conducted in the country to

inspire new composing practices (Partti, 2012) and students' collaborative and technology-aided composing and songcrafting (e.g. Muhonen, 2016; Ojala, 2017); an edited volume was produced for music teachers to learn about different approaches to composing (Ojala & Väkevä, 2013); and studies have been conducted on young people's journeys towards creative musical authorship (Kuoppamäki & Vilmilä, 2017, 2023). In addition, educational projects have included the Sibelius Academy's annual *Listen, I compose!* inspired by the New York Philharmonic Orchestra's *Very Young Composers* (VYC) project, in which adolescents compose for orchestral instruments, receive mentorship from professional composers and experience their final piece being performed by professional musicians. These diverse efforts by teacher-researchers and the Sibelius Academy, the music university of Finland, to increase opportunities for children to experience composing illustrate the multitude of possibilities also in school contexts.

In this chapter, I propose the possibility of a relational and ecological professional rationality<sup>1</sup> (Barrett & Westerlund, 2024; Westerlund, 2023) as distinct from a technical rationality (Schön, 1983/2016), when reconstructing mental models concerning children's composing. When teachers are acting based on technical rationality, they see composing as learning to follow the rules and principles of musical genres, repertoires, and various stylistic details in a progressive path towards the highest possible musical quality, whereas a relational and ecological rationality could widen the horizon to more indeterminate zones of experience beyond individual competences. Based on relational, ecological rationality composing could be seen as a space for children and adolescents to find their voices as musical, artistic, and cultural authors and agents in relation to other people and their environment. The child's 'voice' refers here not simply to children's possibilities to express "ideas, opinions and wants" in the world, but to their opportunity "to transform it" responsibly (Harris & Manatakis, 2013, pp. 4–5). I use the term composing to refer to *any* creative, inventive approach (see also Ojala & Väkevä, 2013), in this way encouraging music education to widen its understanding of music composing beyond the cult of genius and overly strict normative boundaries of musical genres. Following the theme of the European Association for Music in Schools' (EAS) 2023 conference in Lyon, France – *Liberté* (freedom), *Égalité* (equality), and *Creativité* (creativity) – I embrace composing as a pluralist

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<sup>1</sup> In the context of this chapter, the term rationality refers to the normative and pragmatic side of a teacher's understanding of the whys, whats and hows of music teaching – the reasoning regarding why certain things are worth attaining and the pragmatic decision-making it involves from the teacher. While rationality involves motivations, aims, and values, it should not be understood here simply as an individualistic psychological concept, but rather as socially constructed, contextually, and situationally developed and sustained. In this sense rationality is based on social epistemology (Goldman & Whitcomb, 2011). As such, rationality has been the focus of philosophical investigations for over 2000 years and today constitutes a conceptual field about human cognitive faculties concerning "acquiring concepts, forming beliefs, gaining knowledge, inferring and reasoning, thinking, judging, decision making, planning, deliberating, calculating, and satisfying wishes, needs, and desires" (Knauff & Spohn, 2021, p. 3).

field of artistic freedom and creativity for all people, yet, I also suggest considering the whole tripartite French motto – *Liberté, Égalité, Fraternité* (fraternity) – to point toward the hope for a responsible, democratic life in and through composing beyond merely individualistic interests. While we may leave behind the various contested historical meanings of *Fraternité*, it reminds us how music education can resonate with responsible relations in the social and natural environment and solidarities within one's immediate and more distant social configurations.

In what follows, I first explore how composing in education has become only a means for learning, then critically examine some of the most prominent research frameworks in music education to show how they frame teachers' mental models when including composing as part of education, while at the same time limiting possibilities for considering what composing in education could be and why it may matter in a repertoire-centred music education. I then conclude by suggesting an expanded and situational, more unscripted and open, relational and ecological rationality for composing in school.

## The Child Composer and the PISA Language of Learning

Music teachers' mental models concerning children's composing do not develop in a vacuum but are actively adapted to the language of policies, such as the OECD's (The Organization for Economic Cooperation and Development) PISA assessments (OECD, 2023). PISA assessments are now widely seen to shape public understanding of success in education towards effective learning in a world where competition and market-based values and ideals dominate. According to educational philosopher Gert Biesta (2022), such neoliberal economically driven societal values emphasise pre-determined learning outcomes and control, thus providing a narrow definition of learners as 'good citizens'. This development is also evident in Finland where, according to the educational researcher Tero Autio (2017), individual students are now reduced to "a collective and non-personal aggregate of various skills and competences" and knowing is becoming "an atomistic performance of predefined knowledge and skills" (p. 48).

The PISA rationality is not simply about rhetoric. In time, it affects both teachers' and researchers' mental models regarding the purpose of music education, and thereby, how music teaching is thought to be organised. In the PISA rationality, children's music learning has become a means for learning other, more important subjects (such as mathematics or languages) that guarantee that the individual child will become a successful, well-earning citizen. This rationality takes us far from the idea of composing as empowering children to become musical and cultural authors (see Ojala & Väkevä, 2013; Kuoppamäki & Vilmilä, 2023) whose art could aim to make the world a better place. Indeed, already over 15 years ago, in her analysis of research on children's composition, Barrett (2006) concluded that

composing had become “a means to learning” (p. 197) and that researchers rarely talk about learning music composition itself.

Gert Biesta (2022), therefore, calls on teachers to critically examine the instrumentalising effects of the individualistic language of learning, which he calls ‘learnification’. In particular, learnification manifests in music education advocacy in which the professional field conforms to society’s market-based value logic (Laes et al., 2024). Music is advocated as an effective means to succeed in an economically-driven world – Music makes you smarter!<sup>2</sup>) – as if music existed in human life to support that particular purpose. This kind of advocacy pushes music education in a strange direction, as music and musical meanings seem to disappear – not only from society’s, but also the teacher’s radar. Paradoxically, through such advocacy, music educators themselves participate in the instrumentalisation of their subject and, in this way, the lowering of music education’s status within societal hierarchies of importance. In educational theorist Sharon Todd’s (2022) words, this kind of strong instrumentalism “positions education within a mechanistic framework and operates politically through a marrying of national educational policies with economic interests” (p. 335).

## **Progressive Development towards Mastery in and through Composing**

In music education, past theorising on composing in schooling has, perhaps unsurprisingly, emphasised the development of cognitive capacities in and through composing by focusing on the individual learner. While this emphasis does not necessarily lead to strong instrumentalism but rather responds to the lack of instruction on how to compose, theories of music education often conceptualise composing in school as a matter of the individual learner’s mind and the abstract world of music rather than as a matter of collective meaning-making in the social realities – the social ecosystem – of music education. One of these theories is Keith Swanwick and June Tillman’s Piagetian developmental model (Swanwick, 1988) which aims to demonstrate how children’s cyclical and cumulative processes of engaging with musical sounds swings between imitation and mastery moving “towards socially shared vernacular conventions” (p. 66). From this perspective, the answer to the question ‘Why should children compose in school?’ is because we are all guided by the “universal processes of a desire for mastery, and an urge towards imitation, imaginative play and meta-cognition” (Swanwick, 1994, p. 83). Composing is, in this way, one way to nurture the child’s inner need for progressive cognitive development.

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<sup>2</sup> For a review of this trend in music education and how it is based on neuromyths see Odendaal et al., 2019.

The Piagetian model of children's learning has been criticised in sociocultural theories and childhood studies not only because it presents the child's capacities as relatively fixed to uniform stages of development but also because it underestimates both the positive and negative power of social configurations in educational situations. Researchers have pointed out that education should also allow "children and their actions to emerge from reductive nouns ('learners') to become social agents" (Dyson, 2013) – and to see learning as relational and socially mediated (Rogoff, 2003). In this critique, the question may not even be whether the individualistic developmental view is right or wrong, but rather, what it leaves out and how it limits teachers' mental models of the ways meaningful learning takes place in educational situations. For instance, Anne Haas Dyson (2013) writes:

simplistic developmental progressions may provide comfort and confidence to researchers, policy makers, and educators, but they do harm in the world [... as] children are categorised mainly as individual learners of adult practices [... and] their developmental path is regularly stretched out in linear fashion [... In reality], children can be found, not simply progressing vertically, but manoeuvring horizontally among the evolving practices of official and unofficial worlds (n.p.).

For decades, such horizontal manoeuvring was seen as irrelevant if not harmful in music teaching. Bennett Reimer (2009), for instance, urged music educators to concentrate on the intrinsic values of great art, rather than the values created through "the horizontal relationships between person and person" (p. 12) and "all of the societal issues that will always surround music education" (p. 131). Although it could be agreed that horizontal relationships are not 'taught' per se, they do constitute educational reality for both teachers and students and also unavoidably, condition composing.

Accounting for the classroom's social matrix is also important since a classroom is not naturally and automatically a context of *Égalité*. In the Finnish context, for example, Sari Muhonen (2016) interviewed primary school pupils, years after being their teacher and found that the collaborative songcrafting practice she had developed with the students was not experienced equally positively by all students. Muhonen concludes that taking "the seemingly democratic stance whereby students are allowed to choose their level of participation" (p. 7) is not enough. Rather, teachers need to balance power relations *between* children and be aware of how students' agency in composing develops relationally. When composing in school is seen as embedded within the social matrix of the classroom, responsibility to others and one's immediate social ecologies becomes an important aspect of the composing experience. The rationality concerning what matters in composing in collective social environments thus needs to include both the individual processes of vertical progress and the horizontal relationships.

## Disciplined Composing

The mental model according to which a composing child has an inner need for progressive cognitive development also underpins the US-based praxialism of David Elliott (1995) in his *Music Matters*. Similar to Swanwick, in the 1990s Elliott also emphasised how the learning of music is always embedded in existing musical traditions and practices with established principles and values, stressing that musical creation is not random in nature, but “occurs in the context of well-known histories of effort and achievement” (p. 230). Elliott writes:

whether someone deserves to be called creative or just a mediocre songwriter depends on the relationship between the song he composes and the relevant criteria and traditions of songwriting by which we judge the originality and significance of his song [...] When a teacher declares that everything his or her students do is automatically creative, then there is nothing more to do and the teacher is instantly free to teach nothing at all (p. 222).

Like Swanwick’s progressive developmental model, Elliott’s (1995) “Head-and-Shoulders View” to creativity (p. 218) emphasises the student’s vertical progress towards musical mastery, however, in this case, specifically in relation to musical genres – if composing jazz, one needs to know the jazz tradition in question and its stylistic rules. This kind of traditional cognitive approach highlights “the role of mental models or schemata in learning” (Paavola & Hakkarainen, 2005, p. 537), and as the Finnish learning scientists Sami Paavola and Kai Hakkarainen argue, “often without recognizing the importance of environment or context at all” (p. 537). The individualistic cognitive view erases the immediate social, material and place-related, local ecological aspects as irrelevant for musical meanings. Instead, the gaze is on musical rules and their context of origin which set the criteria for quality in music education; it is also against the musical rules through which the child finds the pleasure in one’s own skill; where he “loves to do what he does well and, having done it well, he loves to do it better” (Bronowski cited in Elliott, 1995, p. 114).

Although technical rule-following may be accepted as one important principle in music education, it could still be asked whether tightly disciplined composing leaves enough space for the playfulness of children’s imagination in their local context; whether preexisting principles and values of past achievements can guide children in creating resonances and meaningful relations with their here and now daily life; and even more, whether technical rule-following as such can inspire children to become cultural authors who wish to transform responsibly their environment in and through composing, since rule-following does not recognise that students could develop transformative, political and cultural agency in and through composing. Instead of simply demonstrating their musical competences (learning outcomes) children’s composing could be seen to create relationships in and with their local ecosystem, and to show what they value and wish for from the future. Such an approach could see children as artists, right from the beginning, instead of learners of scripted content.

This mental model of learner pertains also to the professional education of composers. Recent research with ten successful composers in Finland (Westerlund & López-Iñiguez, 2022) indicated that professional education in composing could also better recognise students as artists who create music in relation to their changing environment. This study showed how young composers wished their education could have reached beyond the traditional technical aspects of certain kinds of composing, as this approach did not correspond to the pluralist realities of the composing profession. The interviewees described how they did not necessarily adhere to particular musical styles or practices in their composing work and how their practice could vary from writing symphonies or mixed-style operas to sound installations and multimedia performances tied to specific places, social spaces, and people. They wished to express their life values through their art and some of them deliberately wanted to distance themselves from the traditional elitist composer position. Their playful artistic passion was combined not only with *Égalité* but also *Fraternité* as some wanted to compose with children and vulnerable people, which sometimes meant giving up their personal artistic authorship and individual copyrights. According to their critique, their professional education in composing had reduced artistic work to technical competences, which were not sufficient for a successful career as a composer in contemporary society.

If composing in school is not simply about developing certain historically predefined competences but also seen as a way for children to gain cultural authorship and meaning in their local ecosystems, then it could be argued that children in school could also compose beyond musical genres by combining various cultural materials from their life worlds into a bricolage or remixing of different musical and other materials. Composing could be, at least sometimes not serious, but “about play, plunging, even spoofing”, as the teacher educator Sakari Antila (2013, p. 99) wrote in Ojala and Väkevä’s (2013) book – in other words, about having fun with sounds, as some of the professional composers described their work in the Finnish study (Westerlund & López-Iñiguez, 2022). Indeed, in his paper, Antila (2013) reflected on how a teacher’s mental models could “be shattered in one moment, when the student does things exactly the other way round and yet the final outcome sounds good” (p. 99). Following the rules and principles of previous generations can provide security but, alone, can limit the imaginative artistic playground to the boundaries of technical rationality.

Besides limiting *Creativité*, Elliott’s “Head-and-Shoulders View” involves an even deeper educational problem. In a context such as school, which aims to open educational possibilities for all students, it could be asked whether the question of who deserves to be called a creative or mediocre songwriter is the wrong question entirely. Accepting the comparison of students’ musical achievements simply against existing high-level practices as natural and desired in education, music education can end up supporting society’s meritocratic system and ‘hidden elitism’ (Väkevä et. al., 2022), in this way preventing true

equality of opportunities in music education. Even when *Égalité* may be the starting point of music education, in a meritocratic system the credit will, in the end, go to the most ‘advanced.’ As the French philosopher Jacques Rancière (1991) writes, there is no real equality, if we share “the belief in genius” (p. 96). He argues that the progressives “want to liberate minds and promote the abilities of the masses. But what they propose is to perfect stultification by perfecting explications” (p. 121). Rancière reminds us that education rarely gives opportunities for children to use their imagination in a radical way, to surprise adults, as Antila (2013) pointed out, or to express what worries or matters to them. Although there is no doubt that children want to learn about the rules and principles of composing, and gain personal enjoyment from their achievements, as Elliott (1995) highlights, this does not mean that their composing is simply reduced to advancement up the cognitive ladders of existing musical genres and practices, as if children could only engage with other people’s artistic values and not be given the possibility to use their own imagination to create new artistic connections in their here-and-now environment.

## Towards a Relational Ecological Rationality of Responsible Composing

I have aimed to show how music teachers’ mental models that stem from technical rationality may present children’s composing merely as a means of learning already defined musical content of existing practices – technique; how these mental models can also involve a fixed understanding of learner; and how these mental models easily support competitive economic values and meritocratic elitism rather than freedom (*Liberté*), creativity (*Creativité*), equality (*Égalité*) and responsibility (seen here as *Fraternité*). In general, technical rationality has been argued to be insufficient for guiding professionals in the complex contemporary world (Cribb & Gewirtz 2015), but perhaps in the arts, in particular, it is possible to recognise how rigid rule-following can limit creative imagination, not just in relation to musical sounds but in relation to places and spaces and the entire ecosystem. Technical rationality can thus limit new possibilities, not just in professional education but already in schools.

To move away from a mechanistic and atomistic learnification of the arts, a teacher could, as Biesta (2017) has suggested, focus on meanings and existential horizons by asking “*what education means*” rather than “*what education produces*” (p. 54, orig. italics). And rather than asking what education makes, we should be asking what education *makes possible*” (p. 54, orig. italics). Following Biesta then, children ought not to be reduced to future servants of economics and the labour market, and as Todd (2022) also argues, education should not focus on the development of knowledge “captured within narrow views of skills, competencies, and information” (p. 334). The question of utmost importance seems to be how to shift the mechanistic language of learning – which Todd (2022) refers to as “strong instrumentalization” – into “a language of experience, sensibility, or relationship”

(p. 334). I have suggested the widening of rationality and fundamentally transforming mental models in music teaching towards recognising the child as a composer and cultural author from the very beginning instead of as an object lacking skills and competences. Teachers could consider what composing could make possible at both individual and collective levels in educational contexts and how children could engage with new realities and aim at transforming their own ecosystems in and through composing.

To answer the question within the limited space of this chapter, I have suggested a turn towards a relational ecological rationality in music education in which children's composing can be seen to be embedded in the dynamic social matrix of educational situations and in which children can seek their place and 'voice' in their ecosystems as responsible human beings while participating in meaningful musical/artistic activities that are meant to be transformative (Harris & Manatakis, 2013). Such composing has purpose in and of itself, without the need to serve a predefined end of a musical practice or society. Instead of strengthening an ego-centric, individualistic mental model of a composer, music teachers could recognise the multiple possibilities of composing and the children's here-and-now experience while taking a more critical position towards society's economically driven demands. Particularly when composing is included in education, we may need to resist the forces that Rancière (1991) called "the madness of superior beings" and "the belief in genius" (p. 96) that produce inequality and can belittle the meaning of composing and creative invention in general education. A teacher may also need to fight for places and public spaces for children's composing to resist forces in which cultural authorship is only for, and defined by, adults, and in which children's political agency – their 'voice' – is reduced to the efficient learning of once scripted content. Music teachers may not even need normative descriptions of 'best practices' in composing in education but, rather, can learn from each other's diverse approaches to become contextually more reflexive, and situationally and locally flexible.

Returning to the initial question of this chapter 'Why should children compose?', there are, thus, multiple horizons to consider and consequently endless practical solutions available. In the Finnish context, a rising critical discourse to the PISA rationality is currently shifting the focus of curriculum thinking from global competition to "global responsibility" (Värri, 2018, p. 133). Just like contemporary composers, it is therefore possible for music educators to seek resonances, where possible, with responsibility and welcome larger contemporary moral-political questions, which Greek philosophers tried to capture in the concept of praxis (Westerlund & Partti, 2018), and that John Dewey (1998) in his *Creative Democracy* referred to when encouraging educators to have faith in "a freer and more humane experience in which all share and to which all contribute" (p. 343). Just as Dewey's notion of creative democracy did not imply uniformity, with the tripartite French motto, *Liberté, Égalité, Fraternité*, I have not proposed a normative, fixed description of society, rather, they both frame the hope for a more free, equal, and responsible society. Thus,

this suggestion for a relational ecological rationality is not meant to provide a practical description of what composing ought to be in school but, rather, to show how teaching and learning composing depend on the way teachers frame the phenomenon.

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Elissavet Perakaki

# Musical Bridges to Inclusion

## The Educational Journey of an Autistic Student through Composition and Music Technology

### Introduction

In the quest for equitable learning, inclusive education stands as a beacon of transformation, reflecting the aspiration to provide fair access opportunities to every child, regardless of their individual characteristics and backgrounds (Ainscow et al., 2006). In the inclusive classroom, music technology can serve as a bridge that connects students with disabilities to the broader world of music, ensuring that they can fully experience the joy, benefits, and educational opportunities that music offers. Lately, the development of music technology can offer students with disabilities various tools to participate in music creation and performance, such as specialised software, adaptive instruments, and assistive devices, to participate in music creation and performance (see Hourcade et al., 2013; Hillier et al., 2016; Koichi & Schroeder, 2019; Gall & Backman Bister, in press). At the heart of this inclusion lies the pivotal role of teachers in creating a welcoming and accessible environment, ensuring that pupils and students are not merely present in educational institutions but truly included in the learning process. As Miles (2005) mentioned, “if they do not believe in inclusion, they can become a major barrier to progress” (p. 13).

This research explores the story of a 13-year-old autistic student, nicknamed George (he/his), who embarked on a music journey to enhance his abilities in a general junior high school in Greece. Through interviews with his mother, his classmates, and teachers, as well as diary analysis, the role of music technology, the significance of the students’ collaboration in group composition, the guidance of the music educator, and the benefits of being involved in classroom musical activities are revealed.

## Theoretical Background

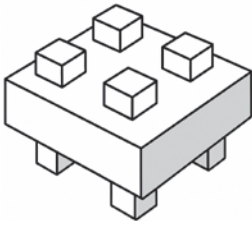
### *The Inclusive Education Framework*

Since the 1990s and the Salamanca's World Conference on Special Needs Education (UNESCO, 1994), the objective of "Education for all" seems to become specific and policy-oriented so as to be fulfilled. Some years later, in UNESCO's (2009) report under the title "Policy Guidelines on Inclusion in Education", the framework became explicit, and the inclusive education definition described it as follows:

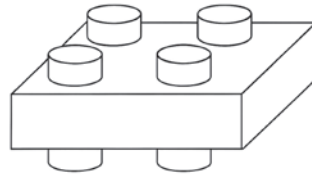
Inclusive education is a process that involves the transformation of schools and other centres of learning to cater for all children – including boys and girls, students from ethnic and linguistic minorities, rural populations, those affected by HIV and AIDS, and those with disabilities and difficulties in learning and to provide learning opportunities for all youth and adults as well. Its aim is to eliminate exclusion that is a consequence of negative attitudes and a lack of response to diversity in race, economic status, social class, ethnicity, language, religion, gender, sexual orientation and ability (p. 4).

Next year, 2010, the United Nations Girls' Education Initiative states that inclusion requires responding to the diversity of needs among all learners by increasing participation in learning, cultures, and communities and reducing exclusion from and within education. It involves changes in content, approaches, structures, and strategies, driven by a common vision that covers all children and the conviction that it is the responsibility of the regular system to educate all of them (UN Girls' Education Initiative, 2010). This initiative goes further than girls' education and underlines the importance of ensuring that all learners who are excluded from education have an equal chance at success. Some countries around the world put in significant efforts to identify and address the specific societal barriers that hinder progress (Laurin-Bowie, 2009). Through these initiatives, learners are given a chance to progress, regardless of their background or circumstances.

The choices and decisions we make in how we structure learning environments in formal settings, such as schools, can have a profound impact on students' experiences and opportunities, setting the tone for the entire learning process and influencing the quality of education that students receive. Parreño and Sánchez-Dopico (2011, pp. 33 & 34) use geometrical shapes to describe a classroom according to its pupils' and students' abilities and disabilities. The following set of figures offers a visual exploration of distinct educational approaches, highlighting the contrasting philosophies of special and mainstream education (Fig. 1 & 2), integration, and inclusion (Fig. 3 & 4). In special and mainstream education, the members must have the same characteristics, and their shapes correspond to its system framework.

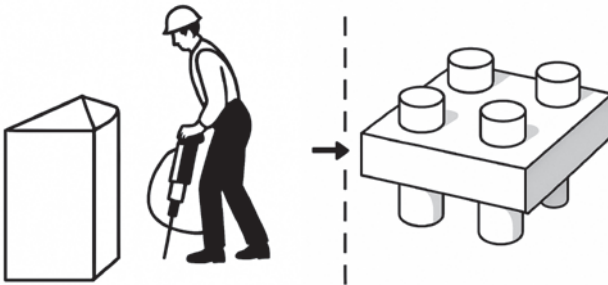


**Fig. 1:** Special Education (Parreño & Sánchez-Dopico, 2011, pp. 33 & 34)



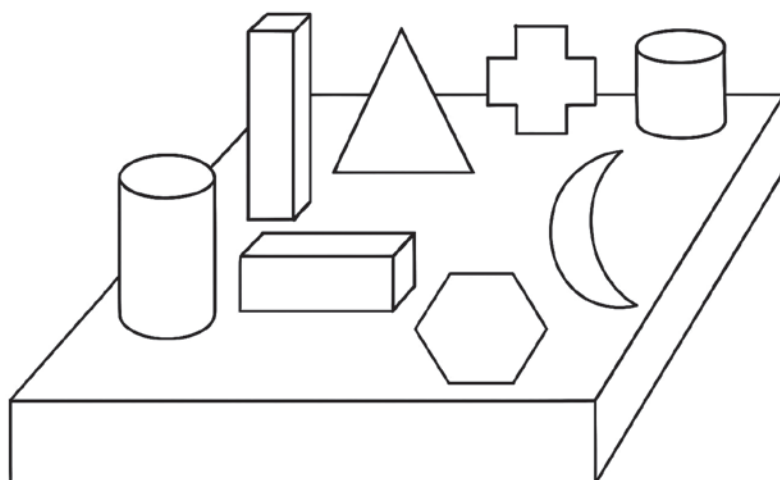
**Fig. 2:** Mainstream Education (Parreño & Sánchez-Dopico, 2011, pp. 33 & 34)

Moreover, as the integration process progresses, individuals who are unable to find a compatible partner are put through a transformative system. This system modifies their physical and mental attributes to increase the likelihood of a successful match in the future. As a result, the transformation compels them to adapt, either as a group or individually, or else risk facing failure (Parreño & Sánchez-Dopico, 2011). In this framework, students strive to fit into an inappropriate setting for them while the teacher attempts to mould their learning and thinking approaches.



**Fig. 3:** Integration (Parreño & Sánchez-Dopico, 2011, pp. 33 & 34)

On the other hand, in an educational setting that values inclusivity, all individuals, regardless of their differences, are welcomed and provided with opportunities to learn, grow, and participate (Howgego et al., 2014). Because of this variety of abilities and disabilities, an environment is built where values, attitudes, policies, and practices within a school setting change (Polat & Kinsanji, 2009). Fig. 4 depicts a wide range of shapes, with each shape symbolising a unique way of learning. It provides a visual representation of the diverse techniques and methods that can be utilised by students to acquire knowledge and enhance one's education.



**Fig. 4:** Inclusion (Parreño & Sánchez-Dopico, 2011, pp. 33 & 34)

Taking into consideration that school is a small community that constantly learns, people with different physical, emotional, and educational needs are or should be involved with the same rights and obligations. Miles and Singal (2010) underline a school's aim, which is "to promote democratic principles and a set of values and beliefs relating to equality and social justice so that all children can participate in teaching and learning" (p. 11). Within this community, every member is embraced and has a unique place where the education concept goes further and fosters the above issues (Miles & Singal, 2010).

The role of educational choices in shaping students' experiences emphasises the contrast between traditional approaches and inclusive philosophies. The process of integration, especially in educational or workplace settings, can be quite daunting for individuals who do not fit into the standard mould. This can be particularly difficult for those with autism, who may have unique learning styles that are not always accommodated within traditional systems. The transformative journey of integration can pose significant challenges for these individuals, as they may require additional support and resources to help them navigate this process effectively. The inclusive approach in a general school context aligns with the principles of equal rights and obligations for all, offering a supportive environment for every student with an additional need or a disability.

### ***Fundamental Features of Autism***

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition involving persistent challenges with social communication, restricted interests, and repetitive behaviour (APA, 2023). It is characterised by a range or "spectrum" of symptoms, which can vary in severity and presentation. Some of the conditions included under the umbrella term of ASD are autism, Asperger's syndrome, and classic autism (UNESCO, 2009).

Due to the fact that autism is a spectrum disorder, each person with autism has a distinct set of strengths and challenges. How people with autism learn, think, and problem-solve can range from highly skilled to severely challenged. Therefore, it's essential to understand that autism is not a one-size-fits-all condition and that each person with autism has a distinct set of strengths and difficulties. The American Psychiatric Association (APA) describes some characteristics of an autistic person, referring to social communication and behaviours in the following table:

| <b>Social communication (selected)</b>                  | <b>Behaviours (selected)</b>                                          |
|---------------------------------------------------------|-----------------------------------------------------------------------|
| Decreased sharing of interests with others              | The inflexibility of behaviour, extreme difficulty coping with change |
| Difficulty appreciating their own & others' emotions    | Expecting others to be equally interested in those subjects           |
| Aversion to maintaining eye contact                     | Difficulty tolerating changes in routine and new experiences          |
| Lack of proficiency with the use of non-verbal gestures | Sensory hypersensitivity, e.g., aversion to loud noises               |
| Interpreting abstract ideas literally                   | Stereotypical movements such as hand flapping, rocking, spinning      |
| Difficulty making friends or keeping them               | Arranging things, often toys, in a very particular manner             |

**Table 1:** General features of an autistic person concerning social communication, and behaviours (APA, 2023)

Focusing on music practice, which takes place in mainstream classrooms, individuals with autism may experience challenges in controlling motor skills, maintaining a consistent rhythm, playing a musical instrument with precision, expressing emotions, sharing ideas, and communicating with others. As autism is a spectrum, all the above features are unique for each one. Meanwhile, the noise level in a music classroom can cause discomfort and nervousness, leading some individuals to express their negative feelings in a harsh manner. When providing support to someone, in this case to autistic students, it is crucial to understand their unique requirements and preferences. This requires flexibility and a person-centred approach, where the autistic or other person's specific needs are taken into consideration. By doing so, we can ensure that the support being provided is tailored to the unique requirements, which can lead to better outcomes and a more positive experience for everyone involved.

### ***Music Technology and the Inclusion of Students with Disabilities***

The use of music technology has revolutionised the way we approach music education and has provided a platform for students with disabilities to unleash their creativity and showcase their musical potential (Gall et al., 2018). It can offer them various tools and devices to meet their unique needs to participate in music creation and performance, opening up new avenues for them to explore and express themselves musically (Gall et al., 2018). These assistive technologies are rapidly increasing and help to level the playing field, making music education more inclusive and accessible to everyone, regardless of their physical and cognitive abilities (Hillier et al., 2016; Samuels & Schroeder, 2019) or previous music knowledge (Alper, 2019).

At the same time, the development of touchscreen devices has been great since 2010, when iPads first appeared (Kucirkova, 2014). These portable and lightweight devices do not need certain levels of dexterity, e.g., a mouse or keyboard, and can accommodate several applications. The simplicity of touch interaction has reduced the obstacles to using them, making them more accessible to people (Hourcade et al., 2013). In these conditions, they provide “unprecedented opportunities for children to create their own content and participate in rich and dynamic learning contexts” (Kucirkova, 2014, p. 1).

Taking for granted that touchscreen devices are now an integral part of daily life, from smartphones to laptops, music teachers can use them to create a more inclusive and equitable classroom environment. This particularly advantageous combination urges individuals with ASDs to participate in music lessons, as most of them show “an inherent interest in both music and technology” (Hillier et al., 2016, p. 276). Consequently, all these music technologies enable students with ASDs and other disabilities to overcome physical and cognitive challenges, improvise, compose, and express themselves in ways that might have otherwise been difficult or impossible.

### ***The Inclusion in the Greek Educational System***

The Education for All Global Monitoring Report of 2005 emphasises that learning should be tailored to individual characteristics and backgrounds. Therefore, teachers play a crucial role in creating a welcoming and accessible environment for pupils and students to learn and be included in education. As differentiated instruction is closely associated with inclusion (Edge, 2018), when teachers possess knowledge of these students’ unique learning needs and styles, they can tailor their approach to teaching accordingly. By doing so, there are more possibilities to provide “effective support that caters to the individual needs of each student” (Edge, 2018, p. 45).

Since 2008, the Greek educational system has implemented inclusive education by integrating students with special needs and learning difficulties into mainstream classrooms. Specialists in educational-need-student teachers have been employed to aid in this effort. One teacher is assigned to each student for specific subjects such as Mathematics,

Physics, and Modern and Ancient Greek Language. These teachers collaborate with their colleagues to encourage student participation in learning. However, as students are not supported in all faculties, teachers, including music teachers, either need to be trained and feel confident to support students with special needs and learning difficulties, or they need more materials, methods, and support for reflection (Burnard et al., 2008) or both.

Music lessons in Greece are mandatory for all in primary and secondary schools. Pupils and students attend a 45-minute weekly music lesson taught by an expert music educator. The updated Music Curriculum in Greece (2021) aims to facilitate students' personal growth and establishes a lasting connection with music as an art form. It is based on three pillars: music appreciation, performance, and composition, and it incorporates teaching approaches such as STEAM (Science, Technology, Engineering, Arts, and Mathematics), experiential learning, and differentiated instruction. It is open, flexible, and designed to empower all students to develop their musical potential and creativity. Under these conditions, students with special needs feel welcome and valued in the music classroom. Music technology plays an integral role in it, as it can be a powerful tool for music educators to assist students in overcoming challenges in musical activities and showcase their progress in unique ways (McCord, 2002; Martinho et al., 2018).

## Research Methodology

The study delves into a 4-month story and explores the experience of a 13-year-old student with autism nicknamed George (he/his), who participated in a mainstream music classroom in a junior high school in Greece and joined a group to enhance his musical abilities. Its main aim is to understand how music education, particularly through technology and a supportive group structure, can benefit him, enhancing his musical abilities and fostering social connections and self-expression.

The present study utilises a narrative inquiry approach by conducting semi-structured interviews with the language specialist teacher, the music teacher, and George's mother. In addition, the music teacher's diary analyses, participatory observation, and informal discussions with George's classmates are employed to gain a more profound understanding of George's feelings and behaviours. Collected data is analysed following the basic elements of thematic analysis: codes, categories, patterns, and themes (Creswell, 2007). All interviews are scripted, and then their content and that of the music teacher's diary are categorised as follows: a) George's interaction with technology, b) his behaviour and dispositions during music lessons, c) the expression of his feelings in different lesson parts, d) his interactions with his classmates, and e) his classmates' reactions to his autistic characteristics.

To ensure the anonymity of the research participants, all names are replaced with nicknames. Furthermore, the genders and sexes of the research participants are not disclosed, except for George's, because "boys are more likely to be identified as having SEN [Special Education Needs] than girls" (Peters, 2007, p. 124) and there are notable differences between boys' and girls' brains who are on the autism spectrum (Supekar et al., 2022).

### *My Name is George*

George is a 13-year-old boy who belongs to autism spectrum disorder. He studies in the first class of a general junior high school in an urban area. He adapted well, as he had many classmates from primary school who were already known. He is a high-skill autistic student, and his language-specialised teacher, S.T. (they/their), describes him as a student who tends to keep to himself and struggles with socialising. He often avoids making eye contact and initiating conversations. He attends the music class, but his participation is minimal. Additionally, he seems obsessed with his pens, bottle of water, and tissues. During the class, he sits alone at his desk, keeping his routine, which involves encompassing textbooks, pens, a bottle of water, and numerous handkerchiefs.

Every day during school lessons, S.T. spends three hours helping him and describes him as:

a calm and cooperative student who is quite organised and tries to follow the social rules correctly. He does not have many friends at school and shows difficulties in social interaction. He participates in the classes and is almost always properly prepared and read. Sometimes, he is absorbed by some of his thoughts. He does not maintain eye contact and hesitates to greet or open a conversation. His movements are slow, especially when he is walking and packing his bag (he was always the last to leave the class). He expresses a strong need to ask questions constantly, being opinionated and impatient.

(Semi-structured interview at the beginning of the research)

### *George's Behaviour and Dispositions during the Music Lessons*

Before the first music lesson, his music teacher, M.T. (they, their), had discussed with S.T. his advantages and challenges in trying to create an inclusive classroom environment. M.T. describes his musical behaviours as follows:

During the music lessons, he faced difficulties in clapping his hands and percussion on the beat. He preferred staying alone with bare participation in the lesson. He sang sometimes and preferred music that could recognise the characteristics of video game music and songs. The sounds of instruments and the classroom noise made him nervous, but he could handle this feeling.

(semi-structured interview with M. T. at the research beginning)

M.T. tried encouraging him to participate more in music activities in various ways, such as singing, listening, and performing. A few weeks later, M.T. organised improvisation and composition activities using an iPad tablet in the classroom. During the lessons, M.T. noticed that he had become more eager and enthusiastic, started expressing more interest, and actively engaged in the activities that he had to do with music platforms on the tablet. M.T. was surprised by the sudden change in his disposition and shared their observation with George's mother.

I strongly believe that it is essential for teachers, especially music teachers, to interact with parents or caregivers not only when dealing with misbehaviours but also when students achieve their personal goals. By doing so, teachers can strengthen the relationship between the school, the student, and their families. This knowledge can motivate them to encourage their kids to participate in musical activities outside of school.

(Music teacher's diary, 2 months after the research began)

It came as no surprise to his mother that George possessed such skills, as she was already aware of his abilities, but she had never mentioned them before in the school community, as she thought that it would not be such beneficial information. During the discussion with the mother, M.T. was surprised by George's capabilities and preferences:

I have never heard before that he enjoys playing video games and prefers listening to music and songs from them! I wish I knew that he also fixes various electronic devices and helps with problems on digital platforms at home. I could have already boosted these capabilities during the lessons, and he might participate actively rather than be pathetic. I wonder but I understand why the whole family tries encouraging him to participate in various other topics, apart from technology, but without positive results. They need guidance from a specialist in ASD!

(M. T.'s diary).

Upon observing George's interests, the music teacher went out of their way to seek and provide him with activities that would cater to his passions, focusing on George's interests, to support his personal growth and development. But what about the rest of the classmates, who also need the teacher's attention? M.T. expressed these conflicted feelings:

I faced a dilemma, as I had to decide between two equally important and conflicting choices. On the one hand, I wanted to inspire George to participate in the lessons with the use of technology, but on the other, I didn't want to overlook the interests of the other students in the class.

(M. T.'s diary)

M.T. carefully considered the diverse mix of students in the classroom and made the decision to introduce music technology as a new element in their music lessons. They were curious to see how George and the rest of the students would respond to this approach while introducing digital musical instruments and then platforms, such as GarageBand.

By embracing this technology, M.T. hoped to provide a more engaging and dynamic learning experience, fostering their creativity and musical abilities. The whole class was excited. George was excited, too, and he became more motivated and engaged as he was intensely interested in technology. Then, he decided to download GarageBand onto his own tablet, and music experimentation began in his free time outside the school. Some days afterward, he asked to present one of his compositions in the classroom. His creation impressed his classmates.



Fig. 5: Screenshot from desktop during George's presentation

Although his effort was in the beginning of experimentation, for the first time, his classmates focused on his capabilities rather than his disabilities. M.T. wrote down some of the class's reactions:

He does not look at us when we talk to him! He looks elsewhere! How could he use a tablet in such a successful way? I am impressed! (D., George's classmate)

He looks to be interested only in his bottle of water and tissues. I had no idea that he could compose music! Y., George's classmate)

M.T. was very proud of their classmates and realised that the students needed time to understand the characteristics of people with ASD, and read between the lines, trying to focus on what he could do and not on what he could not. In these new conditions, M.T. decided to plan group music activities to encourage George's socialisation. Some lessons later, M.T. wrote:

Music technology changed George's disposition against the music lessons. He shows more interest now. I tried to help him to encourage his communication with other classmates. In the beginning and during the group activities, I sat beside him to motivate him. I simplified the activity so as not to feel disappointed. Another classmate who sat alone as well wanted to take my role and asked me:

- “Could I make a group with George?”
- “If he wants, why not?”

He agreed, and for the first time, he communicated actively with a partner. Sometimes, I was the third partner to gradually increase the number of group members.  
(M. T. diary)

Some weeks later, M.T. planned a composition activity on a digital platform (GarageBand). Students were provided with a rhythm ostinato with the word “Music” (*Μουσική* in Greek). Then they had to compose a melody over it with Boomwhackers or glockenspiels and then orchestrate it with a selection from the platform's digital instruments or samples. George became a member of a small group (3 students in total). Together, they composed a melody for Boomwhackers, and two students performed it, as George found difficulties playing on the beat. He only cooperated in brainstorming with the other members and shared some of his ideas. After a short discussion about the form of composition, George was responsible for the recording and the digital orchestration. The other members of the group reflected on it, and the outcome of their collaboration can be seen in Fig. 6.



Fig. 6: Screenshot from George's group composition

His music teacher explained:

Through this activity and with the use of technology, a field that he was interested in, he managed to be part of a small group, participate equally, and broaden his musical horizons. One member of his group admitted that George had inspired ideas and made decisions very quickly. During this process, he remained completely focused on his tablet, and nothing else could distract him.

(M. T. diary at the end of the research)

Some weeks later, his mother informed us that George continued experimenting with GarageBand and creating his own compositions. When he wanted, he asked M.T. to share them with the rest of his classmates and get some feedback (data from the semi-structured interview with M.T. at the end of the research).

## Discussion

The research findings shed light on the transformative impact of involving students with challenges in musical activities within an inclusive environment, as exemplified by George's story. The study highlights the pivotal role played by music educators in guiding students and creating an atmosphere that fosters inclusivity. The exploration of music teachers' diaries underscores the time and effort required to identify effective strategies for communication and inclusion of individuals with special needs. A noteworthy outcome emerged as George actively engaged in a digital composition activity, showcasing his capabilities and the potential of music technology as a bridge to his connection with his classmates and the broader world of music.

As Burnard and her colleagues (2008) mention, "the potential of music is to serve as a unifying force" (p. 110). George's story describes this force and the many advantages of involving students with challenges in musical activities by creating an inclusive environment and the guidance provided by the music educator. Bell (2008) underlines that individual support for special needs can be challenging, especially until finding suitable activities. George's music teacher's discussion with the language specialist teacher proved to be essential, as this teacher was well informed about his characteristics and, as Cohen and his colleagues (2010) note was "better equipped to prevent interference with the learning process for both those children and their classmates" (p. 6).

According to the music teacher's diaries, the music teacher and students required time to identify effective ways to include and communicate with individuals with special needs. Firstly, music teachers, and then students, should focus on capabilities to facilitate a "versatile and positive learning experience and avoid the emphasis on 'deficits' [so consequently], new positive learning will result" (Flem et al., 2004, p. 96). It is important to highlight that the sense of belonging in students with disabilities, such as ASD, should not

be taken for granted. That is the main reason why students also need time to find ways of communicating. As Giangreco and his colleagues (1994) and Hornby (2012) state, inclusion is not solely based on physical location but rather on the feeling of being accepted and welcomed in a community on a daily basis.

With the encouragement of his music teacher, George actively participated in a digital composition activity that allowed him to showcase his capabilities and preferences. Despite having difficulty keeping a steady beat, he focused on activities he could do and was interested in working on them. Darrow (2015) asserts that music educators rarely encounter instructional efforts that cater to the needs of every student. However, the child-centred, participatory, and active teaching approaches, which the music teacher implemented, seem to be essential for inclusivity, shed light on the whole music classroom members' needs, and benefit all children. Draper's research (2022) underlines the fundamental role of the educator and the close community in the impact of ASD students' experiences.

In the inclusive classroom, music technology serves as a bridge that connects students with disabilities to the broader world of music, ensuring that they can fully experience the joy, benefits, and education opportunities that music offers through "meaningful participation for all students in music" (Nelson, 2013, p. 26). The cooperation between the music teacher and George's mother played a catalyst role in knowing his special interests and experiences and trying to adjust the teaching tools to them. As Sung (2010) states, "experiences connected to the learner's present knowledge and interests are learned best" (p. 55). Within this context, music technology can also be a valuable tool for music educators to assist students in overcoming challenges in musical activities and showcasing their achievements in ways that may not be possible through other methods (Martinho et al., 2018).

Music teachers should be skilled at utilising the power of music and music technology to cultivate an inclusive environment that encourages participation and contribution from everyone. Their ability to tap into music's force and bring people together is remarkable. They should possess a deep understanding of how to create a safe and welcoming space where all students feel valued and supported to express themselves through experimentation and composition. The guidance and expertise that music teachers offer enable students to discover the joy of music and develop their skills while fostering a sense of community and belonging (Giangreco et al., 1994). In order to create an inclusive music education environment, and as technology continues to evolve rapidly, it is essential for music educators to remain up to date with the latest advancements in music technology. By adapting and incorporating new technologies into their curriculum, they can ensure that all students have access to the most innovative and effective teaching methods so that children and young people with disabilities can experience the pleasure of music-making (Backman Bister & Gall, in press).

In conclusion, it is important to take into consideration that inclusive education is a continuous journey, not a fixed destination or a goal with a specific timeline, which can act “as a catalyst for change in educational practice, leading to improved quality of education” (UNESCO, 2005, p. 12). Miles (2005) underlines that “understanding inclusion as a process enables us to move beyond arguments ‘for’ or ‘against’ inclusive education. Instead, the issue is about working together to promote progress” (p. 7). As Burnard’s (2008) research suggested:

inclusive pedagogies appear to have the potential to re-engage learners – by developing learning terrains that build democratic relationships in and out of the classroom, where disengaged students may enjoy the respect and recognition of their peers and, most importantly, reframe the roles of teachers (p. 72).

Integrating adaptive music technologies into standard curricula can enhance the inclusivity of music programs. Additionally, it is important for educational institutions to establish policies and initiatives that recognise and endorse the significance of inclusive music education. The role of music educators is fundamental, as they must be encouraged to perceive the significance of inclusivity and the impact it can have on their students. They need to be mindful of the unique needs, backgrounds, and abilities of each student and tailor their teaching practices accordingly. To achieve this, they may need to change their mindset and be open to new ideas and approaches.

Further research on this topic concerning curricula and music teachers’ professional development would ensure that students of all abilities have equal opportunities to explore and express themselves through the transformative medium of music.

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Thomas Geudens & Thomas De Baets

# ‘From Chanting to Rapping’

## (Creative) Music Making in Catholic Schools in 20<sup>th</sup> Century Flanders

### Introduction

In the course of the 20<sup>th</sup> century there has been a strong evolution in music making during music lessons in Flanders, the Dutch-speaking region in the north of Belgium. Little has been published about the history of music at school in Flanders and sources are scarce. In this contribution, we aim to describe a century of music making in Flemish schools through the interaction between the Lemmens Institute and music education practice in schools. We will not elaborate on the developments in music schools and conservatoires in detail, but will be guided by the developments in compulsory education, more specifically those within Catholic schools, the largest school network in Flanders.<sup>1</sup> Steered by central curricula and, until the 1990s, by one music teacher education institution, the Lemmens Institute,<sup>2</sup> many music educational developments in Flanders can be understood through the writings of several key figures connected to this teacher education institution. We pay specific attention to the international influences, and to the role of musical creativity. Although the multi-faceted nature of musical creativities is acknowledged today (e.g. Burnard, 2012), we refer to creativity in this text in the singular or tentative ways it was conceptualised by music educators in their time.

We reconstructed the evolutions in the Lemmens Institute and music in Flemish schools by means of document analysis and literature study. Notable sources were a large number of historical curricula, and articles in the periodical *Musica Sacra* (from 1969

<sup>1</sup> This dominant position of Catholic schools was maintained from the 19<sup>th</sup> century until today, Catholic schools now covering about 70 % of K-12 schools in Flanders (Department of Education, 2021).

<sup>2</sup> Both authors work at the Lemmens Institute, currently a campus of LUCA School of Arts (Belgium), which facilitated access to the relevant coursework and library archives.

onwards: *Adem*), which was published by the Lemmens Institute until 2013. Our historical sources are contextualised and presented as a small 'chronicle', covering approximately one hundred years of music in Catholic schools. In four paragraphs we highlight what we believe are the four major chapters, from the end of the 19<sup>th</sup> century to the end of the 20<sup>th</sup> century. By opening up this piece of history, we aim at enabling reflection on current developments in music education from a deeper awareness of time and space, and historical understanding.

## Church Music as a Starting Point: No Room for Creativity

Some evolutions in the last decades of the 19<sup>th</sup> century are crucial to provide a background for 20<sup>th</sup> century developments. One is the so-called *schoolstrijd* (school battle, 1878–1884) between Catholics and Liberals. As a reaction to two new laws of the Liberal government of Prime Minister Frère-Orban (10 July 1879 and 11 June 1881), which restricted the influence of the Catholic Church on state education, the Catholic Church established hundreds of new Catholic schools. It was the start of a struggle for 'the soul of the child', which gave the Catholic Party a dominant position in the educational landscape and the parliament until the First World War. This period marks the start of the so-called 'pillarisation' of Belgian society, a political segregation of the society into Liberals, Catholics, and later Socialists, that still exists to some extent today. In the following decades, the Catholic pillar no longer focused on convincing nonbelievers, but on strengthening institutions for their own community (Claes et al., 2020).

Catholic church music is at that moment strongly influenced by Caecilianism. This movement, which originated in Germany, is also gaining ground elsewhere in Europe. It is based on the idea that serene choral music and Gregorian chant should reclaim a central place in church, and that church music should resist the influences of secular music (Gmeinwieser, 2001). In Belgium, Caecilianism led to the founding of an *École de musique religieuse* (school for religious music, later called Lemmens Institute) in Mechelen in 1879. This school was led by Jaak Nikolaas Lemmens (1823–1881), who on 28 September 1880 also founded the *Association de Saint-Grégoire* (Society of Saint Gregory) (Van Damme, 1881). In an analysis of the first volumes of the association's periodical *Musica Sacra*, Haspeslagh (2004a) summarises the musical ideals of the association: dignified, serene and well-sung Gregorian and choral music. It opposes what is 'trivial', 'not pure' or 'sentimental'.

The curricula for primary education include a total of one hour of singing each week, probably as a kind of liturgical rehearsal time (Haspeslagh, 2004a). The music of the Catholic Church is the 'alpha' and 'omega' of music lessons in Catholic schools, or as the Canon Maton from Tournai states:

The child likes to sing, we must not deny him this satisfaction, all the more so because singing now makes him learn and is an excellent way of upbringing. Music, the most popular of all arts, also occupies the first place in public worship. In the school, the singers must be cultivated for the church. Thus shall we bring the people to the point where they participate in church singing again, as they did in the past. (Van Damme, 1882, p. 10)<sup>3</sup>

In addition to one- and multipart chants, solfège and dictation played an important role in these lessons (Management of Primary Education, 1897; Ministry of Public Education, 1880). French influences are obvious: solfège is taught according to the French fixed-do system, although since the 1880s the number notation from Galin-Paris-Chevé is also in use (but abandoned halfway the twentieth century) (Haspeslagh, 2004a, 2004b). In light of the evolutions above, it is not surprising that curricula in those days did not yet refer to the creation of music or music creativity at all.

## A New Wind from Germany: Integrating Creative Activities

At the turn of the 20<sup>th</sup> century progressive education makes its appearance in Western Europe. Various pedagogues (such as Ovide Decroly, Maria Montessori and Rudolf Steiner) oppose the intellectual, authoritarian and morality-oriented education of the nineteenth century. They promote a child-oriented, active school based on a scientific observation of the child's needs and interests (Depaepe, 1998). Meanwhile, a major development in music education takes place in Germany, strikingly enough, outside school. Around the turn of the century, several *Wandervogel* societies were founded. Inspired by romanticism, this youth movement wanted children from the urban bourgeoisie to go out into nature and experience the value of group bonding and folk culture. Folk dance and singing occupied an important place in their activities. Spurred on by, among others, Fritz Jöde, who published several periodicals with sheet music and theoretical contributions, the *Jugendmusikbewegung* (musical youth movement) took off after the First World War (Gruhn, 1993).

Progressive education and musical youth movements inspired the ideal of *musische Erziehung* (artistic upbringing), which was firmly anchored in German schools by Leo Kestenberg (Gruhn, 1993). The music pedagogue Georg Götsch (1934) describes this *musische Erziehung* as a general *Musikalisierung* ('musicalisation') of life, with the following characteristics: unity of music, speech and movement; the elimination of the contrast

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<sup>3</sup> Author's translation of "Het kind zingt geern, wij mogen hem die voldoening niet weigeren, zooveel te meer, omdat de zang hem nu bijbrengt en een voortreffelijk opvoedingsmiddel is. De muziek, de populairste aller kunsten, bekleedt ook de eerste plaats in den openbaren eeredienst. In de school moeten de zangers aangekweekt worden voor de kerk. Aldus zullen wij het volk zoover brengen dat het wederom, gelijk eertijds, deelneemt aan den kerkzang."

between folk and art music; and singing as the starting point of music. An important figure in this period is Carl Orff, who, together with Gunild Keetman, developed the Orff-Schulwerk from 1924 onwards. They applied the principles of artistic upbringing both vocally and instrumentally to music in schools (contributing to the development of what we still know as elemental music education) (De Baets, 2005), with an experiential approach that includes 'creative' music activities.

Orff and the *musische Erziehung* would heavily influence Flemish music education, but only gradually. They clearly did not impact yet the model curriculum for primary education in the 1920s, where we read what the subject 'singing' (there was no broader 'music' subject yet) meant in this period (Schollaert, 1922): the repertoire should consist of folk songs, works by great composers and contemporary songs. The teacher must pay attention to the lyrics, the students' posture, the use of the voice and many other musical parameters. The recommendations regarding notation read like a compromise: little but structured time must be spent on it, first on relative notation in groups 3 and 4 (age 8–10), followed by absolute notation groups 5 and 6 (age 10–12).

But in the 1930s, the musician and pedagogue Alfons Verbist (1888–1974), later also a member of Parliament, senator and minister (Gerard, n.d.), introduced the readers of *Musica Sacra* to the music education developments in Germany (Verbist, 1933). He advocated attention to the experience of musical beauty and to the perception of music as a whole, away from analytical methods. As an experienced academic, he formulated innovative recommendations for intonation and aural training, based on insights from developmental and Gestalt psychology (Verbist, 1935, 1936a, 1936b).

At the end of the 1930s, Lucy Gelber (1904–2001) (Kerremans, 2018) joins Verbist in a plea for a transition from musical schooling to *muzikale opvoeding* (hereafter: 'musical upbringing'; the crossdisciplinary inclination of the German word *musische* is rarely preserved in Flemish writings). Gelber's and Verbist's paradigm shifted from a reproductive to a holistic view, incorporating creative exercises like guided improvisation. The music teacher should develop the students' personality and community spirit. Gelber (1938) emphasised the ethical, aesthetic and social value of music, which is inextricably linked to the thoughts of People and State. The music lesson must therefore start from the students' musical experience and seek coherence with other subjects (Gelber, 1938, 1939).

In the model curriculum for primary schools of 1936 (Ministry of Primary Education, 1936), and the simultaneously published derivative curriculum for Catholic schools (CRKLO, 1936), the traces of progressive education are clearly noticeable (Depaepe & Van Ruyskensvelde, 2016). It shows a blend between the morality of the 19<sup>th</sup> century and more recent holistic, social or secular influences. The curriculum promoted coherence between music and movement. It even prescribed an extensive integration of virtually all 'secondary subjects' (subjects other than religion, language and mathematics) based on an observation of and love for one's own environment. It described the moral effect of singing: "[...] it refines

the souls, puts them in touch with each other, unites them" (Ministry of Public Education, 1936, p. 119)<sup>4</sup>. Battle and homeland songs were promoted: "Songs that sing of the glory of the region, of its landscape, of its past" (Ministry of Public Education, 1936, p. 119).<sup>5</sup> Solfège should be "as enjoyable as possible" (Ministry of Public Education, 1936, p. 119)<sup>6</sup>, and students must develop their ear before notation and theory are to be introduced. Eurhythmic movement activities were also prescribed, presumably inspired by the work of the Swiss music educator Émile Jacques-Dalcroze. No creative goals were explicitly mentioned.

The implementation of this curriculum was particularly difficult, and many music classes remained limited to solfège and dictation, if they took place at all (Faes, 2009). Meanwhile, authors in *Musica Sacra* regretted the lamentable state of singing lessons in schools, and the many untrained teachers in Flanders (Gelber, 1936; Van Nuffel, 1930). It would take until the 1950s before Gelber and Verbist's Saturday courses in *Secretariaat voor Muziekopvoeding* (Secretariat for Musical Upbringing) and the Lemmens Institute gave defining impulses to the ideal of 'musical upbringing'.

## A Face for Flemish Music Education: Promoting Creative Music Making

The rise of National Socialism in Germany and the outbreak of the Second World War halted the development of music education. Jewish pioneers Leo Kestenberg and Lucy Gelber had to flee or go into hiding (Gruhn, 1993; Kerremans, 2018). The relationship to Nazism of many other prominent advocates of the 'musical upbringing' movement was not undisputed. The movement's ideal, aimed at the promotion of the Heimat's 'collective culture', fitted in well with national-socialist ideas. After World War II, the thread of this movement was taken up again in Germany (Gruhn, 1993), and was gradually taking shape in Flanders as well.

In Flanders, Marcel Andries (1921–1965) gave a face to 'musical upbringing' with attention, among other aspects, to singing, playing, creativity, movement and the musical experience (Joosen, 1990; Wuytack, 1979). As a pioneer of the Flemish 'musical upbringing' movement, he is known as founder and first professor of the music pedagogy department of the Lemmens Institute in Mechelen. In 1950, the founding of this department was announced in *Musica Sacra* as follows:

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<sup>4</sup> Author's translation of "[...] ze verfijnt de zielen, brengt ze met elkaar in voelig, vereenigt ze."

<sup>5</sup> Author's translation of "Liederen die den roem bezingen van de streek, van haar uitzicht, van haar verleden, die de liefde tot den geboortegrond verklanken."

<sup>6</sup> Author's translation of "zoo aangenaam mogelijk."

In the interest of the musical education of the youth, the board of the Lemmens Institute proceeded to found a music pedagogical department. It aims at the education of young music teachers for general musical education. As professor at this music pedagogical department – the first in our country – was appointed Mr Marcel ANDRIES, laureate of the Lemmens Institute and licentiate in pedagogy at the University of Leuven. (the Lemmens Institute, 1950, p. 188)<sup>7</sup>

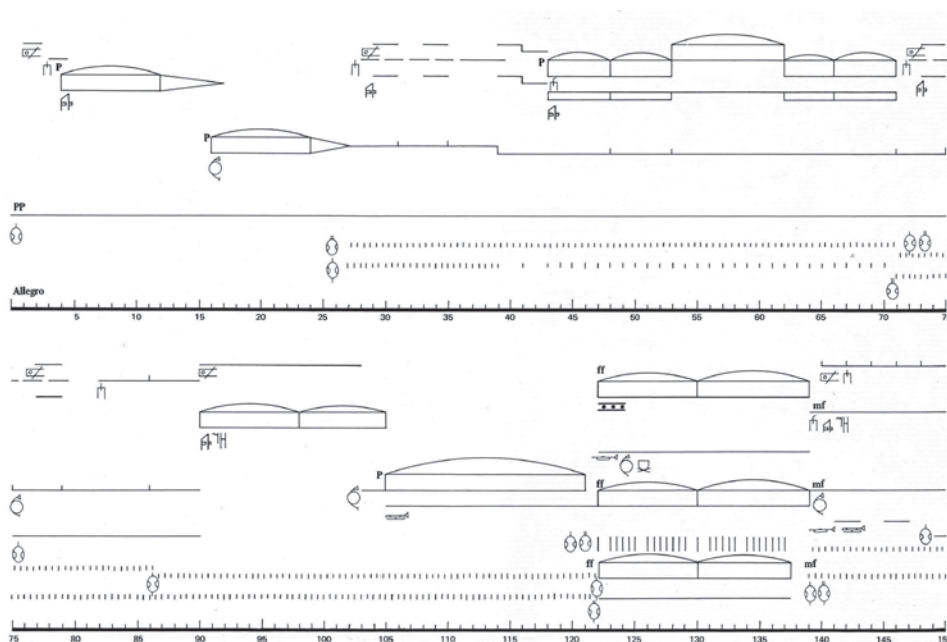
Andries became the great promoter of the ideas of ‘musical upbringing’ (Andries, 1954). In 1954 he founded *Musica Domestica*, a Belgian version of Jöde’s *Musikantengilde* association, which was renamed *Musicerende Jeugd* (Music-Making Youth) in 1957. This organisation included several youth music schools (later on called youth music ateliers) and a Flemish version of the German periodical *Singende Jahr*, namely the *Musicerende Jeugd* song sheets. Andries published the first Dutch translations of the *Orff-Schulwerk* publications by Orff and Keetman and other handbooks. He was also active outside the Lemmens Institute: he organised music education courses in many places, including the conservatories of Antwerp and Tilburg. His innovative pedagogical ideas were often opposed by his contemporaries.

After the untimely death of Marcel Andries in 1965, Jos Wuytack (b.1935) took over. His intensive cooperation with Paul Schollaert (1940) was of great importance for the further shaping of musical upbringing contents and methods. They also established the recorder and ‘Orff’ instruments in Flanders, both inside and outside schools (Haspeslagh, 2004c, 2010; Schollaert, 1969; Wuytack, 1968, 1969a, 1969b). Music educators at this time considered creativity to be naturally present in all children, it should be allowed to emerge spontaneously (Wuytack, 1968). The concept of creativity was usually approached with rather vague definitions and interpretations, but on the other hand addressed in very demarcated exercises (e.g. Andries & Ghesquire, 1959).

Schollaert’s and Wuytack’s attention to ‘active’ music listening resulted in the conception and publication of many so-called musicograms (see Fig. 1 for an example). These were widely distributed and used in music lessons in Flanders and, later on, elsewhere. A musicogram is a visual representation in which the score is simplified, allowing the teacher to introduce the various musical themes and elements in an ‘active’, ‘creative’ and isolated manner (playing, singing ...), so that they can easily be recognised by students.

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<sup>7</sup> Author’s translation of “In het belang van de muzikale opleiding der jeugd werd door de directie van het Lemmensinstituut overgegaan tot het oprichten van een Muziek-paedagogische afdeling. Deze beoogt de vorming van jonge muzikelaars in het kader van het algemeen muzikaal leerprogramma. Tot professor aan deze muziek-paedagogische afdeling – de eerste in ons land – werd benoemd: dhr Marcel ANDRIES, laureaat van het Lemmensinstituut en doctorandus in de paedagogische wetenschap van de Leuvense Universiteit.”



**Fig. 1:** Fragment from the musicogram of 'In the Steppes of Central Asia' by A. Borodin (Wuytack & Schollaert, 1973, pp. 16–18)

The 'musical upbringing' development was introduced through the first four grades of secondary schools, in which one weekly hour of music lessons was the norm. After the introduction of music listening from 1953 on (NVKMO, 1953), active (instrumental) music-making through the use of rhythmic percussion, Orff (melodic percussion) instruments, recorders or fiddles were added to the curriculum in 1961 (NVKMO, 1961). In the curricula of Renewed Secondary Education from 1970 onwards, the principles of 'musical upbringing' prevailed.<sup>8</sup> The new curriculum focused on music as a holistic experience and strongly advocated active and creative methods, but did not stipulate any details about the pedagogical approach. Music theory and singing technique were only given a supporting role. The repertoire of Gregorian chant and religious hymns was definitively abandoned in favour of secular songbooks. In group 3 (age 14) music education was replaced by fine arts education, and in group 4 (age 15) it becomes optional (KNO, 1971, 1972).

In the curricula for primary education after World War II, teaching practice initially remained focused on several short rehearsal moments per week in which students mainly

<sup>8</sup> Belgian Renewed Secondary Education (Vernieuwd Secundair Onderwijs, VSO) was introduced in 1970. This comprehensive school system postponed tracking to the age of 14 instead of 12, although several amendments after the introduction made this aim less strict. Many Catholic schools never adopted VSO at all, but continued to work with the 'old' curricula until a new unified structure was introduced in 1989 (Claes et al., 2020).

sing religious and folk songs. The role of solfège diminished further (CRKLO, 1954; Ministry of Public Education, 1957). In the following decades musical principles were introduced in primary education as well, with the music education curriculum of 1983 as a culmination point (CRKLO, 1983).

However, a point of concern remained that many students after primary school seemed to lack a basis for musical education. This persisting observation led to a plea for a specialist teacher in music alongside the generalist classroom teacher (KNO, 1971). Such a change was never realised in primary schools, but in Catholic secondary schools the graduates of the music pedagogy department at the Lemmens Institute were gradually replacing the insufficiently qualified teachers. The Lemmens Institute acquired a *de facto* monopoly on teacher education in music, certainly as far as music in secondary schools was concerned.

## A Creative Shift

In the 1960s the strong economic and scientific rise after World War II led to shifts in pedagogy. The memory of the war horror also led to a strong anti-authoritarian movement, and power relations were questioned in the fields of upbringing and education as well. The postmodern paradigm shift promoted the emancipation of the independently thinking individual, and in education a critical attitude towards social structures was promoted. In learning psychology, new insights led to the cognitive approach, which, in contrast to behaviourism, did not emphasise observable behaviour, but the mental processes involved in the acquisition, storage and use of information (Depaepe, 1998).

By now, the timeline of German and Flemish music education were notably diverging. In post-WWII Germany, the orientation of music education had been swiftly steered away from the *musische* ideals to a critical and intellectual approach (e.g. Adorno, 1954; Alt, 1968). In Flanders, the *musische* approach stayed dominant in classrooms until the nineties, but from the seventies on a more fundamental and polyphonic theoretical discourse was initiated, involving criticism of the ideal of ‘musical upbringing’. These discussions offered a fruitful context for a more academic approach to music education. Timmermans’ (1973, 1974, 1975) studies on the music-educational tendencies and developments in Germany impacted the Flemish (and Dutch) discourse, but did not immediately affect classroom practice. The *musische* approach was critiqued for locking creativity in ‘schoolish’ assignments and patronising step-by-step methods (e.g. Alt, 1968; Timmermans, 1974), insufficient for and even contradictory to the desired emergence of inner creativity.

Meanwhile, many future pathways of music-making in schools were explored in theoretical contributions in the periodical *Adem*, which in the meantime had succeeded *Musica Sacra*. Attention shifted from music as such to ‘dealing’ with music, and to the

musical perception of students, both on an emotional-affective and a cognitive-analytical level (Haspeslagh, 1988; Timmermans, 1974). There was a greater focus on listening to music and on music aesthetics, certainly in the higher years of secondary education. Pop music and music technology entered the discourse as well (e.g. Van Reeth, 1971, 1977). The teaching practice in that period remained, however, inspired by 'musical upbringing', with an emphasis on singing and the use of the Orff instruments, both in primary (CRKLO, 1983) and secondary (NVKSO, 1989) schools.

Creative activities started to play a significant role in curricula only from the 1990s onwards. The curricula opened up to genres other than church, classical, folk or 'school' music (Regelski, 2009). The integration of these 'new' genres (such as pop, rock or jazz) definitely played a key role in developing teaching strategies addressing and unlocking children's creative potential. With the embedding of these *popular music pedagogies* (Clauhs, Powell & Clements, 2021) or *genre-informed teaching practices* (Verneert & De Baets, 2022), improvisation, songwriting and composition activities enter the classrooms alongside popular genres. Instead of an elusive individual quality allowed to emerge during teacher-led music making, creativity in the classroom is now explicitly addressed, often as a collaborative activity in group assignments.

In addition to the more polyphonic academic discourse among Flemish music educators, the open curricula since the 1990s also give substantial freedom to music teachers. Therefore, it becomes increasingly hard to capture music education practices in the entire region in one comprehensive picture. Around this time, the monopoly of the Lemmens Institute was breached by several other teacher education institutions, which are more sensitive to Anglo-Saxon practices and embrace popular music more eagerly (Vanesser, 2014). This evolution opens a new chapter, in which a diverse landscape of institutes and teacher educators rather than the relatively central incitement of one institution will form the engine for developments in music making in schools.

In 1989, Mark Reybrouck (°1952) published the white paper *More culture at school* (Reybrouck, 1989) and subsequently became an important player in the further embedding of the (Leuven) music pedagogy in a research context (e.g. Reybrouck, 1989, 1995). It is important to note that the conceptualisation of creativity even more drastically changed in the nineties, when it became widely acclaimed as a so-called twenty-first century skill. During the first decades of the twenty-first century, the allegedly transversal nature of creative competences heavily influences Flemish (and international) educational policy. This leads to the promoting of the integration of arts courses in other subjects (known as arts integration or STEAM), and of the integration of arts subjects themselves into cross-disciplinary artistic or cultural subjects (Geudens & Overmeer, 2023).

## **‘From Chanting to Rapping’: Lessons Learned?**

The shifts during these more than one hundred years of history can be summarised as a development from a lesson in solfeggio to a lesson in group singing, followed by an incorporation of listening, playing with instruments (inspired by the musical upbringing movement), attention to other activities such as improvising and creating, and including music genres other than classical, religious, folk, or ‘school’ music. In the course of the twentieth century, the curriculum of Catholic (music) education was gradually secularised. A group-oriented starting point made way for the experiential world of the individual student. At the same time, the education and professional development of the specialist music teacher gradually received more attention.

In other words, we see an evolution, so to speak, ‘from chanting to rapping’, whereby creativity has become progressively more prominent. Together with new genres, new creative activities have entered the classroom as well. Both the notion and pedagogical approach of creativity shifted: from creativity as a delimited and ‘controlled’ musical learning activity in the course of a music lesson, to creativity development as a central goal of music education, with broader and more open creative assignments.

Developments in Flanders are usually and naturally embedded in international tendencies and influences. We can distinguish three phases in terms of international orientation: the French orientation in the nineteenth century, the dominant German orientation in the nineteenth and twentieth century, and the more recent Anglo-Saxon and more global orientation from the nineties on. Today, the impact of the English-language education and research field is ever growing, given the dominance of English in European higher education policy, European network organisations, and the academic community. Also notable are the divergent speeds of certain developments, and the relatively slow pace at which innovative thinking and writing influence teaching practice. For example, we still noticed a strong advance of a ‘musical upbringing’ teaching practice in the 1980s and 90s, at a point when the concepts of that movement were already outdated in Germany (see also Gruhn, 1993). The seeds of a more academic and reflective music pedagogy, which were already laid down in the 1930s, can only be felt at full strength in music education practice today, with institutionalised music education research groups.

Apart from its birds-eye perspective focussing on major evolutions, the overview above shows some additional limitations. The relation between official curricula and classroom reality can be very complex, and the reality of music lessons is probably very diverse, and certainly very poorly documented. Explicit rationale changes or unequivocal definitions of important curricular and discursive concepts (e.g. ‘creativity’ or ‘school music’) are often lacking, and typical of the passive and compromise-oriented pacification politics that are also visible in Belgian education (Huyse, 1970). Also relevant evolutions outside the Catholic network fell outside of this text’s scope. It must be noted that the differences

between Catholic and other (mostly state or community) schools became more subtle by the end of the twentieth century.

Our small chronicle, additionally, touches upon some common (and often still topical) themes in music education: the tension between content and goals of music at school, the relationship between object (music as a phenomenon) and subject (the student's perception and/or experience), and the place and formal anchoring of music at school. Over the years, all those developments have been reflected in the name of the school subject, from 'singing' via 'musical upbringing' to simply 'music.' Flemish music educators should share these insights with their students to explain the historical foundations of music curricula and music classrooms today. To international readers, the complicated interactions between Flanders and its surrounding countries, and some typical features of music education in the Flemish region, can serve as mirror for the (inter)national background of other music education traditions. In Flanders today, we notice that music is increasingly being absorbed into larger cross-disciplinary constructions. As a result, music as an autonomous school subject is in danger of disappearing from the curriculum. How this evolution will continue, might form an ardent starting question for a next chapter in this historical overview. Although insight into the past of 'school music' cannot reveal its future, we believe that this historical knowledge is essential when dealing with current issues in music education.

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Johannes Treß, Elisabeth Theisohn & Thade Buchborn

# How Can Teachers Initiate and Support Creative Processes?

## Design Principles for Group Composing and Improvising in the Music Classroom

### Introduction

In music education improvising and composing in groups are often closely linked or discussed in the context of one another. Both forms of musical engagement are understood as essential (Deliège & Wiggins, 2006). Theoretically or heuristically, distinctions range from a vast equation (Swanwick & Tillman, 1986), to a polarisation of both musical practices along a continuum (Lehmann, 2005). Although there are already a few empirical insights into the relationship between composition and improvisation processes in music lessons (Burnard, 2000a, 2000b), empirical research on creative action in music classrooms addressing the children's perspective is a rather uncharted field.

In two studies recently completed in Freiburg, we focus on group improvisation (Treß, 2022) and composition processes (Theisohn, 2023) in music lessons, and reconstruct not only the norms and every-day theories of students but also the implicit and incorporated knowledge guiding those practices. This helps us to understand how students act in those practices and gives us the possibility to compare the logics underpinning these practices. In relation to the empirical insights into improvisation and composition processes both studies aim to create design principles (Euler, 2017) for the music classroom. This meets another research gap. From the perspective of classroom practice, research-based guidelines and concepts that help teachers to design music lessons on improvisation and composition are missing. From an empirical point of view there is not only a lack of knowledge about these practices, but also on how students' improvisation and composition processes could be guided and supported in the classroom. This might be one reason why studies show that creative processes are not yet at the centre of music lessons in schools in Germany (Fiedler & Handschick, 2014).

In this chapter we will start with a short literature review on creative musical action processes in the music classroom, in order to show the starting points of our studies and the gap in research. Then we will describe the praxeological methodology underpinning our research and focus on the central role of design principles in our research approach. As a result of our design-based research processes, we present the design principles developed in our studies on improvisation and composition. In the next step, we will compare these design principles and work out the differences and commonalities between these two learning and teaching situations. This helps us to further differentiate the educational perspective on both domains and contribute to the discourse on creative musical acts. In this way, our research can provide indications as to whether composing and improvising can be viewed more on the same level as creative action when taught in schools, or whether this field should be more differentiated in order to better do justice to the peculiarities of the respective practice in the learning situation.

### **Creative Musical Action Processes in Music Lessons: Starting Point, Desiderata and Project Context**

Improvisation and composition are widely acknowledged as pivotal creative practices within the realm of music. Consequently, they are recognized as fundamental domains in music education. This emphasis is evident in the significant value assigned to these domains in diverse music curricula in Germany (Grow, 2018) and all over Europe (Treß et al., 2022). Despite this emphasis, it is surprising that there is a notable dearth of empirical evidence. Although there has been increasing interest in the recent past – as can be seen from the thematic orientation of this edited volume and the EAS conference in Lyon –, there is a lack of robust empirical approaches that focus on the actual teaching and learning processes associated with composing and improvising in music classrooms. Furthermore, there is a lack of empirically based design principles that do justice to the complexity and idiosyncrasy of the teaching and learning processes in the classroom.

Existing literature on compositional and improvisational processes in music classrooms has developed considerably, reflecting broader shifts from developmental psychology to sociocultural perspectives. Early studies, such as those by Swanwick and Tillman (1986) and Kratus, presented composition (1989) and improvisation (1995) as an individual, age-dependent cognitive process. In later research, including Barrett (1996) and Marsh (1995, 2008), the contextual and dynamic nature of creative development was emphasised and stage-based models were challenged.

In more recent studies, the collaborative and interactive dimensions of composition have been further emphasised. Rosenbrock (2006) identified group dynamics and the interplay between improvisation and reflection as central to the compositions of school

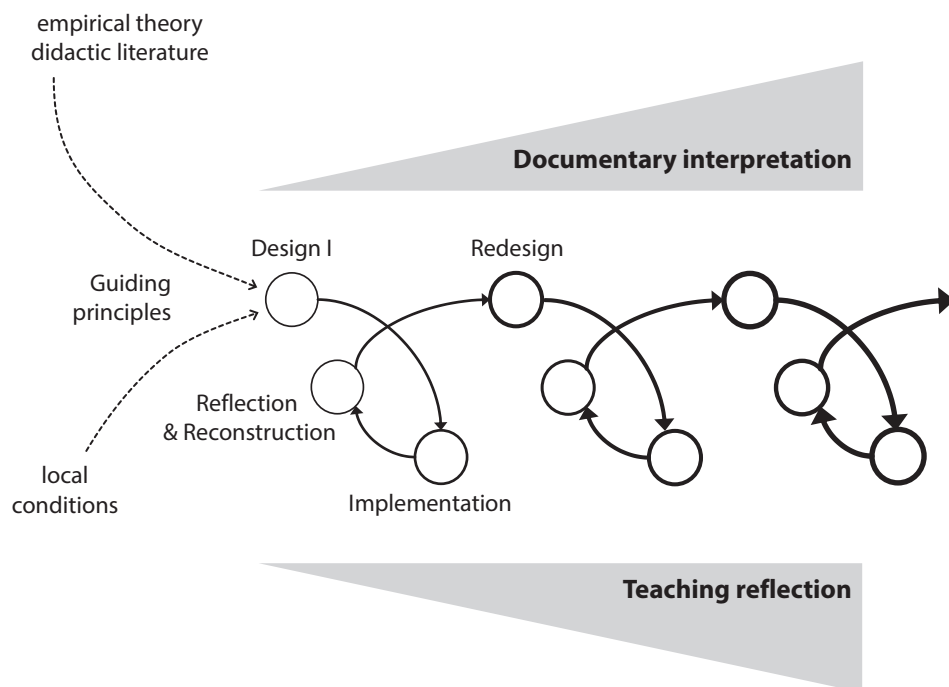
bands. Kranefeld (2008) examined the transformations from visual to musical drafts in group settings and uncovered the structuring role of recursive evaluation loops. Similarly, Buchborn (2011) traced how students' engagement with experimental composition shaped their musical thinking, while Weber (2021) examined interactions between teachers and students, highlighting the balance between guidance and openness in fostering creativity.

Improvisation, closely linked to composition, is increasingly recognised as an educational tool for fostering creativity, collaboration and critical thinking. It enhances musical understanding, provides a platform for social interaction and empowers students to explore their personal musical identity (Campbell, 2009; Siljamäki & Kanellopoulos, 2020). However, challenges such as limited teaching experiences, structural constraints and a lack of clear frameworks (Hickey, 2009) can hinder implementation. Despite these obstacles, the literature emphasises that the teacher's role as a facilitator – acting as both a mentor and a fellow musician – is crucial to creating an environment in which improvisation can flourish.

Overall, contemporary research does not consider composition and improvisation as isolated, linear activities, but rather as complex, socially situated practices embedded in cultural and educational contexts (Deliège & Wiggins, 2006). This perspective is in line with the increasing focus on practice-oriented approaches in music education that emphasise learning as a collaborative, contextual process (Biesta, 2015).

### **Common Methodological Ground: Documentary Design Research as a Combination of Reconstructive and Design Oriented Research Phases**

In order to combine the development of educational designs with research on learning and teaching practice, our studies are following the documentary design research approach (Buchborn, 2022; Buchborn & Völker, in press; Treß, 2022; Theisohn, 2023). In both studies, designs and concrete materials for classroom practice were developed, implemented and tested in secondary school. During these interventions, reconstructive insights into classroom practice were gained. The empirical findings serve as a starting point for further developing our designs. This sequence of development and research phases results in an iterative and cyclical research process typical for the format of design-based research (Fig. 1).



**Fig. 1:** Example of a typical documentary design research process

In the methodological foundation of our studies, we refer to the praxeological sociology of knowledge developed by Ralf Bohnsack (2017) with reference to Karl Mannheim's praxeological considerations from the 1920s. Bohnsack assumes that members of social groups have a shared knowledge that guides their actions, which they build up on the basis of shared or structurally similar experiences. This knowledge has both explicit and implicit components. Everyday theories, opinions and norms provide orientation in everyday behaviour and are reflexively accessible to the actors of a practice themselves. Bohnsack calls this form of knowledge communicative knowledge. In addition, actors in a practice also orientate themselves on conjunctive knowledge. This is not reflexively accessible to them, but nevertheless determines their everyday actions. However, it can be read from everyday actions when reconstructing the logics of a social practice. Both forms of knowledge and their interaction can be reconstructed using the Documentary Method (Bohnsack, 2014). In this way we have worked out which explicit and implicit knowledge is underpinning students' composition and improvisation processes in the classroom. These direct reconstructive insights into the logics of learning and teaching practice represent the point of reference for our educational development. This enables us to develop lesson designs that refer to the logics of student behaviour. In addition to theoretical findings, our studies also provide development products, like concrete teaching materials and tasks for group

improvisation and composition or – on a more abstract level – general guidelines on how learning and teaching situations can be designed. These so-called design principles are located at the interface between these development products and theoretical findings. They are central to design-based research because they connect theory on learning, teaching and acting in classroom practice by translating scientific insights into actionable guidelines for educational design (Euler, 2017). They crystallise insights from iterative research cycles and support the generalisation of context-specific results to broader settings (McKenney & Reeves, 2019). They also contribute to theory development and guide the process by serving as conjectures that are refined through empirical analysis (Sandoval, 2004). In the research process, initial heuristic design principles are iteratively revised to adapt the instructional design to the observed practices (Bakker, 2018).

## Design Principles of Improvising and Composing

To compare the design principles for composing and improvising in secondary school music lessons, we first present the differentiated design principles from the two individual studies separately. Johannes Treß (2022) developed design principles for teaching group improvisation, while Elisabeth Theisohn (2023) worked on group composition.

### *Group Improvisation in the Music Classroom*

The continuum of creative action has already been described above as situated between composition and improvisation. Improvisation itself also encompasses a multitude of different musical practices in terms of their cultural roots, aesthetic criteria as well as genre-specific rules and norms. Siljamäki and Kanellopoulos therefore differentiate multiple “visions of improvisation pedagogy in music education” (2020, p. 113). Against this background, a central task right at the beginning of the research process included the differentiation of the specific understanding of improvisation. Even if the precise and empirically-based differentiation of the design principles presented here is only to be understood as the result of the research process, certain characteristics were already defined at the beginning of the research process as *initial* principles in order to enable the concrete design of elements, tasks and impulses to begin with:

- Improvisation is viewed as group improvisation and thus as a collective musical practice. This focus on interactive and social negotiation processes results on the one hand from the fundamental insight that improvisation can, *a priori*, be regarded as an interactive group process and on the other hand from the pragmatic insight that creative task formats and processes in music classrooms are very often framed as group processes simply because of the high number of participants.

- The understanding of improvisation thus corresponds to a free form of improvisation that dispenses with predetermined stylistic limitations and the associated teaching of genre-specific improvisation techniques and styles.
- Therefore, instead of propaedeutic dimensions, sociocultural, creative and aesthetic processes as well as the exploration of the self-purposeful potential of improvisation in music classrooms come to the fore.

These basic assumptions formed the starting point for the entire design-oriented research process. In several cycles, improvisation formats were planned, carried out and evaluated using documentary video interpretation in different school contexts. The reconstructive interpretation of the interactions during improvisational tasks revealed a typology of interaction phases: In *distancing from the required subject of class*, students resist the unfamiliar demands of improvisation through reserved body language, ironic reactions, and adherence to classroom norms. The phase of *establishing and maintaining habitual concordance* involves exploratory and playful interactions, shifting group constellations, and creating mutual understanding through playful musical and physical interaction. Finally, the phase of *integrating and intensifying musical acts* is marked by sustained coordination, shared experiential spaces, and joint sound creation. These empirical findings from the study formed the basis for the differentiation of the following final design principles (DP) for initiating and guiding group improvisation, representing a key result in designing group improvisation processes in music classrooms:

#### **DP 1: Improvisation Needs Space and Time**

Improvisation in music classrooms should take place over several days or weekly lessons. This provides the time and space to overcome various distancing practices. It also allows for a well-founded exploration of musical improvisation and the development of an implicit repertoire of materials and interaction strategies

#### **DP 2: Improvisation Needs Different Phases**

The reconstructed phases of student interaction should be taken into account in the planning of improvisational formats. At the beginning of the whole workshop or lesson unit and throughout the individual lessons, the focus should be on sensitising perception. Subsequently, playful impulses can support the exploration of improvisational materials and interaction strategies and finally lead to increasing musical coordination and enhancement by means of certain strategies of complexity reduction. Such as, for example, the restriction to a small number of musical materials, settings, number of musicians. This structure can be described as a gradually intensifying didactic dramaturgy of warming up, exploring and collectivisation.

### **DP 3: Improvisation Needs Impulses**

Group improvisation impulses should contain playful elements and ensure a connection to the students (tacit) musical knowledge. They should also allow reference to peer, child and youth cultural practices and should not be narrowed down to genre-specific rules or norms (it is important to mention that the imposed absence of stylistic and genre stereotypes also represents an aesthetic norm). Playful competition, the active integration of coincidental elements and movement-based interactions are especially effective. The more well-rehearsed a group is, the more indeterminate and paradoxical the didactic impulses and improvisational rules can be. These can also be (further) developed together with the students.

### **DP 4: Improvisation as Group Based Action**

Group improvisation should take place in different social constellations. Large groups can be divided into various small groups improvising in parallel (5–7 people each) if rooms are available (also think about using the school's playground, assembly hall, staircases etc.). The groups should be kept as equal as possible at the beginning. Over time, the variation in size and composition allows for increasing flexibility and security. Certain improvisation impulses are particularly useful for collectivisation and improvement in large groups (e.g. soundscapes, drone-improvisation, gesture conducting, interactive integration of spatial sound and surroundings).

### **DP 5: Improvisation as Reflective Practice**

Group improvisation should be closely linked to multimodal reflection impulses, as the empirical analysis showed that students are often unable to put the performative improvisation processes into words. Reflection phases should therefore take place in all phases of the teaching process. Discussion impulses reflect individual impressions and experiences after the improvisational practice. Multimodal reflection impulses, such as a written listening log or drawing, to own group improvisation recordings, enable an in-depth examination of the performance practice and the improvised music itself.

### **DP 6: Improvisation Needs an Appreciative and Positive Atmosphere**

Teachers should establish an appreciative and positive atmosphere. Mutual trust and an extensive freedom from judgement form the basis for a positive classroom atmosphere. Teachers contribute to this through a positive attitude towards errors and failure, self-irony and humour. In addition, an interest in the students' individuality in practice generally has a positive effect.

### DP 7: Improvisation Needs Flexible Teachers

Teachers should be able to act in a variety of functions. In addition to the ability to actively participate in individual phases of the musical activities, teachers should be able to formulate clear and concise tasks and to take a step back from time to time to observe and listen.

### DP 8: Improvisation Needs Repertoire

Teachers should establish a diverse musical and instructional repertoire. They should acquire as broad and varied a repertoire of improvisation impulses, rules and reflection formats as possible in order to be able to react flexibly and appropriately to the situation of diverse groups. This paves the way for a professional approach to the unforeseen and the inherent vulnerability of improvisation, not only in music classrooms.

The following map summarises the differentiated design principles that can be applied to the level of instruction as well as to the planning and structuring of improvisation-specific teaching formats.

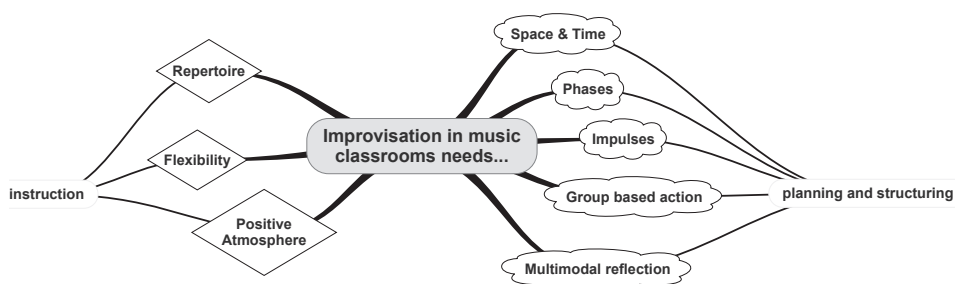


Fig. 2: Design principles for improvisation in music classrooms

## Composing

The starting point of Elisabeth Theisohn's study was the assumption that composing in groups is ascribed a variety of musical educational opportunities (e.g. Schlothfeldt, 2018), which in German-speaking discourse are located, in particular, in the field of aesthetic experience and creative action. Until now, this educational expectation has been based on the empirically unproven assumption that pupils draw on their entire musical experience in the composition process and negotiate this collaboratively. As shown by the example of Johannes Treß, *initial* principles stood at the beginning of the research process to enable the concrete design of elements, tasks and impulses:

- According to Lessing (2011), one of the central aims of composition pedagogy is to “experience and test the significance and scope of compositional decisions” (p. 18). The central moments in the composition process thus become *decision-making processes* that also need to be shaped didactically.
- Further educational potential can be associated with compositional decision-making processes, namely the so-called *aesthetic dispute* (Knörzer et al., 2016; Rolle & Wallbaum, 2011). In the *aesthetic dispute*, pupils express their individual aesthetic attitudes and positions and constructively engage with other aesthetic positions. For this reason, Wallbaum (2000) demands that the aesthetic quality of the composition must be given special importance from the pupils’ perspective right from the start.
- The reference group is also considered a relevance system with regard to the evaluation of the *creativity* of a composition, as Stöger (2018) elaborates following Burnard (2012). Which act or product is considered to be creative is a matter for the group.
- One important step in designing the didactical setting was the principle *guiding to openness* designed by Niermann (2016). In this sense, concrete guidelines and rules open up independent and creative processes and thus simultaneously provide orientation and freedom.

Through the empirical findings these assumptions were on the one hand confirmed, and on the other hand differentiated and modified. Decision-making processes could be reconstructed as motors of the compositional processes and decision-making moments as key. The compositional decisions did not unfold as a direct verbal dispute in the sense of an aesthetic debate but rather as a complex, multi-layered weave that primarily emerged within the collective and musical-interactional sphere. These spheres of interaction also revealed the pupils’ diverse musical experience, which is particularly actualised in joint playing. The more responsibility the pupils had in the processes and the more important their knowledge was, the more self-directed the processes were. Another important finding was that creative action was not only reflected in a collaborative mode, but in particular in the so-called mode of assertion. This mode is characterised by exclusion and marginalisation, unresolved controversies, chaos and intensive corporeality (Theisohn & Tress, 2022).

In the iterative interplay between documentary interpretation, didactic reflection and modification of the design principles, the following design principles (DPs) were finally identified as design-based results for composing in groups:

### **DP 1: Composing Needs Unusual Space**

Composition processes need unusual spaces which are clearly different from the settings of the normal classroom. Sitting on a classroom chair, being handed a sheet of paper and having the steps of the work process explained to you refer to the practices of everyday school life. In learning situations that differ from those “doing the task”-settings, we can see that there is place for other fields of knowledge which influence the process. If spaces change or can be organised by the students themselves, students interact more freely and with focus on the common purpose.

### **DP 2: Composing Needs Unusual Sound Material and Instruments**

When engaging with unconventional sound material or instruments, students can freely experiment with sound and immerse themselves in collective musical interaction. In such contexts, established action patterns are not merely reinforced but redefined through exploration. Educators can also ensure that students incorporate unusual materials into their compositions as they progress through the process.

### **DP 3: Composing Requires a Wide Range of Different Fields of Action**

Compositional processes as well as decisions are diverse, multi focused, interwoven and most of the time nonverbal. Educators should initiate as different fields of action as possible like exploring, improvising, playing, practising, listening, reflecting, noting, discussions, presenting and so on, in different and changing social forms to foster these multifaceted processes.

### **DP 4: Composing in Groups May and Should be Controversy and Discourse**

The planning should take into account, especially, the modes of assertion and collaboration which depend on each other. Educators should stay in the background even if groups discuss wildly, are changing into chaotic patterns or seem not to be working on a common solution. These phases are very important for the process. This can be summarised under the term of contingency sensitivity, which means that learning objects only develop in the course of interaction over time.

### **DP 5: Composing Needs Agility**

Educators should be agile, which means they should observe sensitively to situations, processes and their changes and react immediately, but only if it is really necessary and always with focus on the special makeup of each group. Spontaneous turns and unforeseen events are valued in their special potential to support creative action.

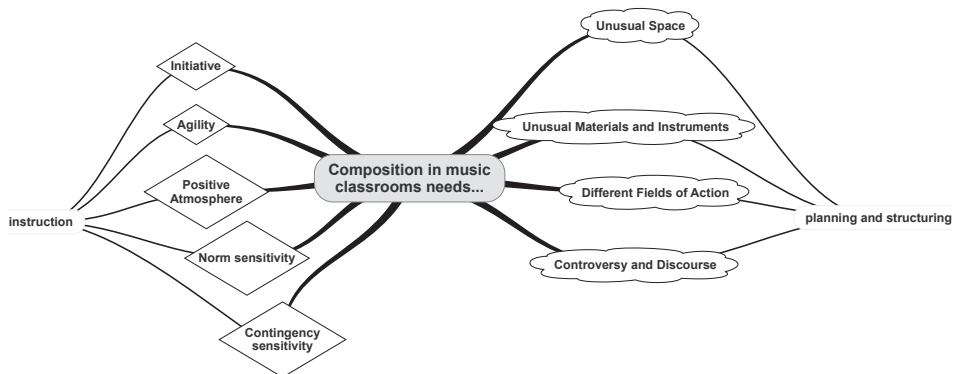
### DP 6: Composing Processes Need Initiative

Students take responsibility for how they want to work together and choose their next steps in the process freely and situationally. Educators should take a leading role in organising possible steps, but be careful with the criteria. During and after the working phases it's important to initiate evaluation, peer-feedback and space for negotiation so the group can elaborate on what's creative, aesthetic, pleasant or good enough. Educators should first focus on the students' expertise and experiential knowledge. In a second step this knowledge can be set in relation to musical expertise and professional compositional aspects. This is what I call norm sensitivity.

### DP 7: Composing Needs an Appreciative and Positive Atmosphere

Educators should establish an appreciative and positive atmosphere by strengthening the group in its self-determination. They should make clear who is responsible for the working process and its results. So they can stay in the background most of the time.

As seen in the work of Johannes Treß we also can see two different levels on which the design principles requires: the planning and structuring of lessons and the actual teaching situation itself. In addition, three underlying principles crystallized: agility, norm sensitivity and contingency sensitivity. These three as a conglomerate can be seen as the basal design principle for designing, facilitating and guiding composition processes.



**Fig. 3:** Design principles for composition in music classrooms

## Comparative Analysis of the Design Principles along the Following Comparative Horizons

To identify the differences and similarities between compositional and improvisational design principles as differentiated in the presented studies we conducted a comparative analysis. This comparison was an integral part of the entire research process, continuously carried out through research workshops, group discussions, and the ongoing examination of interim results. In developing this article, we refined key categories and analysed them for their similarities and differences regarding composing and improvising in music classrooms. Similarities might point to overarching principles that could serve as a guideline for designing educational situations in which creative musical actions (Theisohn & Treß, 2022) should be initiated and scaffolded. Differences, in turn, could help to further differentiate the continuum of improvisation and composition on the basis of empirical findings. The comparison of the respective design principles ultimately resulted in a multidimensional continuum of creative musical action.

One key commonality between the two approaches is their focus on **creativity**. In both improvisation and composition, students are encouraged to engage in creative processes that foster individual and collective expression and the development of an aesthetic skillset. Even if the primary mode of action is different for each approach — mainly spontaneous, real-time musical interaction in improvisation versus guided, long-term process and revision in composition — both emphasise the importance of a high degree of expressivity, embodiment, and experimental play. Elsewhere, we have referred to these shared characteristics of improvisation and composition in relation to creativity in groups as ‘music-immanent actionist practice’ (Theisohn & Treß, 2022).<sup>1</sup>

Similarly, **group interaction** itself plays a vital role in both contexts. In both improvisation and composition, students collaborate, negotiate musical ideas, and contribute to the collective creation of music, facilitating the development of social and communicative skills. In both settings, this collaboration is understood as integral to the process, fostering group cohesion and the exchange of ideas.

A shared feature in both sets of design principles is the emphasis on improvisation and composition in classrooms as **reflective practice**. This includes reflection in a traditional sense, which enables students to examine and refine their work, and thus understand and articulate artistic decisions and learning pathways. However, both studies advocate for a broader conception of reflection that extends beyond a purely cognitive approach. Rather than being confined to explicit discussion and analysis after the creative process,

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<sup>1</sup> Actionist practice is an established term in German-speaking countries and in the context of reconstructive social research, particularly for non-habitual performative practices. The concept of actionist practices describes spontaneous, non-intentional, and open-ended forms of interaction [“Aktionistische Praktiken”, (Hackbarth et al., 2022)].

reflection in both improvisation and composition is understood as an inherent, multimodal practice embedded in the creative action process itself. This reflexive practice can manifest itself implicitly through musical and physical interaction and non-habitual performative experimentation. Furthermore, different and multimodal approaches to reflection are emphasised and considered necessary in both design principles.

Another common dimension is the **positive atmosphere** that needs to be cultivated and is equally important in both contexts. An environment of mutual trust, failure-friendliness, respect, and freedom from judgment allows students to take creative risks, whether they are improvising freely or composing collaboratively. The positive atmosphere enables a space for both creative exploration and productive group dynamics.

The above-mentioned design principles point to a broad spectrum in terms of **responsibility within the creative process**. In improvisation, the teacher plays a crucial role in shaping the environment, ensuring a sense of safety, and handling the inherent vulnerability of spontaneous musical creativity with sensitivity. Because improvisation often requires participants to take risks and respond in the moment, the teacher's guidance is essential in fostering an atmosphere of trust and openness. In the case of composing, more responsibility is given to the group right from the start, as the students negotiate, criticise and refine joint decisions. The structured nature of composition allows for more deliberate decision-making and negotiation, fostering a sense of shared ownership over the final piece. While both approaches encourage creativity, improvisation often requires a heightened level of facilitation to support participants in navigating the unpredictability of the process—particularly in novice settings. However, in a more extended developmental process, increasing familiarity and experience may allow for greater autonomy, gradually reducing the need for external guidance.

Despite these shared aspects, several **differences** between the two approaches emerge. One major difference lies in the structure of the action process itself. Improvisation is characterised by spontaneous, musical action and reaction in real time, which requires immediate adaptability and responsiveness. Verbal negotiation plays a subordinate role here and tends to disrupt the interactive flow of the improvising group. When improvising, students often engage in musical interaction on the spot, shaping the music as it unfolds. Even though this mode of spontaneous interaction can also be observed when composing in groups, the overall compositional process tends to be more structured, involving deliberate decision-making and phases of the verbal negotiation. In comparison to improvisation, composition requires planning and revision over time, with students making and reconsidering decisions as they work towards a final product.

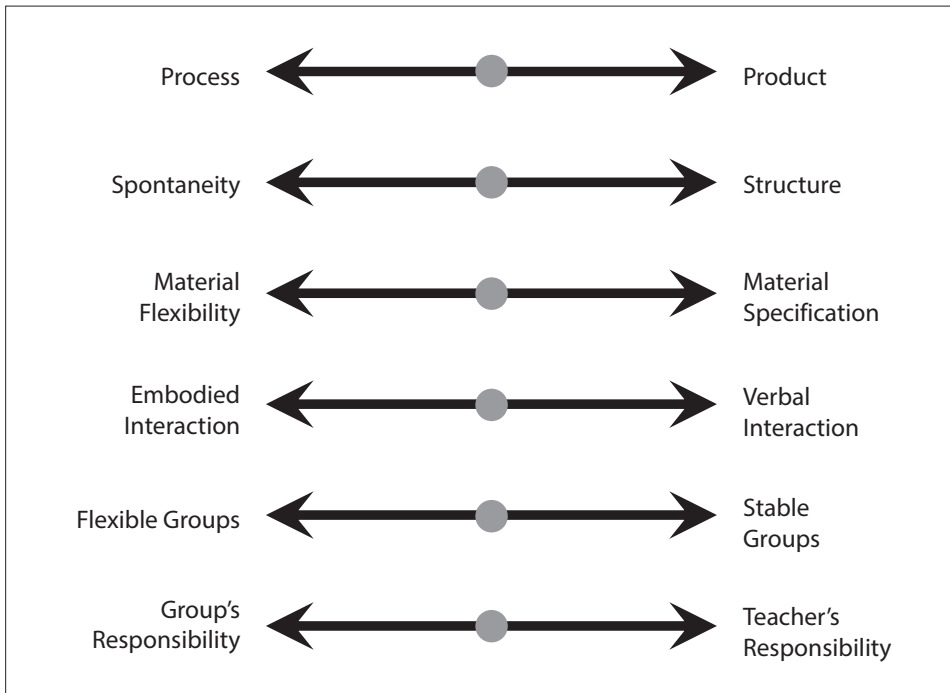
The **role of the teacher** moves along a continuum between improvisation and composition, adapting to the specific demands of each approach. In more improvisational settings, teachers often act as musical initiators and idea generators, taking an active part in the creative process – especially in the early phases – to help students overcome

hesitation due to inexperience or lack of confidence. They act as facilitators, providing playful and exploratory impulses, encouraging interaction and musical experimentation, and fostering open engagement with sound and expression. In case of composition, the teacher's role gradually shifts to guiding the group's decision-making, structuring tasks and providing feedback to support the development of a coherent musical outcome. While direct involvement in musical processes may be to the fore in improvisation, compositional frameworks also require facilitation, albeit with a stronger focus on supporting the group in collectively refining ideas. Rather than representing opposing roles, teaching in improvisation and composition unfolds as a dynamic interplay between participation, facilitation and structured instruction, depending on the needs of the creative process and the individual learning groups.

Further differences can be observed in the **spatial and material conditions** of each approach. Improvisation encourages flexibility in both the physical space and the musical materials available. A key aspect of this approach is the emphasis on working with the body and voice, ensuring that students can engage with minimal barriers to entry. By relying on these fundamental expressive tools, improvisation strives towards an accessible environment where students can freely explore sound without requiring specialised instruments. They may also be encouraged to experiment with diverse materials and spaces to break traditional boundaries and expand their creative possibilities. On the other hand, the design principles for composition in classrooms highlight specific, predetermined materials to facilitate a more focused exploration of sound and structure.

Additionally, **group dynamics** in the two approaches diverge. In improvisation, group constellations are fluid, with students often shifting roles or interacting with different group members throughout the process. This fluidity fosters adaptability and spontaneity. In composition, however, group dynamics are typically more stable, with a focus on developing and refining a collective musical idea in a static group setting over time. The compositional process often requires more consistent collaboration to ensure cohesion in the final product. However, also in these processes roles and interaction structures can be fluid and change rapidly within the working group.

The two poles identified in the design principles of the two studies reveal a multi-layered combination of continua of improvisation and composition in music education. The following illustration summarises the different poles.



**Fig. 4:** Multidimensional continua of creative musical action

On the one hand, the model of the multidimensional continua of creative musical action in music education can be seen as the result of the comparison of the two studies. At the same time, however, this visual presentation also serves as a starting point for planning creative lesson formats. Furthermore, the figure could also be used as a starting point for reflecting on creative action processes in the classroom together with students.

## Discussion

The design principles we presented above, and especially the comparison of the results from the two studies, reveal many links to existing literature: Our findings resonate deeply with Burnard's work on the experiential differences between improvisation and composition (2000a) and on how children ascribe meaning to improvisation and composition (2000b). She emphasises that both modes of musical action should be viewed as interwoven, flexible processes rather than dichotomous categories. Drawing from her empirical findings, Burnard (2000a) presents a model of the relationship between improvisation and composition and emphasises—similar to our design principles—the importance of connecting to the students' life-worlds within the context of creative activities in music

education. In line with her findings, we also advocate for empowering children to actively negotiate aspects of musical motivation, authorship, and the diverse individual meanings of improvisation and composition (2000b). While Burnard formulates her didactic conclusions primarily as a consequence of the experiential qualities of children that she has identified, the didactic principles presented here have emerged as empirically grounded crystallisation points (Euler, 2017) from a design-based research process. Furthermore, our studies not only suggest a multilevel model of multiple continua between improvisational and compositional action, but also conceptualise both didactic fields as facets of creative musical action. This, in turn, shows a significant connection to Burnard's more recent work on multiple creativities (2012). The comparative design principles presented above show creative action as a fluid, context-dependent practice that integrates embodiment, social interaction, and reflection. While improvisation and composition activate these dimensions in different ways, they remain part of the same overarching continuum of creative musical action. At this point, we see direct links to overarching, socio-culturally oriented creativity discourses that emphasise the embodiment and situatedness of creative processes in particular, rather than pursuing individual-psychological models (Clarke, 2012). Recent conceptualisations of creativity highlight its complexity and its interplay with diverse aesthetic traditions, structures, and abilities (Deliège & Wiggins, 2006). This understanding is also reflected in the design principles for improvisation and composition. Moreover, our findings emphasise that key features of creative practice like novelty and innovation in music classrooms can only be interpreted within the value system of the music-making group.

The results of the comparison above offer an empirically based and further differentiated application of Niermann's (2016) heuristic principle of guiding to openness, which he developed on the basis of didactic experience and theoretical considerations. Niermann (2016) emphasises that productive openness in education arises from a structured balance between guidance and freedom, rather than unrestricted exploration, enabling learners to navigate creative processes effectively (p. 278). This principle is reflected in both design principles: improvisation relies on playful impulses that provide orientation while enabling spontaneity, whereas composition structures decision-making while allowing for emergent creative negotiation. Niermann's concept of staged openness, where structured tasks gradually expand possibilities, aligns with the progressive intensification observed in improvisation (e.g., from initial attunement to musical collectivisation). The teacher's role in both approaches also follows Niermann's idea of balancing directed guidance and autonomous exploration (p. 210–211), with improvisation requiring active participation and scaffolding while composition demands strategic withdrawal to enable self-regulated structuring.

### ***Consequences for Music Teacher Education***

The empirical differentiation of the design principles provides concrete strategies for structuring creative processes in music education. Ultimately, this discussion underscores the need for educational approaches that embrace the complexity and situatedness of creative action, rather than forcing rigid distinctions between improvisation and composition. To effectively initiate and guide improvisational and compositional processes in the classroom, music educators must develop both their practical skills in these domains and their ability to design open yet structured tasks that foster student creativity. This requires cultivating a nuanced approach that balances freedom and guidance, enabling students to navigate creative exploration with confidence and agency. Teachers should be equipped with strategies to motivate and support students, particularly when they encounter hesitation or unfamiliarity with improvisation and composition. Moreover, they need methodologies for reflecting on and assessing creative musical processes and outcomes in pedagogically meaningful ways. Professional development must also address practical concerns, such as managing open-ended creative activities within the constraints of the classroom environment. Ultimately, teacher education and in-service training should aim to enhance educators' confidence and competence in integrating improvisation and composition as essential components of music education—aligning with curricular goals while acknowledging and addressing the challenges of current teaching practices.

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## **II. YOUNG PEOPLE COMPOSING**



Laetitia Pansanel-Garric

# The Creative Process: Between Composition and Transmission

Composing Music, Starting from a Diversity of Musical Practices in a Pedagogical Context, in Order to Create a Shared Performance – a Composer's Point of View

## Introduction

The *Chantiers de la création musicale* is a flagship initiative of the Auditorium-Orchestre National de Lyon. It places collective practice and the discovery of the world of the orchestra at the heart of a long-term project. In partnership with the *Conservatoire de Lyon* and the *Inspection Académique du Rhône*, this project, the only one of its kind in France, has been running for more than 20 years and has continued to reinvent itself over the years. Today, almost 3,500 children have been able to take part in this extraordinary adventure, alongside some of France's greatest composers (jazz and contemporary).<sup>1</sup>

Every year, over one hundred and fifty children from three elementary schools in Lyon are involved in a process of musical creation alongside a composer and an ensemble of musicians from the *Orchestre National de Lyon*. The year is punctuated by several events: meetings, regular exchanges with teachers, the composer and the musicians involved; work sessions with the orchestra musicians, days spent immersed in the heart of the Auditorium, etc. Step by step, the show is imagined, written and perfected, before coming to life on the big stage. This show is the fruit of a year's work in which the children's ideas are fed into those of the composer to create a joint score.

In addition to the purely artistic aspect of the project, there are educational objectives specific to artistic and cultural education including: development of cognitive skills, verbal capacity, acquisition of structuring concepts in the child's development. They provide an ideal opportunity for children to develop through musical practice, discovering a foreign world, listening to others, and mastering their body and voice in a group. What

<sup>1</sup> <https://www.auditorium-lyon.com/fr/chantiers-creation-musicale>

makes the *Chantiers de la Création Musicale* unique is the specific nature of its educational objective: musical creation. The composer incorporates the children's musical suggestions into the final score. Everyone has an important role to play in the composition process.

For their part, the teachers and *musiciens intervenants* are the project managers in their own classrooms and are responsible for making this a class project in its own right. They give the project a central place in the classroom, spreading it throughout the teaching programme and ensuring that the various activities (workshops, encounters) are pedagogically coherent. As for the children, they discover music and stage design, and work on their emotions and ways of expressing themselves through art.<sup>2</sup>

In this context, I was able to meet children from different social and cultural backgrounds, teachers and conservatory staff as part of the programme for the 2020–2021 season. This article explains the methods and techniques used to implement the project, how it developed over time, and what were the various problems encountered and the composition processes involved in the different phases of the project: from gathering the material, to analysing and processing it, to passing it on to the children and teaching them to produce a one-hour show (three schools: 3 × 20 minutes). I will also make the link with certain key pedagogical principles that I have been able to experiment with, consciously and sometimes unconsciously, because of the need to transmit music in a universal way.

## Presentation of the Project

### *Organisation*

As usually, the project involved three elementary schools in Lyon, two teachers in each school and a *musicien intervenant* from the Lyon Conservatoire who has been asked to rehearse with them for an hour and a half a week. Several major events should have punctuated this year: meetings, regular work with the artist, work sessions with the musicians of the ONL. This project is usually punctuated by a week of intensive master classes in February, during which the composer works daily with the children on the score. This course is an opportunity to establish contact with them, the link that is vital to the success of a performance. Following the cancellation of this week's *Chantiers* workshop due to the Covid-19 Pandemic, I had to stay on as an observer and was only really able to work with them for the three days before the concert. The project was essentially built from a distance.

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<sup>2</sup> <https://www.auditorium-lyon.com/fr/chantiers-creation-musicale>

A first and only meeting in September enabled all the players to meet. At this meeting, we decided on the theme for the concert. I suggested working with the *elements*: Fire, earth, water, air, a theme that was accepted by all the teams. At this stage, this theme remains very abstract for the teaching teams, who have no idea how they are going to implement the project with their own know-how. The theme would be the common thread running through the musical composition, and from the outset I created organisational documents to help coordinate the collective work and balance the programme, with the aim of rapidly putting in place a working strategy. The working conditions made it necessary to create a solid framework in order to gather as much information as possible from the school supervisors and the *musiciens intervenants*. In my case, I could only take part in the work sessions once a month. In other words, 1 hour per month per class, which is very little and which was a real problem in the running of the project.

As I said earlier, the immersion week planned for February didn't take place in the auditorium, so it wasn't possible to work on the set design and imagine it as part of the future show. It was very complicated, if not impossible, to really create a production in which I could be fully involved. Working remotely meant that the creative process had to be highly adaptable. The musicians from the *ONL* quickly became involved in the working process, although in far fewer numbers than expected. I therefore had to create orchestral effects with a chamber orchestra.

### *Choice of Theme*

The choice of the theme of the four elements was prompted by the very format of the *Chantiers de la création*, i.e. the need to find a musical meeting place that was sufficiently inspiring to generate collective research work. The *Elements* was the ideal playground, making inspiration accessible to all, and appearing as a welcoming research space that invited creativity with confidence and would allow the children and the teaching team to take hold of it and give free rein to their ideas. At the same time, I wanted to create a cycle of pieces that would explore a variety of characters, styles and movements, creating a sensory journey and offering a coherent concert programme. This theme was teeming with references to sound, painting and poetry, and the scope for pedagogical and musical application is broad. Music became matter, movement, mass, melody and rhythm.<sup>3</sup> Almost by chance, the fundamentals of musical pedagogy are to be found in the very essence of this work.

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<sup>3</sup> <https://www.auditorium-lyon.com/fr/chantiers-creation-musicale-0#section45051>

### ***Concert Programme***

The concert was divided into three parts lasting around twenty minutes, each featuring one of the three schools involved in the project.<sup>4</sup>

- *Robert-Doisneau* school
  - *Ode à l'air* [Ode to air] (based on extracts from Pablo Neruda's *Anthologie de poèmes sur la Nature* [Anthology of poems about Nature])
  - *Éléments* [Elements]
  - *Marine* (based on a poem by Paul Verlaine)
- *Les Fougères* school
  - *Glaciers* [Glaciers]
  - *Volcan* [Volcano]
  - *Kacheha Jatasa* (earth dance)
- *Claudian Tables* School
  - *On vous dit* [We tell you] (based on a poem by Jean-Luc Moreau)
  - *Plic Ploc Blou and Haïkus* (based on children's creations)
  - *Embrasement* [Flashover]

## **Integration of Teaching Principles**

### ***Pedagogy or the Need for Understanding***

In *Les Chantiers de la création musicale*, it was the children who generated the ideas. I was the recipient of their musical impulses, not the instigator. My role was to direct the various artistic, human and technical components, combining them and placing them in a temporal and musical continuum. In order to render these gestures and musical intentions as effectively as possible, I created a visual rendering of their materials, in order to 'direct' their initial material in form and time, and allow a direct link with the musicians, who were being led by a conductor. This visual reproduction in the form of a graphic score for the teaching team also served as a direct support for the children, enabling us to establish direct contact through this medium.

The compositional foundations of this work were laid by all these materials derived from the voice, the body, rhythm and the instrumentarium, to use Carl Orff's fundamentals. It was necessary to combine the basic concepts of musical education for children with technical work in the field of computer-aided design to provide working recordings, and

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<sup>4</sup> The complete show can be viewed here: <https://www.youtube.com/watch?v=mEeZ-W-kBHo>

finally to develop a sound-visual language so that the different representations of the musical gesture between teachers, children and musicians could be harmonised on stage. It is through projects like this that we find ourselves implicitly confronted with the principles of active pedagogy. As Carl Orff once said, "Every human being has an innate creative capacity. My aim has always been to detect and reveal the creator that lies dormant in each of us".<sup>5</sup>

### *Active teaching: a catalyst for ideas?*

Observe, imitate, experiment, create. These are all key Carl Orff pedagogical terms that are essential in the field of musical creation. Here, the child has been guided in an artistic creation and has spontaneously created rhythmic, noisy (invented language, onomatopoeia), improvised, melodic, corporal and vocal material. Rhythm, used as a link between music, language and movement. The voice as language (shouting, onomatopoeia, singing, etc). The body through dance and body percussion (Carl Orff described it as "the first elementary instrument"). Rhythm, which links movement, language and music, and lastly the instrumentarium, which is important but not essential, comprising instruments of various origins (in this case they were partly created by the children). Carl Orff also advocated the concept of interdisciplinarity and the importance of encouraging children to improvise and create.

In the essence of the project, we also find pedagogical elements dear to Jacques-Dalcroze, who was close to Carl Orff both temporally and geographically and in terms of his method. The link between bodily movement and musical movement is very strong. We find a number of criteria derived from his pedagogy, such as rhythm, improvisation, music theory (not present in the project, although it is touched on visually), and the consideration of music from the point of view of expression rather than theory, which is one of the very principles of the project. As Jacques-Dalcroze himself put it: "To learn to be a musician is to learn to know oneself, for music is the art of expression, and the basis of musical studies is first to feel, then to express."<sup>6</sup>

## **Participative Composition: Collecting Sound Material from Schools**

### *A Collaborative Vision of Composition*

The project puts children at the center of the composition process. So it was essential that I wasn't alone in coming up with the musical ideas. I had to find a way of gathering compositional material directly from the children's creativity. In the context of creation, which was new to me, I had to find a way of making the teaching staff aware of how to stimulate the children's creative imagination and channel it towards the chosen theme.

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<sup>5</sup> Extract from the documentary film: "Carl ORFF" by Tony Palmer, 1997.

<sup>6</sup> Jacques-Dalcroze, Emile, "Letter to rythmists", Rhythm n°100, 2009, 23.

Very quickly, on my first visit to the classes, I discovered a world and a field of creative exploration unique to each class and each team of teachers. I was reassured by the fact that each *musicien intervenant* involved was undoubtedly leaving his or her cultural and musical mark on each school. For example, Mathieu Charles, an outstanding *musicien intervenant* and violinist at the *Tables Claudiennes* school, had a very dynamic personality and knew how to lead his class groups with great precision and imagination. The weekly warm-up in his work with the children consisted of putting them in a dance situation: a precise choreography of movements to a musical accompaniment of percussion. It was very dynamic and innovative for me. Knowing that I wouldn't have my week's training in February, it was essential that I use all the musical, rhythmic and scenic elements that were already working in my music. So I naturally included in the piece a choreographic part in which Mathieu would direct a plastic bottle percussion part (see video)<sup>7</sup>. Another example: Clémence Oppin, a *musicienne intervenante* at the *Fougères* school, had a rather atypical profile. She played the hurdy-gurdy and the guitar, and all her communication was based on rhythmic singing. The children didn't have a moment's rest and were engaged in musical practice the whole time. She succeeded in creating a dynamic atmosphere in her classes with the children from *Les Fougères* (who come from disadvantaged backgrounds) that I admired, and her involvement in the project was a driving force for me (see video)<sup>8</sup>. What's more, the collaboration with the two teachers was a great success, making my time with them very exhilarating. The shape of the show naturally took on the colour of the musical impregnation of the team and everyone involved: music of a 'Celtic' character at times, close to comedy, modal at times with the drone of a hurdy-gurdy, the presence of a Hakka and body percussion. All the material came from what I'd seen in class, which was a great source of inspiration. We even added a flute and percussion part to the instrumentarium so that the two teachers could also take part in the show with the children. It was a great success. Note that this is not possible with schools where the teaching team decides not to get involved in the project. The *Doisneau* school did apply for the project, but the teachers were less comfortable with artistic expression and creation.

So the idea was to use the strengths of the classes and their specificities, rather than coaching the three teaching teams, with the aim of balancing the show rather than imposing ideas. So I developed creative coaching strategies that could be applied remotely.

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<sup>7</sup> <https://youtu.be/Ksnt5riNZWY>

<sup>8</sup> <https://youtu.be/b1VncRGO4NE>

| SOME MUSICAL MECHANISM                                                                                                                                                              |                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>RY:</b>                                                                                                                                                                          | Creation of a sequence of body percussions<br>(a rhythmic sequence identified and reproducible)                               |
| <b>RY:</b>                                                                                                                                                                          | Creation of a vocal rhythm sequence on onomatopoeias                                                                          |
| <b>BR:</b>                                                                                                                                                                          | Collective of individual <b>noise</b> (with objects)                                                                          |
| <b>MEL:</b>                                                                                                                                                                         | Creation of a <b>melodic</b> (def: short melody) / <b>pattern</b> , on a given <b>text</b><br>or created/invented             |
| <b>MEL:</b>                                                                                                                                                                         | Création d'un <b>motif mélodique</b> avec <b>onomatopées</b> /<br>Creating a <b>melodic pattern</b> with <b>onomatopoeias</b> |
| <b>MEL:</b>                                                                                                                                                                         | Création d'und <b>motif mélodique bouche fermée</b> /<br>Creating a <b>closed-mouth melodic pattern</b>                       |
| <b>HA:</b>                                                                                                                                                                          | Vocal polyphony (creation of harmonic vocal parts (with several voices),<br>consonant or dissonant). On onomatopoeias         |
| <b>EC:</b>                                                                                                                                                                          | Creation / writing of a text / poem / support of text                                                                         |
| <b>MEL:</b>                                                                                                                                                                         | Monodic vocal element (e.g. a class unison on a verse from a poem<br>or collective writing)                                   |
| <b>MEL and Ry:</b>                                                                                                                                                                  | Rhythmic and spoken declamation of a text. (ex: Slam)                                                                         |
| <b>Legend:</b><br><b>RY:</b> element / rhythmic presence<br><b>HA:</b> element / harmonic presence<br><b>MEL:</b> melodic element<br><b>BR:</b> noise element<br><b>EC:</b> writing |                                                                                                                               |

Fig. 1: Tools-management of the communication

### *The Role of Teachers and Musiciens Intervenants*

I used the lively resources of each school and the personalities of the musicians involved to ensure that the project was consistent with the world of musical practices experienced in class by the pupils with their teachers. I also wanted to raise teachers' awareness of the language of music and show that everything is music, by exploring the field of traditional dance, for example. From France and other parts of Europe, it allowed us to work on modal music, based on raw notes. I also created visual aids to pass on the musical pieces to teachers, who used them to support their classes. It's also worth noting that there were several teachers for the same audience. We didn't all have the same objectives, knowledge or challenges. Each teacher had his or her own pace in the classroom and the concerns will remain. The communication tools were email and social networks.

The teacher is the one who sees the children on a daily basis. They must be totally involved. However, as they are often non-musicians, they do not feel they have permission to express their ideas or musical thinking, not believing in their relevance and legitimacy. So the composer's job was to give the teachers confidence and encourage them, because

it was through their eyes that the children got to know my creative world. They were the daily link, the intermediary between the children and myself.

My objective was to ensure the musical success of the show and its musicality. For their part, the lecturers wanted to make musical discoveries, and the teachers wanted to involve their children in a new project and introduce them to the world of the stage and the symphony orchestra. They also had a more pedagogical approach. Some, for example, had the idea of getting children to write a Haïku, in line with the cross-curricular skills set out in the French national education programme. To succeed in a project of this scale, you need to be a creator. It is also essential that everyone involved has confidence in all the ideas produced. Everything is music, from the moment the gesture is produced, when the rhythmic, musical or sound idea is thought out in a form and a unity in a form. It was on the basis of this conviction that I decided to shape the form from the multi-artistic material provided by the children and their primary teachers. I was able to discover that the children were creative beyond my thinking and that in contact with curious and imaginative teachers, even non-musicians, everything made sense.

### *A Basic Material Created by Children*

The first part of the programme was created in collaboration with the *Robert Doisneau* school, on the themes of air and water. As the teaching staff were less committed than those at the other two schools, I was the instigator of almost all the creative elements, as I had little or nothing that could be used musically. The pieces *Ode à l'air* and *Marine* were composed from existing poems, while *Éléments* was inspired by my work on noise and movement (see video)<sup>9</sup>.

The second part of the programme, featuring the themes of water and earth, was created with *Les Fougères* school. The children wrote the texts for the three pieces. They helped to create the melody for *Glaciers* and choreographed *Kachega Jatasa*. For the latter piece, the children chose to draw their inspiration from the hakka.

The third part was created with the children and staff of the *Tables-Claudiennes* school and is inspired by the elements of water and fire. *On vous dit* is the only play whose text is not entirely the creation of the children from this school. They created some of the haikus in *Plic Ploc Blou*. *Embrasement* is the most complex piece: it brings together all the creative concepts of the project: use of the voice as an instrument, declaimed voice, sung and harmonised motifs, choreography and noise. It's a journey of textures in which all the musical functions are explored (see video)<sup>10</sup>.

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<sup>9</sup> <https://youtu.be/b1VncRGO4NE>

<sup>10</sup> <https://youtu.be/Ksnt5riNZWY>

## Diversity of the *Base Material* Collected

The quality and variety of the material collected was intrinsically linked to the direction given by the primary teachers who guided the creation of the musical and extra-musical material. The teachers at the *Tables-Claudiennes* school were a great source of creative ideas, so they provided me with a huge amount of material, gestures and avenues of sound exploration. This involvement and curiosity can be felt in the complexity of the composition and the quality of the result.

### *Voice Material*

For most of the pieces I collected vocal material. These were improvisations, essays, noises, melodies, or any number of other ideas that would serve as support, inspiration or form. This enabled the children to become 'composers' by directly using their artistic impulses and working around these.

### *Melodic Material*

The children at *Les Fougères* school decided on the melody and character they would give to the text they had written for the play *Glaciers*.

$\text{♩} = 80$  CM1

Des gla - ciers, cou - lent de l'eau Dans le ruis-seau l'eau est dou - ce  
Le ruis - seau transpor - te de l'eau L'eau pur' c'est de la tex - tu - re  
On ap - pelle no - tre ri - vièr' "Saône" Et no - tre fleu - ve c'est le Rhône  
La Saône vient se j'ter dans le Rhône Ils sont tous les deux con - flu - ents  
La mer fait par - tie de la Terre L'eau fait des va - gues dans la mer  
Les va - gues font bou - ger l'ba - teau Le cou - rant fait tan - guer l'ba - teau  
Dans la mer sa - lée l'eau est chaud' On va na - ger dans cett'eau bleue

3  
Dans la ri - vièr' vient se je - ter le ruis - seau Le tu - ya gla - cé en - voie de l'eau dans le ro - bi - net chaud

Fig. 2: Melody score of *Glaciers*

### *Rhythmic Material*

For *Glaciers*, *Volcan*, *Kachega Jatasa*, the children essentially worked on rhythmic figures. This was also the case for *Embrasement*, for which the teacher worked with the children to set the rhythms of the declamations with the help of his guitar.

### **Formal Material**

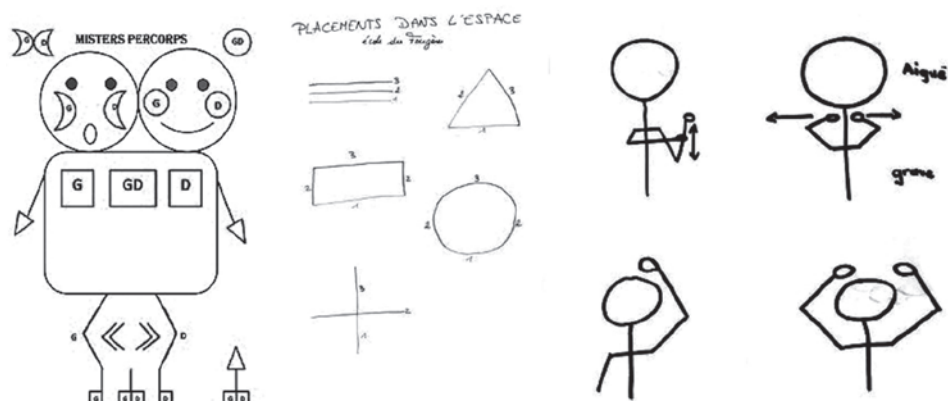
Children from the *Fougères* school chose to work on the shape of a canon for the music piece *Volcan*.

### **Noise Material**

Under the guidance of Lionel, their teacher, the children at *Tables Claudiennes* experimented with sound and voice in the form of declamations, vocal improvisations and experiments.

### **Gestural Material**

In *Kachega Jatasa*, a piece inspired by hakka, we see that physical gesture is part of the very essence of the work in this school. We see the imprint of the culture and practices of the musician involved. The use of the body is the starting point for the compositional work. The rhythmic pattern resulting from this physical research has given rise to a very precise language for Hakka.



**Fig. 3:** Creating the Hakka gesture with the children

Another gestural texture was used in *Glaciers*: body percussion. The rhythm of the chorus is isolated and used as rhythmic material for the body percussion played by the children.

## LES GLACIERS

Des glaciers coulent de l'eau  
*Glaciers flow water*

Le courant fait tanguer le bateau  
*The current rocks the boat*

La rivière vient se jeter dans le ruisseau  
*The river comes to throw itself into the stream,*

Le tuyau glacé envoie de l'eau dans le robinet chaud  
*The icy pipe sends water into the hot tap.*

La la la la  
*La la la la*

Le ruisseau transporte de l'eau  
*The stream carries water*

Dans le ruisseau l'eau est douce  
*In the stream the water is fresh*

On appelle notre rivière Saône  
*We call our river Saône*

Et notre fleuve c'est le Rhône  
*And our river is the Rhône*

De l'eau  
*Water*

### chorus in body percussion

|         |       |         |       |   |   |   |
|---------|-------|---------|-------|---|---|---|
| L R     | L R   | L R     | l r   | Δ | Δ |   |
| L R     | L R   | l < r   | l < r | Δ | Δ |   |
| l r l r |       | l r l r |       | Δ | Δ | Δ |
| l < r   | l < r | l < r   | l < r | Δ | Δ | Δ |

**Fig. 4:** Work on body percussion in Les Glaciers

### *Textual material*

For many of the plays, the children and teachers have chosen to write their own texts. This is particularly true of *Volcan*, *Glaciers*, *Plic Ploc Blue* and *Embrasement*.

Volcano

|                                              |                                         |
|----------------------------------------------|-----------------------------------------|
| Volcan                                       | Volcano                                 |
| On va allumer un Volcan                      | We're gonna light up a Volcano          |
| Soudain, je me rappelle d'un Glacier violent | Suddenly I remember a violent Glacier   |
| Je suis calme tout en chauffant              | I'm calm while heating up               |
| Le feu de la cheminée est réconfortant       | The fire in the fireplace is comforting |

Fire

For this play, rather than working on the creation of a text, they chose to research and experiment with the lexical field of fire.

| Les mots du feu, le feu de mots... crescendo / decrescendo |                                          |                                          |                              |
|------------------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------|
| la naissance du feu                                        | le feu fragile, qui rassemble et réjouit | le feu incontrôlable, déchaîné, ravageur | la mort du feu, l'extinction |
| combustion                                                 |                                          | déchaîné                                 |                              |
| étincelle                                                  | ardent                                   | incandescent                             | calciné                      |
|                                                            | attiser                                  |                                          |                              |
| crépitement                                                | foyer                                    | brasier                                  | fumée                        |
|                                                            | flamme                                   | flamboyant                               | cendre                       |
| flammèche                                                  | enflammer                                | dévorer                                  | braises                      |
| chaleur                                                    | embrasement                              | fournaise                                | consumer                     |

Fig. 5: Work on the lexical field of fire

| The birth of fire                        | The fragile fire that gathers and delights        | The uncontrollable, unleashed, devastating fire                      | The death of fire                              |
|------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------|
| Combustion<br>Crackling<br>Spark<br>Heat | Combustion<br>Spark<br>Crackling<br>Flame<br>Heat | Unleashed<br>Incandescent<br>Inferno blazing<br>Devouring<br>Furnace | Charred<br>Smoke<br>Ashes<br>Embers<br>Consume |

Fig. 6: Translation of the lexical field of fire

## Transforming the Collected Material: The Composer's Work

Everyone involved in the project has to be creative/ has to be a creator. Because every sound, every note, set in motion becomes music; every piece of sound information, is imagined as a function in the instrumentarium. When I say musical function, I'm thinking of the harmonic function, the rhythmic function, the resonance function, the attack function, the bass function, the melodic function, or even the melodic commentary function, all of which can form part of an ensemble if the function is determined and organised over time.

So, having collected the material from the children's research, it's time to put it in place in time, process it and orchestrate it. It's a question of organising the language, the elements and the musical ingredients. So I put the collected material to work, developing it in the temporality of the different pieces before arranging them.

### *Structure*

The creation of a form from external material had several imperatives: to create a musical form that could express the artistic and creative desires of all the teachers involved in the project, to bear in mind the children's ability to memorise by working as little as possible on the *pure* material, and to fix the structure of the piece definitively.

A first example of musical structuring based on a musical idea is the use of *hooks*. The hook can be either instrumental or vocal, and the process of repetition makes it easier to listen to and learn the piece, thanks to its short, recognisable nature. In the case of the poem *Marine*, this use of the *hook* will enable the poem to be adapted into a song, but also to play on its short temporality and adapt it to instrumental performance.

A second piece, based on an existing poem, dealt with the same issue of duration/ temporality. This time it was a song/rondo form and dialogues between instrumentalists and children that marked out the piece. Using these structure charts, I captured their concentration and made them aware of the musical structure while they were singing: they respected the expectations, the silences and the instrumental interludes. The children's improvisations and declamations were worked on and preferred to the *hook*, because it was created by the children.

## WE TELL YOU

### Instrumental INTRODUCTION

(see next sessions + Children's gestures + Atmosphere of sound around air ? )

#### Bridge - Ritornello (instrumental)

A - You are told, you are told, that you must take to the air  
take to the air without looking like it

They tel you, they tell you, you've got to get some air  
take to the air without looking like it

#### Bridge - Ritornello (instrumental)

*B - You're told to get some air  
you have to take it and leave it  
take the air without looking like it  
take the air disinterested*

2x

#### Bridge - Ritornello (instrumental)

C - Look merciful like ader  
without letting yourself be influenced  
except by the currents of air  
which you can take or leave \_\_\_\_.

#### Bridge - Ritornello (instrumental)

They tell you, they tell you, that you must take the air  
take the air without looking like it

B - To create, to declaim ? Great crescendo ? Sing and speak?

*You're told to take to the air  
you have to take it and leave it  
take the air without looking like it  
take the air disinterested*

6x

#### Bridge - Ritornello (instrumental)

C - Look merciful like ader  
without letting yourself be influenced  
except by the currents of air  
which you can take or leave \_\_\_\_.

#### Coda - Ritornello (instrumental) - End

Fig. 7: Working on the structure of the poem

The canon is a form used in *Plic ploc blou* and *Volcan*. The independence of the voices is made possible by the use of the canon form, which allows polyphony through impregnation and repetition. The music is based on haikus chosen by the children.

| <b>PLIC PLOC BLOU</b><br>School of Tables Claudiennes – Lionel Fournier's Class<br>Structure - Form |                                                                  |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| A                                                                                                   | Canon<br>Lou loulou blou<br>Plic<br>Ploc lolo Ploc               |
| B                                                                                                   | Haïkus of Water<br>recitations                                   |
| A'                                                                                                  | Return of the Canon<br>Lou loulou blou<br>Plic<br>Ploc lolo Ploc |
| Coda                                                                                                | Rain – Sound effects games. Bruism                               |

Fig. 8: Form of Plic Ploc Blou

| <b>PLIC PLOC BLOU</b><br>PAK, LES ÉLÈVES DE LIONEL TABLES CLAUDIENNES<br>PARTITION VISUELE |                                                                                                                                             |                                                                                        |                                                        |
|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------|
| TC<br>audio                                                                                | VOIX 1                                                                                                                                      | VOIX 2                                                                                 | VOIX 3                                                 |
| 0<br>à<br>0'18                                                                             | INTRODUCTION INSTRUMENTALE                                                                                                                  |                                                                                        |                                                        |
| 0'18<br>à<br>0'37                                                                          | <i>Plic - loulou - blou</i><br><i>Ploc louloulou Ploc _ou_ (2x)</i><br><i>Ploc ou... Ploc ou...</i><br><i>Ploc louloulou Ploc _ou_ (2x)</i> |                                                                                        |                                                        |
| 0'37<br>à<br>0'56                                                                          | <i>Plic - loulou - blou</i><br><i>Ploc louloulou Ploc _ou_ (2x)</i><br><i>Ploc ou... Ploc ou...</i><br><i>Ploc louloulou Ploc _ou_ (2x)</i> | <i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i> |                                                        |
| 0'56<br>à<br>1'15                                                                          | <i>Plic - loulou - blou</i><br><i>Ploc louloulou Ploc _ou_ (2x)</i><br><i>Ploc ou... Ploc ou...</i><br><i>Ploc louloulou Ploc _ou_ (2x)</i> | <i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i> | <i>La la la la</i><br><i>laaaaa etc.</i>               |
| 1'15<br>à<br>1'34                                                                          | PONT instrumental + <u>Entrée pluie</u>                                                                                                     |                                                                                        |                                                        |
| 1'34                                                                                       | HAÏKUS                                                                                                                                      |                                                                                        |                                                        |
| 1'34                                                                                       | Dans le vieux étang Une grenouille saute<br>Un ploc dans l'eau !                                                                            |                                                                                        |                                                        |
| 1'46                                                                                       |                                                                                                                                             | Le ciel pleure enfin Ses grosses<br>larmes d'orage Etait et vent fou                   |                                                        |
| 2'01                                                                                       |                                                                                                                                             |                                                                                        | Sous la pluie Raccourcissent<br>Les pattes du lézard   |
| 2'13                                                                                       | Sous l'averse, il a la goutte au nez<br>L'épouvantail                                                                                       |                                                                                        |                                                        |
| 2'23                                                                                       |                                                                                                                                             | Rivière en crue, Un champ de blé<br>succombe, Et se laisse inonder                     |                                                        |
| 2'37                                                                                       |                                                                                                                                             |                                                                                        | Dans mon bol de fer, En guise<br>d'aumône, La grêle.   |
| 2'48                                                                                       | Viens avec moi au coin du feu<br>Ici tu n'auras pas froid !<br>Echomme de Neige                                                             |                                                                                        |                                                        |
| 2'55                                                                                       |                                                                                                                                             | Mes larmes grésillent<br>En désignant<br>Les braises                                   |                                                        |
| 3'07                                                                                       |                                                                                                                                             |                                                                                        | Toute la journée<br>Sans un mot<br>Le bruit des vagues |
| 3'19                                                                                       | Un dernier souffle de vent<br>Fède la surface<br>Tousami !                                                                                  |                                                                                        |                                                        |
| 3'34                                                                                       | PONT sur accompagnement de Plic ploc blou                                                                                                   |                                                                                        |                                                        |
| 3'38                                                                                       |                                                                                                                                             | <i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i> |                                                        |
| 3'58                                                                                       |                                                                                                                                             | <i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i><br><i>Plic Plic Plic etc.</i> | <i>La la la la</i><br><i>laaaaa etc.</i>               |

Fig. 9: Graphical partition of Plic Ploc Blou

The challenge for *Embrasement* was to create a coherent framework around the children's audio *rushes*. Here, repetitive music was used to create a long piece thanks to the structure of the visual score. From an artistic point of view, the idea was to illustrate the life of fire through repetition and dynamic declamation. The form was therefore essential, both narratively and in terms of setting the scene.

At the end of the year, a few days before the concert, I received an audio track with a recording of Haikus, which gave rise to syllabic work. Although they were chosen by the children and their teacher, they did not write them all.

### ***Sound Processing and Material***

During the compositional process, gesture and pure sound were worked on directly as material. The gestures they generated enabled the music to be transmitted in both directions. The children sang and spoke, and I recorded their musical gestures. This gesture was then reworked according to its nature and function, in a temporal unit that was transformed into a musical form. The instrumental gestures were created from the gestures of the basic materials. The reworked, assembled gestures were then transmitted via a visual score so that they could be retransmitted by the children's gestures. This treatment was obviously adapted to the nature of the material provided, as can be seen from the following examples:

In the piece *Marine*, the choice was made to work from a group of syllables taken from the poem of the same name. The syllables *Ge, clair, nerre*, the words *orage, éclair* or *thunder*, for example, are repeated to create a percussive, rhythmic presence and create the power needed to represent a storm. The challenge was also to create functional layers and orchestration to give depth to the musical message.

In *Kachega Jatasa*, a piece inspired by hakka, the music itself was created around the choreographic gesture.

The composition for *Glaciers* was quite unusual in that the teachers and support staff were also musicians: Marion played the Bohdran, Nicolas the flute and Clémence the Hurdy gurdy. This inevitably influenced the musical style of all the pieces. So I ventured into modality and dance (*Kachega Jatasa*).

In *Embrasement*, the sampling technique was used extensively. As the material collected was essentially audio, I allowed my music to coexist with the samples collected. This also made it possible to create a model, which was essential for keeping the children's concentration on the eight minutes or so of music. This piece of music is almost a tribute to the diversity and plurality of ideas. When we look at the narrative trajectory, we see an arched shape, as if following the life cycle of fire. Thanks to the teacher's scenographic work, the play was able to become visual.

### *Sampling*

By using the sampling technique, we could associate certain pieces with the style of repetitive music. The idea was to create repetitive audio loops to facilitate improvisation in particular and to mark out the temporal continuum. The children's voices and noises were used as the basic material for the compositional work, which was deployed directly around the material, which itself could be modified in real time. Some of the pieces, such as *Plic ploc blue* and *Embrasement*, would never have been written without this computer tool.

This piece involved a lot of work on vocality. It was interesting to work on the nature of the letters/sounds, strong syllables, percussive consonants. Using the children's audio rushes, I worked on using the rough character of certain letters to imitate the life of fire through intonation and the procession of words. The musical intention was to create a sense of unease, to represent the harshness and danger of fire. A lot of work was done on the rushes: time stretch/filters, equalisation, pitch of the voices, then repetition of the cells and creation of an identifiable melody that could be used in our harmonic universe.

In addition to the almost organic aspect of the treatment of words and sounds, I had to create the life of fire and dynamic declamation through repetition, so form was essential in the compositional process. The challenge was also to compose musical transitions between the rushes, but also to give them a coherent framework. Thanks to information technology, and in particular the sampling technique, I was able to create a long piece which was then played back to the children using a visual score. Without the mock-ups and audio recordings, this would not have been possible.

At the *Tables Claudiennes* school, one of the teachers, Lionel, was very creative. When I was preparing this concert, I realised just how much material, gestures and sound exploration he had provided me with. At the end of the year, just before the concert, I received an audio track with a recording of haikus. I worked very quickly on this new vocal material. I kept the recording of the haikus intact and added music between the haikus to reinforce the children's vocal intentions. As I didn't have any more rehearsals, there was no question of making them rehearse or changing anything – the music had to adapt to them. I used the musical narrative resources of figuralism and descriptive music to create short musical scenes and follow the form of the poems. This strengthened the children's interpretation, gave them confidence and made for an efficient set-up. Time being the most difficult to manage, and not knowing how fast the children would read and perform during the concert, we had to create a flexible score so that we could be ready to speed up and slow down if necessary, so that the musicians would be ready to intervene. It's a kind of formal and scenic counterpoint where the music intervenes, introduces, describes and punctuates each Haïkus. We find the spirit of contemporary music in this piece made up of independent musical islands. It worked very well.

In the same spirit as the two previous pieces, I worked directly on rushes, this time on textual improvisations.

*Creating an Instrument*

For the *Doisneau* school programme, I developed a bouteillophone, using glass bottles in which I established correspondences between their ‘pitches’ and the notes to which they corresponded, so that the class could reproduce them accurately. I then sampled this instrument to create loops.

**Bouteillophone**

|  | Note          | La ♯  | Si      | Do ♯   | Ré ♯ | Mi   |
|-----------------------------------------------------------------------------------|---------------|-------|---------|--------|------|------|
|                                                                                   | Hauteur d'eau | 14 cm | 11,5 cm | 9,5 cm | 7 cm | 5 cm |

|  | Note          | Ré ♯  | Mi    | Fa ♯    | Sol ♯ | La   | Si   | Do ♯ | Ré ♯ |
|-----------------------------------------------------------------------------------|---------------|-------|-------|---------|-------|------|------|------|------|
|                                                                                   | Hauteur d'eau | Plein | 17 cm | 11,5 cm | 10 cm | 8 cm | 7 cm | 6 cm | vide |

Fig. 10: The Bottlephone

**Restitution and Transmission of the Musical Work**

*Transcription from Audio to Visual*

In order to convey my musical intentions (sound events, nuances, etc.), I decided to create graphic scores, or formal/cultural scores. This process made it possible to adapt the content and presentation of the visual aids to the needs of the various participants. For example, at the *Doisneau school*, one of the teachers could read sheet music – she needed to read and organise from the score. So I adapted my material to her needs.

**Marine**  
Un poème de Paul Verlaine

**M** **MARINE**  
*Chuchoter, à peine perceptible*

81 **L**  $\text{♩} = 90$  Calme, paisible

*mf* *f*

Gout-te Gout-te Gout-te Gout-te Gout-te Gout-te

*f*

Gout-te Gout-te Gout-te Gout-te Gout-te Gout-te

**L**  $\text{♩} = 90$  Calme, paisible **M**

87 *mf* *f*

Gout-te Gout-te Gout-te Gout-te Gout-te Gout-te

Gout-te Gout-te Gout-te Gout-te Gout-te Gout-te

92 **N** *mf*

L'O-cé-an so-nore Pal-pi-te sou-dain

Gout-te Gout-te Gout-te Gout-te L'O-cé-an so-nore Pal-pi-te sou-dain v.s.

Fig. 11: Graphical partition of Marine

A great deal of sound painting was done for the *Marine* piece. A notation was even created to transcribe the sound effects graphically. The sound (concrete sound) must exist in time and be interpreted like any other musical note.

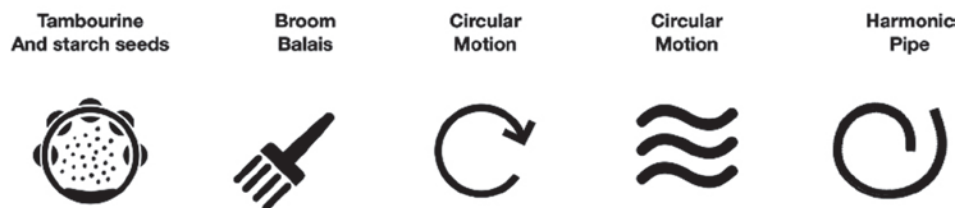


Fig. 12: Visual codification for the score

*Volcan* is a very instrumental song, and a very long one at that. The only way to memorise such a structure was to create a visual score. Numerous elements had to be combined and organised, and the children were mobilised to sing, dance and tap on plastic tubes.

Fig. 13: Graphical partition of Volcan

### Creating an audio-visual score

To enable the children to rehearse the pieces, it was necessary to create graphic scores consisting of a schematic representation of each voice in rhythm with the text. This document, combined with the audio model created, constituted the working document for the teachers.

**1- LA LANGUE DU FEU - EMBRASEMENT**  
PAR LES ÉLÈVES DE CM1 ET CM2 DE L'ÉCOLE DES TABLES CLAUDIENNES

**PARTITION VISUELE**

| TC audio | Repères Partie                                                                                                      | Elèves de la Classe de Lionel                                                                                         | Elèves de la Classe de Raphaël                                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0'00     | Naissance du feu<br>A et B<br>     | <u>Fla_mèch'</u><br><u>crépiti'ments</u>                                                                              | Des bigaros roulent au sol<br>2, 3 élèves face à face ?                                                                                                            |
| 0'20     | Mysterioso<br>Contrepont des mots                                                                                   | Combustion, étincelle<br>chaleur<br> | Jeux de Claps<br> <b>mp</b>                                                       |
| 1'10     | C<br>Le feu qui rassemble et réjouit                                                                                | <b>CHALEUR <i>!mp</i></b>                                                                                             | Crépitements <u>papillottes /</u><br><u>feuilles d'aluminium</u><br><b>pp</b>                                                                                      |
| 1'33     | D<br>Instrumental<br>Thème/ mélodie Etincelle                                                                       |                                                                                                                       |                                                                                                                                                                    |
| 1'59     | E<br>Le feu chaleureux et fragile                                                                                   | Mélodie à 2 voix<br>Etincelle / combustion                                                                            | Crépitements <u>papillottes.</u><br><b>mf</b>                                                                                                                      |
| 2'56     | Instrumental                                                                                                        |                                                                                                                       |                                                                                                                                                                    |
| 3'12     | F<br>Une chaleur envoûtante                                                                                         | Bouche fermée<br>Combustion<br>chant à 2 voix<br><b>Voix 1</b>                                                        | Bouche fermée<br>Combustion<br>chant à 2 voix<br><b>Voix 2</b>                                                                                                     |
| 4'05     | Embrasement<br>G<br>Energico<br> | Chutte de bigaros ?                                                                                                   | Bouteilles et baguettes<br>Chorégraphie travaillée avec<br>Charles<br> <b>f</b> |
| 4'31     | H et I<br>Une étincelle ravive les<br>flammes<br>Con fuoco                                                          |                                                                                                                       | Rythme bouteilles<br>cuisses et baguettes<br> <b>f</b>                          |
| 4'55     | J<br>Pont instrumental                                                                                              |                                                                                                                       |                                                                                                                                                                    |
| 5'04     | K<br>Le feu incontrôlable<br>(début rock du feu)                                                                    | Instrumental                                                                                                          | Instrumental                                                                                                                                                       |
| 5'18     | L                                                                                                                   | 3 groupes : mots déclamés<br>1- Incandescent<br>2- Déchainés<br>3- « ouhouh »                                         |  corporels +<br><u>cris</u><br>mains sur cuisses et jeux de <u>souffles</u>     |
| 5'32     | M                                                                                                                   | 1- Dévorés<br>2- Calcinés<br><u>3- « ouhouh »</u>                                                                     |  corpo et<br><u>cris</u> <b>f</b>                                               |
| 5'43     |                                                                                                                     | Mélodie et chant sur « ouh »                                                                                          |  Corpo et<br><u>cris</u>                                                        |

Fig. 14: Schematic structure of Embrasement

For the play *Kachega Jatasa*, visual scores on cardboard were produced: by displaying the body scores, the performer involved them in the reading and mobilised their concentration. The children were directly involved.

## Conclusion

In my job as a composer and in my day-to-day work, my musical practice depends on an image, the rhythm of a scene and a cinematography, which guide my writing and dictate my vision of musical form. In the case of the *Chantiers de la création*, I had to wait for the raw material produced by the children before creating and developing an imposed musical environment.

For me, a composer used to composing alone in my studio, or working with adults, this was an unexpected situation! I had to move towards more hybrid forms and genres, I was able to explore and extend my practice around new forms and styles. As a stylistic walkabout, I used complex, free, motivic and rhapsodic forms, as well as simpler ones similar to chanson, canon, French melody and so on. I have used more complex structural mechanisms borrowing from repetitive music, the symphonic poem and thematic music. This pushed me to go beyond myself, to explore, to undertake new forms of movement, colour and rhythm that I would never have been able to achieve in my personal practice. Performing for children is a genre in itself.

I discovered that a non-reading children's choir could assimilate and find their way through complex musical forms lasting more than 9 minutes, without verses or choruses (*Embrassement*). He can sing a theme in the right key, after many modulations and without having to repeat the A (end of *Marine*). For me, this was unattainable and yet ... what a success!

To my knowledge, the task of taking them on stage and creating a show was not subject to evaluation, which is why it was essential that it be a collective pleasure at every moment and that desire be the driving force behind their concentration and determination to go all the way.

To create a total show around a theme, with just 5 musicians on stage playing acoustically, for unread children whose leader's gestures on stage would never be able to replace the impact and force of a drum beat pounding out the pulse. But it was possible, and it literally changed my vision of musical energy and form.

Vít Novotný & Teryl L. Dobbs

## Fostering Children's Creativity and Artistic Freedom through the *Terezín Relay Project*

The Latin quote, "*Verba movent, exempla trahunt*" (words move, examples compel), aptly describes the inspiration that today's students may draw from the artistic endeavours of writer Petr Ginz and poet Hanuš Hachenburg, two teenagers imprisoned in the Terezín ghetto and then murdered in Auschwitz during the Holocaust. During their incarceration, both Petr and Hanuš demonstrated that creativity and artistic freedom can thrive in the worst of circumstances. It is against this backdrop that the Terezín Relay project, launched at the Prague Nature School, a small private secondary school, has connected hundreds of Czech students and thousands of Czech audience members to music and theatre through the creative works of two contemporaries lost over 80 years ago.

Written by the Nature School's long-standing music teacher who has been an integral part of the project since its beginning nearly 15 years ago, this paper shares teaching and peer processes unique to the ongoing project. These processes might be unique in a sense, but the paper mentions several approaches and strategies that can be inspiring for other schools and educators as well in terms of music didactics, the methodology of school music education, or the organisation of school life. Through immersive, complex, and hands-on arts projects utilizing music, visual art, theatre and technology, the project fosters students' creativity through peer inspiration, interwoven across time and space, as provided by Terezín's young artists. As a result, Nature School pupils have explored their creative freedoms by creating and recording original music for texts written by Petr Ginz, Hanuš Hachenburg, and other young Terezín poets through composition and songwriting, as well as creating and performing original music theatre scores and plays grounded in the actual experiences of young people imprisoned within Terezín.

## Terezín: A Prison and an Inspiration

Nowadays, the Terezín ghetto is perceived primarily as a place associated with a story of unprecedented human violence and suffering: the Holocaust. In this sense, it is a symbol of what must be avoided, what must be warned against. From a certain point of view, however, the Terezín legacy also offers positive examples that can still be inspiring today. One such perspective is arguably that of the upbringing and education of children and young people in the ghetto (Kasperová, 2011). The specific conditions of youth life in Terezín allowed for the emergence of pedagogical concepts that are not only emotionally powerful and moving in relation to the wider social circumstances, but that are also still relevant today (Tichý, 2014). Let us focus for an example on one in particular: the homes that were established by the Jewish administration of the town for the purpose of educating children. Home 1 was entrusted in 1942 to a twenty-nine-year-old pre-war secondary school teacher, Valter Eisinger, who decided to create a self-managed community out of a motley group of boys. He founded a structured system in which each member of the home had their place, their rights and also their defined duties and shared responsibility for its daily course. In this way, he allowed the fruits of internally free human activity to ripen in the hands of the boys' collective, despite all the external oppression of the time. This must have led to many daily vexations – these were mostly teenage boys, after all – but it also allowed the development of vigorous activity. In this atmosphere, among others, the now world-famous magazine *Vedem* ('We Lead') was created. The magazine's prominent contributors were Petr Ginz and Hanuš Hachenburg.

## The Protagonists of the *Terezín Relay*

Petr and Hanuš, being two of the three most significant driving forces of the present-day project, deserve a brief introduction. Petr Ginz, born in Prague in 1928 into a half-Jewish family and deported to Terezín in 1942, became the initiator and the editor-in-chief of the *Vedem* magazine. His interests included literature, history, philosophy, visual arts, geography, sociology, and subjects in technology. He died in 1944 in Auschwitz directly after his transportation there. Hanuš Hachenburg, born in 1929, excelled primarily as an unusually gifted poet (as exemplified below). He was deported to Terezín in 1942, having spent the previous four years at an orphanage in Prague. His texts, including poems, short stories and a puppet play, appeared in *Vedem* on a regular basis. He was transported to Auschwitz-Birkenau in 1943 and murdered in a gas chamber in 1944.

The third personality deserving special attention is the Czech pedagogue and writer František Tichý, the main force behind the present-day *Terezín Relay Project*. Tichý (born 1969) is the founder and head teacher of the Nature School, a small private secondary

school in Prague (100 pupils in four classes, aged 11 to 19). He excels both as an innovative pedagogue – the Nature School has been shortlisted as one of the most innovative schools of the OECD<sup>1</sup> (*Gymnasium "Přirodní škola"*, 2012) – and a successful writer (one of his novels, *Transport za věčnost* ('Transport Beyond Eternity'), was awarded the most prestigious Czech literary prize, the *Magnesia Litera Award*, in 2018). His efforts to pass the legacy of the Terezín child prisoners on to the present-day generation of students as a writer, playwright, lecturer, song-writer and organiser, have influenced thousands of people across the Czech Republic.

Inspired by the artistic legacy of Terezín youth, and also by the invaluable work of their adult supervisors and educators, František Tichý (together with a team of colleagues, including one of the authors of this article) decided in 2009 to organise a year-long school-wide project that would enable the pupils to take the "Terezín relay baton" from Petr, Hanuš and other young Terezín prisoners. This programme included the staging of the world-famous opera *Brundibár* by Hans Krása; personal meetings with Holocaust survivors; and an extensive mixed-age group-based cross-curricular project. The project followed the life stories of selected personalities (including Ginz and Hachenburg) through their surviving art work, available secondary sources about them, and on-site excursions and role-play activities in situ (Terezín, Auschwitz, etc.). The topic proved to be very motivating and meaningful for the whole school community. As a result other related activities continued to crop up after the end of the original one-year project; and they still do, fourteen years later. Here we shall deal with those outcomes of the *Terezín Relay Project*, as it came to be referred to over time, that are primarily focused on artistic and especially musical activities, and we shall reveal some of their significant methodological and organisational backgrounds.

## Pupils' Songwriting

The poetry of Hanuš Hachenburg, Petr Ginz, and other often anonymous Terezín authors gradually led the teachers and later also pupils of the Nature School to set some of them to music and perform them in *Terezín Relay* concerts. Recordings of these songs were then made into the album *Slova zní zpoza zdí* ('Words from Beyond the Walls'). From a methodological and didactic point of view, it is worth pointing out and exemplifying that the context of real-life stories of people of their age has proved to be a motivating element for today's youth – both on stage and in the audiences. The concept of peer learning, one of the methodological features widely implemented in Terezín (Tichý, 2014), has thus turned out to be viable even here. Indeed, present-day pupils have learned a lot from their eighty years older "peers"; not in terms of knowledge or data transmission, but in matters

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<sup>1</sup> see <https://web-archive.oecd.org/2012-06-14/87608-49749650.pdf>

concerning profound existential questions. To quote one of the pupils actively involved in these activities. "I was left with a nagging question about what one does with the time that one has been given (unlike the boys and girls from Terezín). And I wondered what they would have done with the time we have." (Pražák, 2023)

To exemplify the richness of Hanuš's poetry and the conscious directness of Petr's, let us consider two excerpts from poems that have been set to music by the *Terezín Relay* members: from Hanuš's *Má zem* ('My Country') and from Petr's *Dnes je jasno už všem lidem* ('It's Clear to Everyone').<sup>2</sup> In the former, Hanuš, a Terezín prisoner at the time, dreams of his "land", both distant and close at hand that "is not on this earth/Yet it is within us everywhere." In this meditation, he intuitively touches upon religious or philosophical perspectives akin to those of Buddhism with the "I" or the "Self" disappearing, free from one's "body's encumbrance". The poet, thirteen years old at the time, finishes his half-desperate, half-hopeful confession as follows:

One day I shall fly to the heights above,  
Free from my body's encumbrance,  
Free in expansiveness, free in distance,  
And free with me, my country.

Today it is small. A handful of dreams  
Encloses its distant horizons  
And through the heavy dreams  
Shimmer the furies of war.

One day I shall enter my country,  
I shall rejoin my motherland  
There is my country! There is yours!  
There is no "I" and no misery.

(Hachenburg, as cited in Křížková et al., 2013)

This text was set to music by František Tichý himself: soft verses leading into a melodious and confident chorus with a fitting pianissimo ending that seems to disappear into "the heights above". The song (repeatedly arranged and rearranged over time for sundry vocal and instrumental settings to match the occasion and the children involved) has found its way into many concert programmes of the *Terezín Relay* as well as one of Tichý's plays,

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<sup>2</sup> These songs are available online. *Má zem*: <https://rb.gy/ovybhc>; *Dnes je jasno už všem lidem*: <https://rb.gy/hch3dd>.

*Terezínské zvony* ('The Terezín Bells'). These approaches – teachers (no matter what their expertise is) trying their hands at putting Terezín poems to music; and an open arrangement of the resulting songs that includes instruments a given group of students may play at a given time – have proved motivational to a high degree: since 2009 a number of students have devoted their time to bringing Terezín poetry to a new life through their music.<sup>3</sup>

Let us consider one such example for all, this time based on Petr Ginz's poetry. Petr's verses are usually more down-to-earth but also more topical than Hanuš's. A great proof of this is Petr's text he jotted down into his diary right after the Nuremberg Laws were enacted in Prague in 1941.

Today it's clear to everyone  
Who is a Jew and who's an Aryan,  
Because you'll know Jews near and far  
By their black and yellow star.

And Jews who are so demarcated  
Must live according to the rules dictated:  
Always, after eight o'clock,  
Be at home and click the lock;

Work only labouring with pick or hoe,  
And do not listen to the radio.  
You're not allowed to own a mutt;  
Barbers can't give your hair a cut.

(Ginz, as cited in Křížková et al., 2013)

These lyrics, which go on for much longer and mention tens of the outrageous rules Jews had to obey, have served as a basis for another of the *Terezín Relay* music pieces: keeping in mind the tradition of the genre, full of eloquent complaints about present-day sufferings, it was aptly turned into a hip-hop track by one of the students of the Nature School, David Kubec. Other *Terezín Relay* compositions include classical choral pieces, rock ballads, pop- and folk-influenced songs or children's tunes.

Yet another *modus operandi* has been to look for authentic music pieces that had been played in Terezín during the war and bring them back to life. This part of *Terezín Relay*

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<sup>3</sup> One can consider more of these songs online: Noteworthy compositions include Matyáš Toušek's (18 years old) *Roztání sněhu* ('The Melting of Snow') set to Zdeněk Ornest's poem written in Terezín at the age of 15: <https://rb.gy/fqck8s>; A live recording of a full-night concert featuring many of these songs is available here: <https://shorturl.at/5rnVD>.

research has also brought significant success, especially in relation to the many survivors the *Terezín Relay* team have met. Two songs in particular have brought a nostalgic smile to the faces of Jiří Brady, Toman Brod and other survivors who have become the Terezín Relay supporters and friends: *Terezínská hymna* ('The Terezín Anthem') and *Hymna Republiky Škid* ('The Republic of Shkid')<sup>4</sup> Anthem' were both songs performed on a regular basis in the ghetto as part of the community gatherings there. Some of the survivors heard the songs for the first time after seventy years thanks to the Nature School productions.<sup>5</sup>

## Theatre and Music-Theatre Performances

The activities related to the project also include several theatre performances; quite extensive music-theatre productions lasting around 80 minutes. Rehearsing these exceeds the capacity of a normal 45- or 90-minute school music lesson. What has proved to be a functional, organisational and methodological solution to carry out such projects were week-long multi-class school trips, in which pupils are divided into mixed-age groups based on their interests and engaged in music, drama or filmmaking over longer periods. To enable this, a significant change in the organisation of the school year and the distribution of music lessons was necessary. However, the overall results suggest that this was a worthwhile investment.

Closer attention will be paid to four of the most significant music-theatre projects launched (or to be launched) within the *Terezín Relay*: Hanuš Hachenburg's puppet play *Hledáme strašidlo* ('A Spook Wanted') and three productions written by František Tichý (script) and Vít Novotný (stage music): *Terezínské zvony* ('The Terezín Bells'), *Návštěva z pravěku* ('A Visit from Prehistory') and *Nepřátelé* ('Enemies'). In each case, as shown below, music plays a vital role and enables the participating pupils to explore and broaden their experience as singers, instrumentalists, and even composers.

The plays have been performed about 50 times in many venues across the Czech Republic, often for school audiences, and peer-to-peer learning also takes place. They have also served as a great form of team-building, prevention of pathological social phenomena in the given class and the school as such, and a viable platform for the development and differentiation of the pupils' artistic talents. The following paragraphs summarise the basic information about the plays and the stage music, refer to materials related to them, and also include methodological notes for a potential use by other schools or groups.

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<sup>4</sup> The *Republic of Shkid* was the name the community at Home 1 in Terezín found for itself, inspired by a Soviet pedagogical project from the 1920s.

<sup>5</sup> All of these songs have been recorded live at the *Terezín Relay* concerts: *Terezínská hymna*: <https://rb.gy/h9jrcu>; *Hymna republiky Škid*: <https://t.ly/PLGb2>.

***Hanuš Hachenburg: 'A Spook Wanted'***

This puppet play was written by the then 14-year-old Hanuš Hachenburg in the Terezín ghetto in 1943, shortly before his transport to Auschwitz. This timeless, open-ended work, full of absurd humour and striking reflections on a totalitarian society, was never performed during the war and received its Czech premiere only through a performance by pupils and teachers of the Nature School. Between 2011 and 2016, it was performed more than ten times in various places in the Czech Republic.

The world premiere of the play had taken place before that, however. In 1999, the Australian puppeteer and actor Gary Friedman discovered Hanuš's original puppet play in a Jerusalem archive. Being a social activist himself, he was drawn to the text as an extension of his work. In 2001 Friedman performed the puppet play for the very first time in Cape Town and then went on to perform the work internationally (Friedman, 2023). Thanks to this, there is an English translation available for potential student staging. The piece is quite demanding in terms of content and, rather than in school classrooms, it could be used in dedicated theatre clubs, especially to enable more experimental stage forms.

'The Spook Wanted' was, chronologically, the first of the *Terezín Relay* theatre productions, and the stage music was conceived rather modestly compared to the later shows. The score is for piano, trumpet (ad lib.), and percussion and is purely instrumental with no vocal parts for the actors.<sup>6</sup>

***František Tichý: 'The Terezín Bells'***

'The Terezín Bells' depicts the daily life of boys from one of the Terezín homes, *Nesharim* ('Eagle'). The plot is based on true stories described in Terezín magazines and is complemented by several poems written by children in the ghetto. The play, staged by two generations of Nature School students (first staging 2015 to 2016; the second one since 2022 onwards), has been performed around 30 times so far, including a unique show in one of the Terezín attics where illegal performances were held during the war. This play was conceived as a school project performed by one school class so it offers a variety of roles to accommodate most of the students in the class. Thus, it could also serve as material for a more extensive school project, not only for activities for a dedicated drama group.

Compared to 'A Spook Wanted', the incidental music is much more incorporated into the stage action and relies more heavily on the pupils' involvement: a class orchestra was set up for the occasion and the stage music was orchestrated to match the abilities of the class (the two stagings of 2015 and 2022 are therefore different in terms of instrumentation); all the pupils engage in singing in a number of songs that range from original music set to Terezín poems, to Czech folk tunes with humorous lyrics written during WWII in the

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<sup>6</sup> A recording of one of the performances is available here (English subtitles included): <https://t.ly/BxTy->.

ghetto, or popular Czech swing pieces from pre-war Czechoslovakia. Significantly, these songs also include pieces written by the pupils themselves.

Such is the case, among others, of the tune entitled *Pohádka* ('A Fairy Tale'), which will be used as an example of the pedagogical work the *Terezín Relay* team have been using. The song, set to a text written by a teen-age Terezín prisoner nicknamed Blecha (Flea), was written by two young pupils aged 11 and 12 as part of a weekend workshop led, in present-day Terezín, by Nature School students and reaching out to children from around the Czech Republic. The premiere of the song – in a quickly drafted arrangement for a guitar and two flutes – can be seen online.<sup>7</sup> This tune was then incorporated into *The Terezín Bells* stage music and as such it has been repeatedly rearranged by Vít Novotný to fit the potential of the given class that was performing the play. Following is an excerpt of the version used in the 2022 staging of the play:

23

Recorder

B trumpet

Glockenspiel

Xylophone

Vocals

Bass guitar

A ča-ro-děj ta-ky, ma-lé dě-ti stra-ší,

Fig. 1: An excerpt from the song *Pohádka* ('A Fairy Tale')

### **Petr Ginz, František Tichý: 'A Visit from Prehistory'**

'A Visit from Prehistory' is the name of Petr's first completed novel. He wrote it in Prague at the age of 13 in an effort to pay tribute to his favourite author at the time, Jules Verne. But Petr was writing during World War II, under conditions of ever-increasing anti-Jewish measures and the threat of transports to the unknown. These pressing matters find their

<sup>7</sup> The link to the live recording is here: <https://t.ly/cuSiN>.

way into the fabric of the novel. The basic story, set in the Belgian Congo in the 19<sup>th</sup> century, addresses general issues of good and evil, discrimination and solidarity, violence and compassion in a plot revolving around a fake prehistoric creature in the hands of a tyrant: a striking metaphor of the Nazi totality. Petr wanted to return to the book in Terezín, but the inexorable fate was quicker and he was transported to Auschwitz before he managed to do so. The manuscript was thus completed only after the war by his surviving sister Eva, who also prepared it for publication after 2000. The play 'A Visit from Prehistory' combines the two storylines: it attempts to bring both Petr's book and his unique life story on stage in a way that does not frighten, but instead pays tribute to the strength of the human spirit and the effort to remain true to one's beliefs even in the worst of times (Bičák, 2022).

The music production for 'A Visit from Prehistory' took a few more steps in the direction of a still more involvement of the pupils. The stage music was conceived as a group project in which the members of the orchestra were invited to contribute with their own musical ideas. Completed and instrumented by Vít Novotný, the score thus blends motifs offered by a number of pupils and teachers of the Nature School as well as musical allusions to the Jewish tradition.<sup>8</sup>

### ***František Tichý: 'Enemies'***

There is one more play in the making, this time focusing on the post-war period of the expulsion of Germans from Czechoslovakia, it is a culmination of a free-linked trilogy of plays ('The Terezín Bells', 'A Visit from Prehistory' and 'Enemies') revolving around the topic of the Holocaust. Tichý's creative strategy remains the same: building up from the basis of historical events, he brings the real-life adventures of his protagonists to life using his own invention and a well-developed sense for dramatic impact. The central historic figure is that of Přemysl Pitter, a devoted pedagogue and philanthropist who managed the unimaginable: to enable Czech, Jewish and German children – all victims of the war atrocities who had lived in mutual hatred for years – to share a common home for about two years after the war. The children lived together, formed lasting friendships, and showed the adults that there might be a way to re-establish the severely devastated relationships among Central European nations in 1945. The premiere of this play took place in January 2024. The story continues.

Just like the script, the creation of the stage music will also draw on the previous experiences: A class orchestra is currently taking shape and the music used will be a combination of original pieces composed for the occasion; Czech, German and Jewish songs that were or might have been performed by Pitter's children; and older *Terezín Relay* songs

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<sup>8</sup> The Azriel David Fastag version of *Ani Ma'amin* ('I Believe') is used in the score, among others. This tune was reportedly written on a cattle train transporting Jewish prisoners to Treblinka.

that will fit a given dramatic situation of the play. Even here, just like in all the preceding productions, the unquenchable inspiration of Hanuš's and Petr's legacy will be used.

The aim of all these activities is to ensure that this didactic staging leads to the desired critical learning on the part of both the performing students of the Nature School and the spectators. For this purpose, the *Terezín Relay* team have been applying several methods that have proved fruitful over time: a personal meeting of the class about to perform the play with people with personal experience of the times in question (this time with Tomáš Zuzák, Přemysl Pitter's long-term colleague); and on-stage Q&A sessions with the spectators directly after a performance. This is led by a teacher of the Nature School, where the spectators learn more details from the lives of the real people the play dealt with and the historical circumstances, and where they can ask about aspects of the play they had not understood.

## International Overlaps and the Future of the Project

The present-day *Terezín Relay Project* has received some attention from international academics focusing on the Holocaust (Dr. David Fligg, Dr. Lisa Peschel, United Kingdom; in Toperczerová, 2022, pp. 65–66). One collaboration, in particular, has proved to be fruitful and mutually enriching in the long term: as a primary investigator of a Department of State grant awarded by the United States Embassy in Prague, Professor Emerita Teryl L. Dobbs, a long-time leading representative of the University of Wisconsin-Madison, USA, has been supporting the *Terezín Relay* activities both financially and through her expertise. Strengthened by this experience, the *Terezín Relay* representatives believe that the project has the potential to find an international audience among both individuals and institutions. Petr and Hanuš's legacies certainly do. To use the words of Petr Ginz himself: "The seed of a creative idea does not die in mud and scum. Even there it will germinate and spread its blossom like a star shining in the darkness" (Ginz, as cited in Olivas, 2007). All the activities of the ongoing *Terezín Relay Project* are intended as a modest testament to this.

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Daniela Taylor & Jiřina Jiříčková

# A Creative Musical Meeting with Leoš Janáček

## Introduction

*'It is enough to give children only a small theme or an abundance of varied themes, reminiscent of life, to draw them into joyful play and fill them with a pleasant feeling.'*

Josef Kříčka

The development of children's own creativity is an essential principle in their music education. Through independent musical activities, children discover, create and share their own ideas.

It is impossible not to notice that there is a rational appropriation of the world, and the emphasis in education is still on acquiring large amounts of information.<sup>1</sup> We do not want to diminish the importance of acquired knowledge, but it is necessary that the child does not develop unilaterally. The understanding of learning as an activity in which not only thinking, and memory are involved, but also imagination, emotions and attitudes, was identified by Comenius. An influential Czech pedagogue, philosopher, thinker, and writer Johannes Amos Comenius (1592–1670) set out general pedagogical principles: teaching should be natural, illustrative, and thorough; involve the senses, cultivate respectful cooperation and use children's ideas which are respected (in Komenský, 1991).

Through their already acquired experience and skills, children gradually develop their own artistic experiments and expressions in a playful way. This paper offers teaching

<sup>1</sup> For example, the education system in the Czech Republic has problems with overloading pupils with information to the detriment of the formation of broader and key competences, which experts analyse and try to implement through new education policy strategies that transform the content and method of education (Education Policy Guidelines of the Czech Republic 2030+, 2020).

ideas for creative ways of experiencing the music of the Czech composer Leoř Janček (1854–1928). Janček can be considered one of the most remarkable personalities of the music world. His distinctive musical expression was influenced by his research into Moravian folklore and his later interest in the psychological aspects of human speech. The brevity of his musical ideas and the sharp contrast of their interconnections can appeal to children today. The chosen way of working with Leoř Janček’s musical material can be presented to children in a comprehensible way and show how they can work with music in an elementary yet creative way in the school environment.

We will present a set of activities from the workshop (EAS conference, May 2023, Lyon), based on the analysis and synthesis of pedagogical and didactic principles of Comenius, Orff-Schulwerk and the ideas of other Czech pedagogues. It presents a musical educational model, a relatively common pedagogical method that helps to improve the quality of music teaching (Taylor, 2023b). It leads to the creating of models, of practices that “respect theoretical assumptions and suit practice” (Herden, 1998, p. 39). Herden creates an experiential base for teachers from which they are then free to develop further creative ideas for implementing in their teaching. The teaching ideas follow both the pedagogical principles of teaching elemental music and the didactic concepts of Czech pedagogues Frantiřek Sedlk (1916–2002) and Jaroslav Herden (1931–2010).

Sedlk’s didactic concept can be characterised by a distinctive psychological approach to the child. It consists of psychological, diagnostic, aesthetic, sociological and pedagogical aspects. The aesthetic aspects include searching for ways for the child to understand the means of musical speech through their own creative activity and thus to perceive music as an aesthetically significant medium; the sociological aspects cover the creation of common musical experiences during collective musical activities, feelings of belonging, and responsibility for performance, etc. Pedagogical aspects are searching for methods and procedures that facilitate the dialogue between students and the musical work and at the same time shape the musicality of the individual (Vřnov, 2022).

Jaroslav Herden created a progressive concept of listening to music in school. He guides students from elementary experience to listening to a piece of music, to the gradual discovery of its structure and the concrete means of musical speech. All of this takes place in a collaborative effort between teacher and student based on the principle of discovery and creative grasp of musical activities and knowledge. Herden created, among other things, the so-called dynamic model of the listening lesson (Herden, 1985). It can be characterised by the creative teacher seeking a variety of solutions in constantly changing conditions. The general phases of the dynamic model are motivating, preparing, working, analysis, synthesis, and discussion (Jenkov, 2010).

When implementing the ideas below, we recommend working with the methodology of tandem teaching. Tandem or co-teaching, in the phases of planning, implementation, and reflection on teaching, can help the quality of the teaching process (Friend

& Cook, 2016). Co-teaching, amongst other strategies, moves the participating teachers forward in teaching techniques and methods. There is also a much better possibility of improvisation of teachers (Eckardt & Giouroukakis, 2018).

## Music Education – Opportunities for a Creative and Active Approach to Learning with Music and the Development of the Child's Personality

Education through art has a long and rich tradition in the Czech educational system, Music education and Art education are integrated into the educational area *Art and Culture* in the current Framework Educational Programme for Primary Education (FEP PE, 2021).

Education in the area *Art and Culture* aims at artistic appropriation of the world, i. e., acquisition with aesthetic effect. "In the process of artistic appropriation of the world, a specific feeling, creativity, and sensitivity of the individual to the work of art and through it to themselves and to the surrounding world is developed" (FEP PE, 2021, p. 81).<sup>2</sup>

The current concept of music education is influenced in the Czech environment by, amongst others, music pedagogue and psychologist František Sedlák, who considers the developmental specifics of children and their relationship to music, and many other musical and non-musical aspects influencing the musical pedagogical process. According to Sedlák, education through music contributes to a child being able to relate acquired experience and knowledge from other subjects, which leads to a better understanding of society and orientation in the surrounding world (Sedlák, 1984). In the active concept of music education individual musical components are interconnected, in which children do not only apply their reason and acquired knowledge, but work with their emotional experiences and feelings, developing their musical abilities (Taylor, 2021a). Furthermore,

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<sup>2</sup> As further stated in the FEP PE, all creative activities (music, art, etc.) should contribute to the formation and development of children's competences by leading them to:

- *Understanding art as a specific way of knowing and using the language of art as a distinctive means of communication.*
- *Understanding art and culture in their interdependence as an inseparable part of human existence; to learn through one's own work based on subjectively unique perception, feeling, experiencing and imagination; to develop creative potential, cultivate expressions and needs, and form a hierarchy of values.*
- *Co-creating a friendly and stimulating atmosphere for the creation, understanding and recognition of artistic values in broader social and cultural contexts, a tolerant approach to diverse cultural values of the present and the past as well as cultural expressions and needs of diverse groups, nations, and nationalities.*
- *Awareness of oneself as a free individual; with a creative approach to the world, to the possibility of actively overcoming life stereotypes and to enriching emotional life.*
- *Taking personal participation in the process of creation and understanding the process of creation as a way of finding and expressing personal experiences and attitudes to phenomena and relationships in a multifaceted world (FEP PE, 2021, p. 82).*

the active concept of music education supports and develops the creativity of children and their interests, their lifestyle and approach to life.

The creative approach is seen as a space for the formation of subjectively new musical products. Sedlák (1985) refers to the creative approach as creative activity.<sup>3</sup> To create an environment for creative group activities while facilitating the development of individual creative aspects is an important part of music education (Jiřicková, 2023a, p. 90).

The psychological findings of authors such as Osborn (1963), Taylor (1964), Murphy (1968), Forrai (1984), Swanwick (1999), Czech authors Váňová (1989), Tichá (1992) and others, point to the formative influence of the environment on the development of creative abilities.

Under suitable social and educational conditions, every mentally and physically normal child has various predispositions for the development of creativity ... We also assume creative abilities in an elementary form and in a different quality in children, where creative expressions related to their spontaneous playfulness are usually dampened when they enter school by the character of music education, which often does not create stimuli and sufficient space for their further development (Sedlák & Váňová, 2016, p. 197).

With reference to the previous paragraph, it is crucial to fully support in our teaching practice, creative aspects of music education. In the description of the workshop activities, we intend to present a variety of activities aimed at the development of children's creativity. Franěk (2007) confirms that creative musical activities can also lead to positive changes in a variety of non-musical areas. The practical performance of music has an impact on the improvement of visual-motor skills and demonstrably improves cognitive operations (processing information of various natures, learning, etc.), develops spatial-temporal understanding, ideas, and some mathematical operations. During musical activities, a number of activities are interconnected, which use different thought processes.

Musical activities have been shown to have a great effect on behaviour and social relationships (e.g. Custodero, 2005; Hallam, 2010; Schellenberg, 2004). Varied activities, which are purposefully included within music education, naturally improve pupils' concentration, internal motivation, various types of memory (for example musical, movement or spatial), and helps their self-realisation. They also learn to unwind and relax. Shared experiences, when, for example, the musical interplay of children creates not only a sonically rich accompaniment to a song, but also brings the collective into alignment, and thus the social intelligence of the children improves (Stadlerová & Taylor, 2023).

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<sup>3</sup> According to Grobár, Holubec, Charalambidis, Kodejška, Lišková, Prchal, Synek, & Šobáňová, the authors of the Background Study (2019) the active approach in music education is the use of simple musical instruments to accompany singing, while an example of creative approach in music education can be an activity where the children create their own rhythms and melodies to simple lyrics, improvising within the simplest musical forms.

## Goals

We would like to propose in the practical part of this paper different possibilities for both an active approach to music learning and the creative application of activities in music education classes for children of primary school age. The presented teaching model is based not only on conclusions of Czech authors Sedlák and Herden but has also been repeatedly applied in the authors' practice with student teachers, and directly in classrooms.

We offer tasks that challenge complex and original processing (see Kalcher, 2020). In accordance with the guiding principles of Orff-Schulwerk (Kotzian, 2019), the goals of the planned activities should awaken curiosity and an interest in Janáček's music. The senses of the children during activities are engaged and creativity is encouraged through experimentation, improvisation, and active experience of speech melodies, following Janáček's unique compositional approach. Janáček developed a compositional approach that linked his interest in speech with the reflection of the psychological state of the individual and the mood of the moment. He considered speech melodies to be windows into the human soul.

*Melodies? For me the music that you hear from instruments, from literature, whether it's by Beethoven or whoever, there's not much truth in it. You see, it was rather odd – whenever someone spoke to me, I might not understand the words, but that tonal cadence! I immediately knew what him was inside, I knew how he felt, if he was lying, if he was agitated. And if someone was talking to me in a conventional manner, I felt I heard that this person was weeping inside. The tones, the tonal cadence of human speech, of all living creations, contain the most profound truths for me*

(quoted in Zahrádka, 2017, pp. 21–22).

We also offer to children experience within selected music activities, which supports the development of their ability to reproduce and produce music, increase their self-confidence, and encourage them to make music and develop their ability to improvise. The proposed activities could convey the culture and the specifics of countries and peoples, and could help multicultural education. In our example we base our activities on the Czech traditions of folk literature, nursery rhymes, folk songs and music; these support intercultural awareness, contribute to verbal and non-verbal expression, and the ability to use different kinds of notation.

The presented musical activities include, for example children's visual-motor skills, dramatisation with kinaesthetic or body percussion accompaniment. We were inspired by the example of Janáček's melody speeches, where children could try to capture both the song's melody and the atmosphere of offered musical situations for their creative work and cooperation in groups. Children record during activities what they hear and feel – the sounds of things, the speech of people, and the context. Again, following the example of

Janček, they try to create a *feuilleton*<sup>4</sup> with speech melodies using, among other things, the Moravian folk song *Uř ty pilky dořezaly*, 'The Sawmill'; *Pilky*, 'The Saws' from *Lařské tance*, 'The Lachian dances' and a Moravian folk song *Ej, lsko, lsko*, which Janček used and renamed to *Lska*, 'The Love'. We found this song in *Moravská lidov poezie v psnch*, 'The Moravian folk poetry in songs'.

Janček is referred to as one of the most important Czech music composers. He was born in Hukvaldy in 1854, a small town in north-east Bohemia, he then moved to Brno as a small child and lived most of his life there. His work as a composer and teacher contributed significantly to the development of Brno's cultural life. His compositional style is very distinctive and original. His music is inextricably linked to the folk environment, especially the Moravian regions Slovcko and Lařsko, which Janček was fascinated by. Janček himself collected songs mainly from Moravia. His interest in folk culture can be seen through his compositions such as *Lachian Dances*, *Folk Dances in Moravia*, *The Little Queens* and the ballet *Rkoř Rkoczy*.

His persona and his music are therefore part of the Czech national curriculum. The authors decided to introduce Janček to children as a collector of speech melodies and as a composer inspired by Czech folk music, which could be use creatively in the education of younger children. Czech folk music and songs also play an important part in the chosen musical activities, especially the song *Uř ty pilky dořezaly*, 'The Sawmill' as it was an inspiration for Janček's well-known orchestral work *Pilky*, 'The Saws' from *Lařské tance*, (The Lachian Dances). Janček's music is used to draw children's attention and offer them the room for engaged learning, to understand the chosen music and to develop their creativity.

Kurkov (1981) draws attention to the idea that the first steps towards children's creativity are led through the use of folk art and literature, which has some common features, not only in terms of individual artistic forms, but also in terms of the principles of improvisation and the creation of small forms. Folk art does not consciously strive to create new, original values, nor does it master the theoretical laws of artistic creation.

It is characterized by the predominance of emotion over the intellectual, constructive side of creation ..., small, miniature forms, the melody and rhythm of children's song formations are typical ..., a number of diminutives appear in children's verbal expression ..., themes from nature and the immediate environment still dominate, ... A constant source is the eternal change of the seasons, bringing popular themes for music, movement and artistic expression. (1981, p. 12)

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<sup>4</sup> Specific journalistic genre, usually used in the press as a counterpart to the main articles. It humorously treats a seemingly insignificant but interesting topic and shows everyday things in a new light, while based on the author's own experiences

## The Model

This teaching model is conceived as a multidimensional approach that requires a wide range of musical activities that are interrelated and mutually influencing. They are based on the above-mentioned Czech school Music Education Curriculum. The model is not deliberately assigned to a specific year of primary school. Working with the model requires the teacher to adjust the chosen activities according to the level of development of the musical abilities and skills of their children and to implement them in a time period of their own discretion. The model offers a wider range of didactic possibilities that can be managed in one lesson. As a whole, the individual activities can be implemented in several music lessons, or as part of a project. A characteristic feature of the proposed model is that it aims at creative music teaching, in which singing, using musical instruments, musical movement and listening activities are inspired by Janáček's music.

Before this musical session, children should learn something about Leoš Janáček as a leading Czech musical composer. Here are some other interesting facts which could be helpful to the teachers and to children to understand him and his work. Janáček was convinced that it was objectively possible to record people's speech using musical notes. He called them speech melodies. He began writing them down in 1889 and continued to do so for the rest of his life. "However, he not only recorded speech melodies; amongst more than four thousand notations we also find the melodies of dogs barking, singing birds, buzzing of mosquitoes and the cracking of wooden floors" (Zahrádka, 2017, p. 21).

### *Possible Teaching Process*

As a motivation for the lesson the teacher uses a short-mixed sample of Janáček's music, for example: *Jenufa* Overture – *Jealousy* from Act 1 Prelude; Speech melodies No. 2 *V tom brezovském poli*; *Jenufa* Act 1, Scene 1 *Evening is Drawing on*.

### *Introduction: Movement through the Room and Greetings*

[Listening example: *Pilky*, (the 6<sup>th</sup> dance from *Lašské tance*)].

The teacher leads the children, they verbally greet each other. An orchestral recording of Janáček composition *Pilky* is played in the background. Everyone moves freely throughout the room; in the greeting they express different emotions. Due to the possibility that pupils are from different nations, they could use, within the greeting activity, their own native language (e.g. Hello, Hallo, Ahoj, Ciao, etc.).

### *Singing the Song Uř ty pilky dořezaly, ‘The Sawmill’*

At the beginning of the next activity, the teacher reminds the pupils about the composition which they just heard while greeting each other and tells them that Jancek was inspired by a Lachian folk song which they are going to learn together.

Everyone stands in a circle. As a motivation to learn the new folk song the teacher could say to the children a riddle: *Only one line of teeth, and yet it bites hard. (a saw)* It is also recommended to do a warmup with the children before singing. Start with a breathing exercise – imagine that we are covered in wood cuttings and sawdust, which we are trying to blow away. We perform short, abrupt exhalations on various parts of the body; we also try one long, smooth exhalation. Finally, we shake our hands, arms, feet, head, our whole bodies to shake off all the dust; make a humming sound and imagine that we play a musical saw (the musical saw player holds the saw in an arc between his knees and plays it with a bow). We slide up and down with our voice. Variation: humming (the root of the tongue remains stuck on the soft palate) gradual opening and closing the mouth and while making a sound, singing up and down.

For the vocal warmup exercise with articulation of text it is helpful for the teacher to look in advance at the song and prepare the vocal exercise using a particular section of the song, especially if there is any intonational related problems such as difficult interval jumps, see example below. (We transpose the melody up a semitone from F major to A flat major and back.)

### The Vocal Warmup

Sereno Lachian folk song tune; arranged by: Daniela Taylor

Cut the wood and sing to - ge - ther. Cut the wood and sing to - ge - ther.

Cut the wood and sing to - ge - ther. Cut the wood and sing to - ge - ther.

**Fig. 1:** *The Vocal Warmup*

As the next step, the teacher sings a folk song *Uř ty pilky dořezaly* [‘The Sawmill’] in Czech, then in English. The children learn to sing the song in English.<sup>5</sup>

<sup>5</sup> Czech lyrics:

1. *Uř ty pilky dořezaly, uř ty mlynky domlely, uř sedlaci vymlatili, maju prazdne stodoly.*  
2. *Jura enom poskakuje, Hanka se zas jen toi, muzikanti podřimuji, hrom ať do nich uhodí!*

## The Sawmill

Serenade

Lachian folk song; translation: Daniela Taylor

1. Cut the wood and sing to - ge - ther, we should do it all at once.

The wind is blow - ing; mills are turn - ing, far - mers fi - nished har - vest - ing.

2. Jura, he is only skipping; Hannah, she just turns around.  
The musicians are deeply sleeping, let the thunder hit the ground.

**Fig. 2:** *The Sawmill*

Teach the song through imitation. Here it is recommended to sing only the melody of the song without harmonic accompaniment. After mastering one stanza, the teacher moves on to the other verse.

### Body Percussion – Rhythmical Polyphony

After learning the song, *The Sawmill*, add a simple accompaniment using either body percussion, see example below, or untuned percussion instruments of the children's choice (e.g. claves, wood blocks, hand drums, shakers, guiro etc.). Firstly, the children learn each rhythmic element separately, and after mastering all three, they learn to gradually combine two or three rhythmic elements. The teacher then introduces the saying of the auxiliary words aloud, then only whisper them until they fade away altogether.

Rhythmical elements are: metre – tapping thighs; first beat – stomping a foot; ostinato – palm rubbing/clapping. The playing patterns can be played on other body parts (tapping the chest, snapping the fingers, etc.), the children will try out different possibilities. Example of the accompaniment of the song *The Sawmill*:

## Rhythmical polyphony

arrangement: Daniela Taylor

2/4

FAR - - - - - MERS

2/4

WOOD

2/4

HAR - - - VEST - - - ING

Fig. 3: *Rhythmical polyphony*

## The Sawmill

Sereno

Lachian folk song; translation: Daniela Taylor

2/4

1. Cut the wood and sing to - ge - ther, we should do it all at once.

wood block

2/4

hand drum

2/4

claves

2/4

The wind is blow - ing; mills are turn - ing, far - mers fi - nished har - vest - ing.

w.bl.

h. dr.

cl.

Fig. 4: *Instrumental polyphony*

### *Playing Boomwhackers*

The children imitate the smashing of grain and tap the metre on F and C tubes. Other metre patterns can be played on wooden percussion instruments according to the children's choice.

Alternative: Beating out the metre in pairs – one of the pair holds the tone F and the other the tone C. The tubes are always beaten once crossed above their heads and the second time crossed pointing towards the ground. They start with a grip, for example, in the right hand with the blows coming from the outside to the right and their right leg being one step forward. When changing the grip of the tube with the left hand and also changing the legs at the stance, the second verse of the song follows.

***Musical Walk: Listening and Breathing, Movement***

[Listening example: *V mlhách* 'In the mist'].

The teacher initiates a game, titled “a walk in the fog”, while hearing the excerpt of the Janáček's composition *V mlhách* 'In the mist'. As they listen to the music, children “follow their breath” – walking through the space while breathing out. As soon as they need to breathe in, they stop and create a pose (body sculpture) – based on listening to the recording. Then they continue walking, while breathing out again. Everyone tries a number of different poses.

***Sounding Pictures from Janáček's Life: Listening and Drawing***

[Listening examples: A mixed sample of Janáček's instrumental work – *March of the Bluebirds* JW VII. No. 9; *Sinfonietta* JW VI/18 Allegretto; *From the House of the Dead*: Prelude; *Jenufa* Act 1, Scene 1 *Evening is Drawing on*; *Glagolitic Mass* – Introduction; *On the Overgrown Path* – *The Barn Owl Has Not Flown Away*].

The teacher plays the music and asks the children to move freely throughout the room. There are large sheets of paper with written scenes of different places from Janáček's life on the floor. They are advised with several adjectives describing the specific place (e.g. the birthplace of Janáček: simple, quiet, cozy; The Cabbage Market in Brno: lively, busy, full of people, loud, colourful, aromatic). While listening to music, the children sit at a chosen scene and draw together in a small group their pictures, how they imagine the place, to create a scene. The children can change groups, walkaround and look at different scenes.

At the end, the teacher shows pictures of how the specific places looked and images showing the places in modern times. At the same time, the children's pictures are shared, and they are encouraged to reflect on the music they heard and their drawing.

### ***The Cabbage Market – The Pantomime***

[Listening example: *eladenský Dance*].

‘After many places, let’s all visit the Cabbage Market in Brno.’ The teacher tells a story about the market, the children add their ideas of what can happen there. Then, while listening to the sample of music, the children create an animated market where children react to the music. One child at a time joins the scene, responding with movements. Each child adds some gestures to both what they see and hear. A moving picture of the market is represented by their activity.

### ***Sounds of real Cabbage Market in Brno***

[Listening example: a recording of the real sounds from the Cabbage Market].

As a motivation for the following activity the teacher tells the children that they will pretend to visit one of the places that were familiar to Janček – the Cabbage Market in Brno.

### ***Sounds of the Music Market***

The teacher explains to the children where Janček used to walk, and where he recorded the sounds he heard, usually as a type of musical notation. The teacher offers different possibilities how the sounds can be recorded – intonation, rhythm, verbal, both with notes in the stave, but also with other signs, everything is possible, except for audio recordings which Janček did not use. The teacher divides the children into two groups. One group are merchants and customers at the market. The others are the observers, listening and try to record what they hear.

The customers and merchants imitate vocally, with body sounds and other possible sounds what could be heard in the market. They improvise vocally a scene, play with their intonation, try to catch the attention of others, while playing the merchants. The customers ask them for their goods and services, they together create the situation.

The listeners try to focus on specific sounds they choose and record them. Then, the roles are reversed, the merchants and customers become the listeners.

### ***Playing and Singing***

After the previous activity the children follow Janček’s ‘composing footsteps’ as they themselves become the composers. The children create small groups. The teacher invites them to create and add corresponding sounds to the notes made by the observers. Each group can choose whether they use all the notes made by the observer group, or if they work on a selected one. Vocal sounds come first, rhythmic and melodic instruments follow.

It is essential to provide the children with a wide range of musical instruments or even alternative tools/objects of daily use (paper, pencils, paper or plastic bags, pieces of cloth, scarves, etc.) so they can use their imagination freely. They can mark their ideas down on prepared sheets of paper. All the time the teacher is observing their work and if necessary, offers advice. The groups take turns to present their work to the others. It is also crucial that the participants give each other feedback and share their opinions and further ideas.

### *Calming Down, Saying Goodbye*

After an active time at the market, the teacher asks the children to begin to calm down, to close their eyes. The lesson ends with listening to a short folk song *Ej, lásko, lásko* (The Love), another folk song mentioned above. Janáček was inspired to compose the piano accompaniment in Janáček's work *Moravian Folk Poetry in Songs*.

### *Ej, lásko, lásko/ The Love*

Sensibile

Emi Ami Emi Ami B<sup>7</sup> Emi Moravian folk song

1. Ej, lásko, lásko, ty ne jsi stá-lá  
2. Vo-da u-ply-ne, lá-ska po-mi-ne

5 B<sup>7</sup> Emi Ami B<sup>7</sup> Emi

ja-ko vo-děn-ka me-zi bře-ha-ma.  
ja-ko lí-ste-ček na-ro-zma-rý-ně.

Fig. 5: *Ej, lásko, lásko*

The children draw in the air the movement of the melody using their hands. Afterwards the children stand in a circle, holding a long piece of elastic, they move it around (up and down) following the melody of the music. This song brings a contrasting energy to the previous activities and can serve as a possible bridge to the didactic activities in the next lessons. Coming out of the original version with piano accompaniment by Janáček, for example, the singing can be accompanied by playing boomwhackers, (see Fig. 6). The children can invent their own lyrics to the melody and ways of accompanying the song with percussion.

# 1. Lska

# Die Liebe

LEOŠ JANCEK  
(1854–1928)

**Andante**

**CANTO**

Ej ls - ko, ls - ko, ty ne - jsi  
O Lie - be, Lie - be, nie - mals zu

**PIANO**

*ff* *p* *mf* *espressivo* *sf* *2*

st - l, ja - ko vo - dn - ka me - zi bre - ha - ma.  
fas - sen, so wie zwi - schen U - fern das Was - ser.

Vo da u - py - ne, ls - ka po - mi - ne  
Was - ser muss flie - en, Lie - be mu en - den,

ja - ko ls - te - ek na roz - ma - ry - n.  
wie am Ros - ma - rin Blt - ter ver - wel - ken.

Fig. 6: Lska (Jancek, 2013)

**Further Ideas: Graphic score to the instrumental version of *Pilky***  
 [‘The Saw’] (from *Lašské tance* [‘The Lachian dances’])

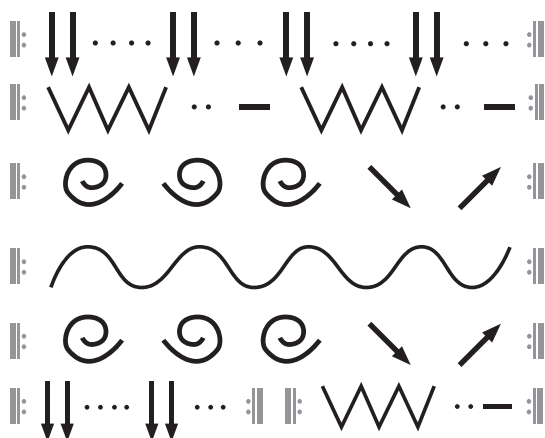


Fig. 7: *Graphic score Pilky* (Taylor, 2021b, p. 65)

The teacher explains to the children that they will be conducting in the air according to the symbols of the graphic score (*Pilky*). Chop sticks can be used as a baton. It is recommended that the children first go through the individual symbols of the accompaniments without playing the music to connect the visual perception with the movement of the hand. Each child is given a percussion instrument (each symbol represents a different percussion instrument). The teacher encourages the children to play along.

We can, of course, take advantage of children's creativity for all examples of possible representations. They can invent a given expression themselves. In group work, they can select their movements/musical instruments/body percussion, etc.; they can rehearse their ideas in groups and then demonstrate their composition to each other.

## Conclusion

Music Education, especially for younger children, offers, above all, the opportunity to view the environment through aesthetic sensitivity and emotional experience.

The concept of active music education with creative aspects, according to Sedlák (1985) leads children to understand musical language and its musical and constructional means, to be able to perceive it, emotionally experience it and aesthetically evaluate it. Therefore, chosen activities in the music educational context with Janáček's music could be perceived as a model for group music-making. To understand the language of music

and musical expression, where creative stimuli are offered, for example, any sound and visual stimuli (sounds, music, images, graphics, text, lists, literature), and combinations that elicit a sensory or behavioural response. The stimuli in the teaching model described here led to active engagement of participants in music activities and encouraged the search for diverse possibilities of interacting.

The presented activities were repeatedly used in practise not only with children of younger school age and pupils of primary schools, but also with students from secondary schools and universities. In most of the cases the musical sessions were, for the participants not only enjoyable, but also for those who are less confident and may even consider themselves as not musical (amongst older students). They found their own role in the group work and comfortably presented prepared work in front of others. Quite often the teachers work with children/pupils/students who do not play any musical instruments or sing, and it is a great opportunity for them to experience the feeling, the ability to do so in a safe creative environment.

It is always a positive challenge for music teachers to provide their young musicians with sufficient stimuli for their active involvement and space for their creative expressions, in which they can respond to the momentary temperament, learning by imitating others, thinking about their own ideas, and allowing themselves to implement them, unleashing their imagination, creativity and emotional experiences and expressions.

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Verena Bons

# Songwriting with Ukuleles

## How the ‘Fairground Concept’ Can Foster Children’s Creativity

### Introduction

The ukulele is considered an international pop music phenomenon to which young people are exposed through well-known artists (e.g., Ed Sheeran, Taylor Swift, Billie Eilish) and platforms such as YouTube (Kemper, 2017) and TikTok (Su et al., 2020). There, young people not only hear and see musicians playing the ukulele, but can also watch a variety of video tutorials, in which musicians guide the online audience to play popular songs. As a secondary school music teacher, I was confronted with this phenomenon in 2021 when my seventh-grade students (ages 12/13) told me at the beginning of the school year that they would like to learn to play the ukulele in their music class at school. I quickly agreed, and just as quickly learned that ukuleles are more than common classroom instruments: The ukuleles challenged me to rethink and revise the teaching patterns to which I had become accustomed. In this context, the development of the ‘ukulele fairground’ as a teaching concept for songwriting had a special significance for me. Through the use of ukuleles and aspects of informal learning, the concept leads not only to high student engagement, but also to various creative ways of engaging with music, which is, in my opinion, a central step on a teacher’s musical and educational journey towards designing creative music lessons.

In this practice paper, I present my concept of the *Ukulele Songwriting Fairground* to illustrate how using ukuleles as classroom instruments can initiate and accompany songwriting in a school setting. First, I will describe how ukuleles close a methodical gap in school music education by outlining the importance of instrumental practice, creative approaches and pop music in school music education. Second, I explain the teaching design of the *Ukulele Songwriting Fairground* and illustrate different fairground stands and their function. Third, by reflecting the students’ actions and my teaching practice as a school

music teacher, I will discuss how such a teaching approach can broaden established patterns of teaching and learning in school music lessons, enabling creative music making and thereby fostering children's creativity.

### **Instrumental Practice, Creative Approaches, Pop Music: Ukuleles as Suitable Classroom Instruments**

In the following section I will clarify the special role of ukuleles with regard to songwriting in school music lessons. For this purpose, I will briefly introduce the content and basic structure of music lessons in the German educational system, followed by an outline of the importance of instrumental practice, creative approaches and pop music in music lessons as well as the special suitability of ukuleles as classroom instruments.

Music lessons in the German educational system are based on a general music program that, in addition to practical music-making, also includes historical and social aspects of music and the basics of music theory (Gruhn, 2017). Depending on the grade level and school focus, the usual time frame for music lessons is 45–90 minutes per week. Especially in the last 15 years, we can see an increase in instrumental or vocal based approaches aimed at integrating more instrumental or vocal musical practice into schools (Heß, 2017), i. e., string classes (Bradler, 2014; Prantl, 2014), band classes (Buchborn, 2011; Göllner, 2017; Heß, 2017) or educational projects that explicitly aim to foster participation such as JeKI (Schwippert et al., 2019) and JeKITS (Busch & Lehmann-Wermser, 2019), comparable to the British programme Wider Opportunities (Johnstone, 2019). Although these programs aim to encourage students' musical engagement, some of them appear to limit the variety of opportunities to engage with music (Buchborn, 2011). One reason for that lies in the teacher's role as musical expert guiding the students' musical learning process (Rescsanszky, 2017; Whitener, 2016). Another reason is the lack of creative music-making in these approaches, especially in relation to improvisation and composing (Busch & Lehmann-Wermser, 2019; Whitener, 2016), due to the teacher-centred, reproductive orientation of instrumental instruction. Even though creative musical activities such as composition exercises in lessons are strongly recommended, there is a lack of concepts for composition processes that emerge from students' musical practice (Theisohn, 2023, p. 323). However, if we do not assume creativity to be individual potential, but rather a practice that is diverse and situated – so that we can also speak of musical creativities through which musicians can move fluently (Burnard 2012) – then music lessons should enable generative action in as many ways as possible (Stöger 2018).

Pop music as a meaningful musical practice for young people (Heyer et al., 2013) is not given enough attention in school music lessons (Buchborn & Bons, 2021), nor is its informal context sufficiently respected in the formal framework of the school (Elflein &

Weber, 2017). Especially for songwriting as an essential part of pop music practice, informal learning arrangements play a major role (Godau & Haenisch, 2020). Informal settings that enhance songwriting often consist of guitars as ‘starting instruments’ that initiate ideas for songs, often through individual, sometimes less goal-oriented play and various forms of collaboration (Godau & Haenisch, 2020). However, some authors highlight ukuleles as suitable for initiating songwriting, especially with children: Ukuleles are easy to play, accessible and transportable (Kemper, 2017; Loughlin & Bell, 2019). Through numerous videos and tutorials on social media platforms, the ukulele’s strong connection to informal learning (Green, 2016) is evident. Even though the ukulele’s instrumental basics are easy to learn, deliberate practice can enhance instrumental progress (Nguyen, 2020). One way to combine informal learning settings with deliberate practice time is through playful elements (Nguyen, 2020).

Thus, it becomes clear that ukuleles can fill a methodological gap in the music classroom if we consider their connection to informal learning and their accessibility, but also acknowledge that practice and time for trial and error is necessary to enable diverse creative ways of working with them. To exaggerate: If we use ukuleles in an established classroom setting, with all students sitting in the classroom at the same time with one ukulele each and all playing the same song at the same tempo, then ukuleles offer at most an alternative to existing (and possibly outdated) teaching practices, but offer little added educational value – if any value is added at all.

## The Ukulele Songwriting Fairground: Design and Material

The concept of the Ukulele Songwriting Fairground, which I use (in slightly adapted forms) with different age groups in secondary schools, is one idea how ukuleles can initiate and accompany songwriting by respecting their informal character and their accessibility, as outlined above. This concept should not be yet understood as a completed, ‘ready-to-use’ teaching design, nor will it necessarily work in this form for every school class, every age group or every music teacher. Still, its core idea of combining instrumental practice, aspects of informal learning and an actual musical practice of young people might inspire discussions on (pop) music education. Therefore, I would like to present it as one possible way of how we as teachers can respond to the educational requirements of songwriting.

To begin, I would like to explain my understanding of the term *fairground* in a music education context. A fair is an event that takes place outside, offering many different entertainment options: games, food, music, etc. The fairground is the location where the fair takes place. Unlike a *playground*, which is a permanently installed attraction, a fairground exists only a few days a year, and its offer can change from time to time. Thus, similar to a real fairground, my fairground concept starts with the idea of *stands* outside

the classroom. These stands provide specific offerings that can help students get ideas, information or input for their learning task (here: their songwriting process). An important characteristic of the provided material at the stands is that they should enable the students to work and play as independently as possible. Also, there is neither a fixed order nor are there any mandatory tasks to be fulfilled. The students can freely decide where they want to go and play, how long they stay there and whether they play alone or in groups. To sum up, the idea of the fairground concept is to benefit from the prompting character of the stands, materials, instruments and electronic devices and to put the students in charge of their own creative process without putting pressure on them. 'Hanging around' – which can also happen – is thus understood as a creative break rather than a refusal to work. However, to create a musical learning environment that leaves enough space for creative processes and at the same time provides inspiring guidance for the young musicians to improve their musical skills, the fairground stands should offer various playful ways of engaging with ukuleles: not only musical basics like playing chords, strumming patterns or harmonical progressions, but also creative approaches towards songwriting. As music lessons at school often take place only once a week, but the task songwriting takes longer than 45 or 90 minutes, the fairground must be interesting for the students over a longer period of time.<sup>1</sup> Below, I will describe how I combine (existing) tutorials, backing tracks, songs etc. with drawing and writing, singing and listening, improvisation and playing.

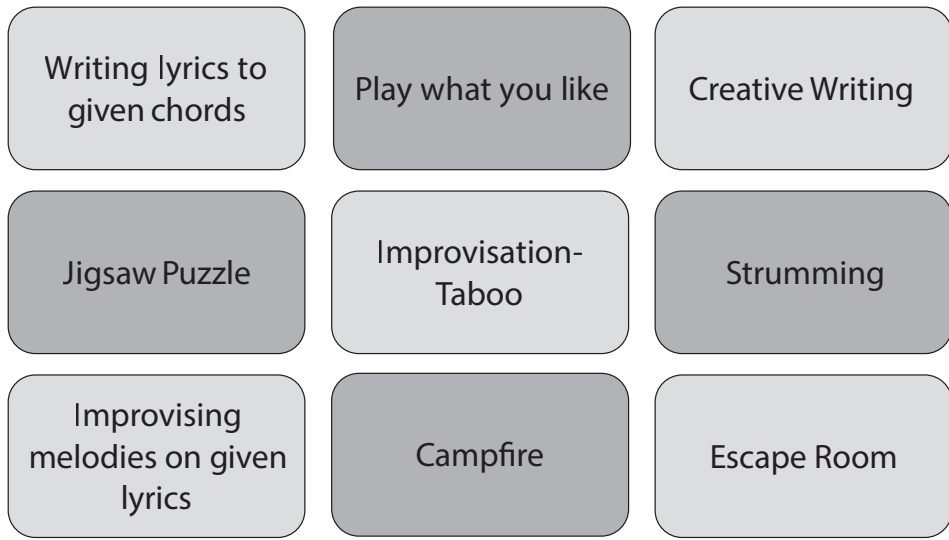
### ***The Fairground Stalls' Main Categories: Musical Basics and Creative Approaches***

As mentioned above, songwriting often begins with haphazard playing, for which ukuleles are well suited. Therefore, to discover and improve their songwriting skills, students need to know instrumental basics such as chord diagram, strumming patterns, and harmonics. Because students only have music lessons on a weekly basis, repetitive elements that create deliberate practice time in a fun way are useful. In addition, songwriting requires creative musical and lyrical ideas from the songwriter. However, finding melodies by humming or singing needs not only courage, but also practice time in which different melodies can be tested (preferably in a safe space, without external judgement) and aesthetically evaluated. Writing the lyrics is a creative task, too. In my experience, students often struggle to come up with satisfying lyrics because they want to write lyrics that are meaningful to them, not just get the job done. Therefore, if we music teachers want to recognize songwriting as a serious musical practice, we need to make room for this need of students as well.<sup>2</sup> The

<sup>1</sup> In my experience, depending on the number of music lessons per week, good results with 5<sup>th</sup>–8<sup>th</sup> grade students take about 4–6 weeks. It is helpful if the students are allowed to take the ukuleles home between lessons. While some students deepen their instrumental skills at home, others sometimes come to the second lesson with a finished song text and then concentrate on aspects such as melody and accompaniment or recording.

<sup>2</sup> Artificial intelligence can be a helpful tool in finding lyrics, although – in my experience – students often use suggestions from ChatGPT etc. as inspiration, but rarely take them over unchanged.

fairground stands I created for this concept therefore follow the two main categories of musical basics (dark gray) and creative approaches (light gray), but without hierarchizing them (Fig. 1).



**Fig. 1:** The fairground stands' main categories: Musical Basics (dark gray) and Creative Approaches (light gray)

At the stands, however, there is not only information for the students to advance their songwriting skills (so-called *idea cards*), but also reflection tools with which the students can reflect their own progress, articulate their musical and methodical wishes and needs, and pass on their experiences to others. These cards also allow the teacher to learn from students' learning processes, ideas, and discoveries. In the following paragraphs, I will describe nine different fairground stands that initiated and/or accompanied the students' songwriting processes.<sup>3</sup>

### ***Play What You Like***

At the stand called *Play what you like*, there are tablets and songbooks. Depending on the student's previous experience (some start their ukulele or songwriting journey at this stand, others join after a few lessons, some have already had experience with ukuleles at home, others have never played before, etc.) this can already be enough input. However, some students are also very grateful for the idea card (Fig. 2), which points to beginner

<sup>3</sup> Due to space limitations, I am showing only a few materials for each stall. These are materials for grades 5–8, that I had to adapt for the respective teaching situations to the age and interests.

tutorials. There are also blank cards that students can fill in themselves to help their friends or share their experiences (Fig. 3).

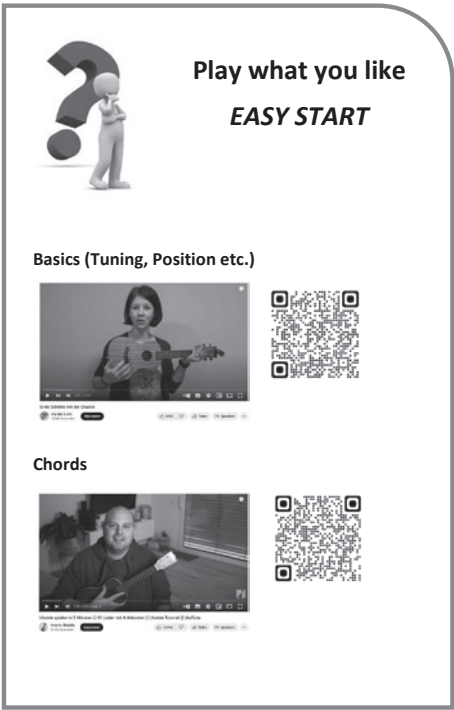


Fig. 2: Idea Card

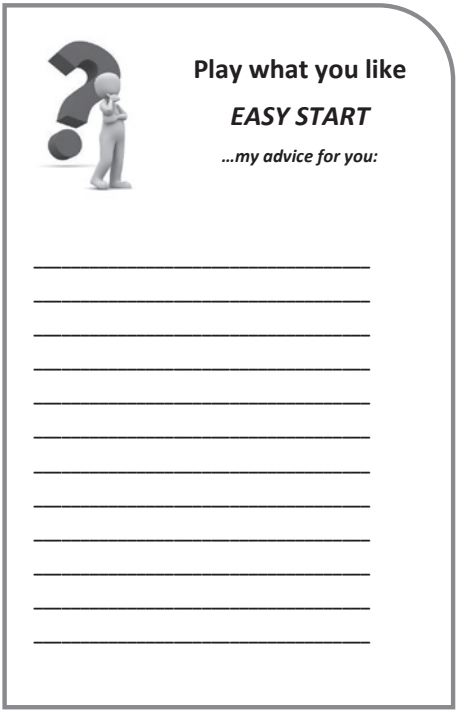


Fig. 3: Reflection Card

**Jigsaw Puzzle**

At the stand *Jigsaw Puzzle*, there are different ways to play, e.g. one person plays chords and the other person tries to find the order of the puzzle pieces by listening and/or playing. Students can also listen to different sound files or songs and try to find out in which order the chords were played. In trying to find the chords, the pupils also practise changing the chords. Different levels of difficulty of the puzzles challenge students to listen to and play more complex harmonic sequences. Blank puzzle pieces allow students to create their own harmonic sequences.

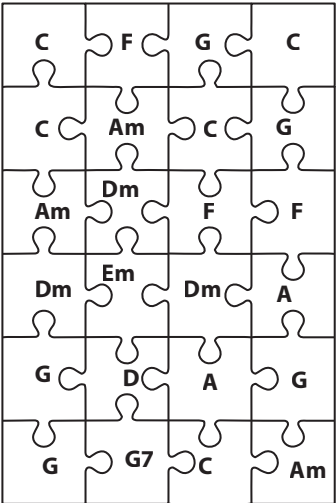


Fig. 4: Jigsaw Puzzle

### Strumming

To help students learn different strumming patterns and expand their strumming pattern repertoire, I use online tutorials (Fig. 5). At this stand, students can also develop and practice their own strumming patterns (Fig. 6) and use backing tracks and songs on YouTube to practice strumming patterns in context (and to songs they choose and like!) and assess for themselves when which beat pattern fits particularly well.

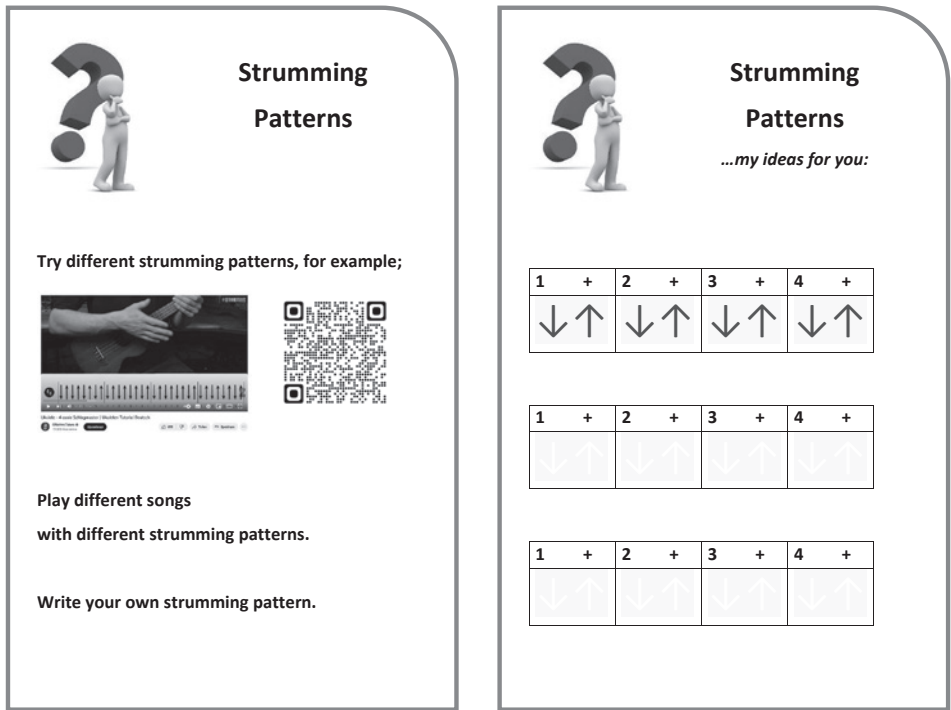


Fig. 5 & 6: Idea Cards for Strumming Patterns

### Campfire

It can be difficult to have a real campfire at school. However, it is possible to create a campfire-like atmosphere by, for example, setting up chairs in a circle, adding various percussion instruments, some tablets and songbooks – and, very importantly, providing some snacks. At this stand, students can simply come together for relaxed play, listening to each other, singing and pretending to sit around a campfire.

### Improvisation Taboo

At this stand, the students play a musical version of the game Taboo. I have prepared Taboo cards with pictures and words. Similar to the official game, the students play in teams. One player improvises on the ukulele to a given picture or word while the other players try to

guess it. In addition, students can design their own taboo cards and new game boards and make up the rules of the game as they see fit.

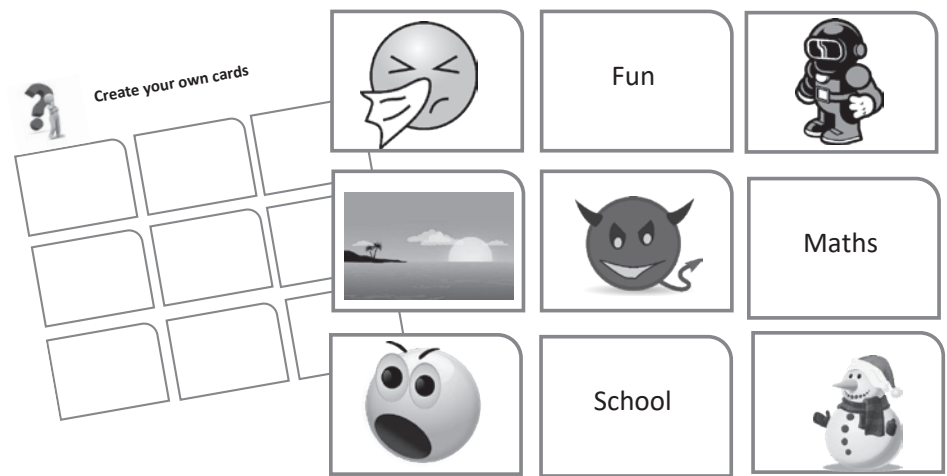


Fig. 7: Taboo Cards

**Writing lyrics to given chords**

At this stand, the students can play a four-chord song (in this case on the theme of holidays, Fig. 8). They can either listen to a sample file where the lyrics are sung or improvise a melody themselves to the given chords. Then they can write their own verse and share it with their friends on an idea card.

**„Holiday, oh holiday...“**

Four-Chord-Song with Ukuleles

|    |    |
|----|----|
| C  | C  |
| G  | G  |
| Am | Am |
| C  | C  |

|    |    |
|----|----|
| G  | G  |
| G  | G  |
| Am | Am |
| G  | G  |

|    |    |
|----|----|
| Am | Am |
| F  | F  |
| Am | Am |
| C  | C  |

|    |    |
|----|----|
| F  | F  |
| G  | G  |
| Am | Am |
| G  | G  |

**Verse**

|    |    |    |    |
|----|----|----|----|
| C  | C  | C  | C  |
| G  | G  | G  | G  |
| Am | Am | Am | Am |
| C  | C  | G  | G  |

I'm packing my bags, getting ready to go  
Leaving my worries behind, feeling the flow  
Sun, sand and sea, my heart starts to glow  
This holiday's gonna be a show

**Chorus**

|    |    |    |    |
|----|----|----|----|
| Am | Am | Am | Am |
| F  | F  | F  | F  |
| Am | Am | Am | Am |
| C  | C  | G  | G  |

Holiday, oh holiday  
Let's make the most of every day  
No more work, just time to play  
Holiday, oh holiday

**What do you like about holidays?**

**...Write your own verse!**

|    |    |    |    |
|----|----|----|----|
| C  | C  | C  | C  |
| G  | G  | G  | G  |
| Am | Am | Am | Am |
| C  | C  | G  | G  |

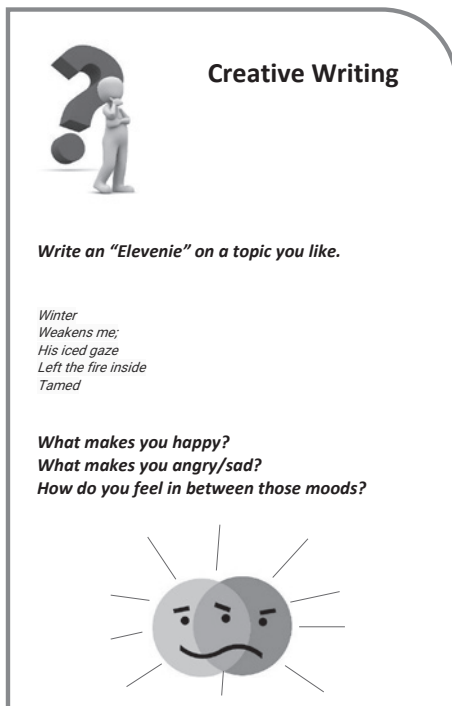
Fig. 8: Holiday Song

### ***Improvising melodies on given lyrics***

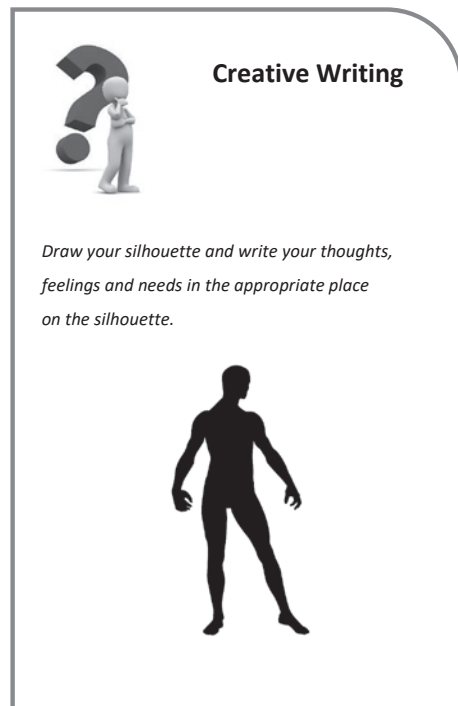
At this stand, the students find many different song lyrics and try to improvise melodies. An idea card provides different ideas for getting started, for example: "Read the lyrics line by line and try to put the words into 4/4 time. There are different possibilities!", "Find chords – Try different chords for each line.", "Play and hum: Play the lines with the chords you like. Hum a melody. Repeat this step as often as you like – take your time", and finally: "Play and sing the lyrics".

### ***Creative Writing***

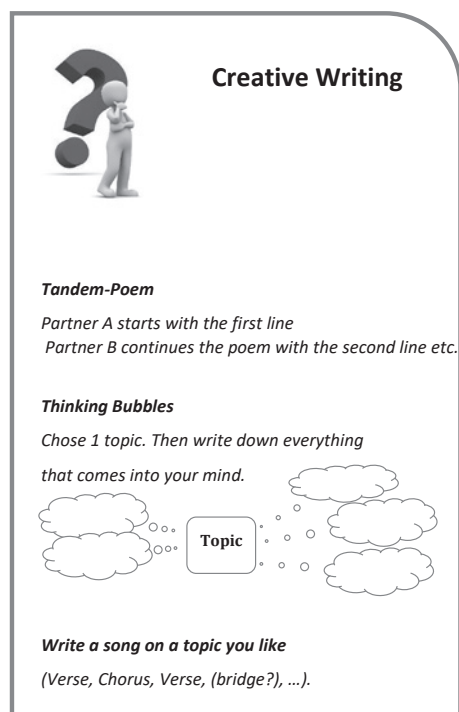
At the *Creative Writing* stand, students can try out different ways to play with words, e.g. the 'Elevenie' (Fig. 9) is based on the idea of writing a poem out of eleven words. In addition, there are ideas that can help pupils find a topic they really care about, e.g. by thinking about feelings or reflecting on individual needs (Fig. 9 & 10). Some cards also encourage finding a topic in collaboration (Fig. 11).



**Fig. 9:** 'Elevenie' and Feelings



**Fig. 10:** Emotional Silhouette



**Fig. 11:** Finding topics in collaboration

### ***Escape Room***

The *Escape Room* is the idea of a twelve-year-old student. When his own song was finished, he designed an Escape Room for other students. He invented a story that contained not only a problem that the others had to solve, but also various riddles, puzzles, songs and code words (made of chords and melodies) that gave clues to the content of the song that the other pupils had to write to solve the problem. I used his Escape Room idea several times and let the children write their own story, which they liked very much, and it encouraged them to play the ukulele, to create songs and to sing.

## **Reflection and Discussion**

The concept of the ukulele fairground has not yet been evaluated. However, at the end of this article, I would like to reflect on my experiences with it and discuss its potential for music education. In doing so, I refer to four central aspects: my role as music teacher, the aspects of time and space, and the fairground concept as a meaningful musical learning concept.

My own role changed in that I hardly had a teaching role in the process. I was approachable as a teacher, but I was also at the stands as a learner. I was learning strumming patterns, struggling with chord changes, writing a song, changing my lyrics, etc. Instead of helping the students solve a problem, I tried to help them find a helper among their classmates. Thus, I was primarily addressed as a teacher in moments that affected the whole school environment: How much time do we have left? Who is dismantling the station? What happens if a string of the ukulele is broken? At the stations, I was also able to observe the creative work process: Where are difficulties – how long do students need for which step – how do they work with each other – who can play well with whom – who has which strengths – where does a clear framework help in developing creative thoughts (see also: Breeze, 2009) – how can songs be built up (beyond established patterns like verse, chorus, bridge, ...) and much more. As haphazard playing has a major role in informal learning contexts (Green, 2016), I was able to accept phases that at first seemed wild or out of control. I learned more and more that as a teacher it is important to 'sit on your hands' and trust your students, because very often the wild and crazy moments suddenly turned into fruitful ideas.

The aspect of time was relevant in several respects. The ukulele fairground gave the students the opportunity to flexibly divide their time and to adjust the duration at a station to their own needs. Simultaneously, I had to question my own perception of time. I often had the impression that students had already spent a very long time at individual stalls, which awakened in me the need to send them to another stand. On closer observation, however, the differences in time required by each individual at each step of the process became clear – whether practical instrumental skills or the development of creative ideas. This also led me to interpret the times when students seemed to "relax" in the context of the fairground setting as creative breaks rather than signs of refusal to work. To sum up, I acquired a better understanding on the aspect of time for creative tasks. This is consistent with the student perspective on class music-making reconstructed by Moritz Kuck, in which the students complain about a lack of time in class music-making in general, but especially in the context of composition tasks, which in their opinion affects not only the music-making process, but also the product (Kuck, 2023, pp. 155–157). Another aspect of time relates to the diurnal conditions under which music lessons sometimes take place. Even the afternoon lessons which are often more difficult because of fatigue or lack of concentration became much more productive and enjoyable for all participants due to the environment of the fair, possibly also because the students were able to determine the tempo, the scope of the lessons, the degree of cooperation with others, the topics of the songs and much more, and were not dictated to by me as the teacher. Therefore, the fairground setting seemed to be much more adaptable to individual students' moods: The atmosphere was productive but relaxed, there was less arguing than usual, the kids worked a lot in teams or groups and they motivated each other. At the same time, there was not much competition between different individuals or groups, but honest musical interest

and appreciation. Still, I have to admit that not all students had a perfect song ready for production at the end of the unit (but that was not the intended goal either). What was true for many students, however, was that during the lessons when the fairground was implemented, they were particularly engaged in ukulele playing and songwriting, gladly accepted the various help at the stands and steadily expanded their skills.

In my opinion, spatial flexibility played a major role in this context, as it figuratively created safe spaces: Leaving the classroom and installing the stands in hallways, the schoolyard or the cafeteria helped us – the teacher and the students – to think out of the box. Students decided for themselves which parts of their process to share with other classmates or me, when to retreat to work, and when to be observed. Safe spaces also played a role in the outcomes: some students wrote a “public” song (which they presented to the class) and a “private” one just for themselves. Some sang their songs only to certain classmates, others only to me. Therefore, the students explored through spatial flexibility within the school building safe spaces in which they practiced humming and singing, alone or in teams or groups with friends. They were able to decide for themselves whether, when, and to whom to sing their song, or to teach their song to someone else and then sing it together. Most of the students even sang in front of the class – which I didn’t ask them to do. Consequently, although the task was primarily aimed at songwriting, singing was encouraged.

In the combination of individual musical work and learning, which is supported by the safe spaces as outlined above, and group work, I see great added value for class music making. Kuck writes that students often prefer group work for creative tasks in order to be inspired, but this often means that not everyone within a group can participate equally in the composition process (Kuck, 2023, pp. 146–147). At the ukulele fairground, on the other hand, students can find inspiration at the stands or in mutual exchange and write their song alone or (partially) together. This allows for a form of class music-making that flexibly moves between individual music-making and “community practice” (Kuck, 2023, p. 141: “Gemeinschaftspraktik”).

The goal of introducing the students to songwriting as an artistic task through various artistic-musical approaches (producing and reproducing, learning and developing, instrumental playing and singing, creative writing and instrumental playing) combined with playful approaches and a flexible time budget for practicing and experimentation (goal-oriented practicing and haphazard playing) was – at least in my opinion – achieved by nearly all of the students.

However, the most important point I would like to emphasize is this: Within – or inspired by – this teaching method, songs were created that meant something to the students and that were not just a completion of the task (Breidenstein, 2006: student job). Some students were very proud of their results – which encourages me as a teacher to promote such task formats. Class music-making in the school context became a practice that meant something to the students, and thus a connection between the school world

and the life world. This was also expressed in writing songs in school for “real” occasions in students’ lifeworlds, or vice versa: that students voluntarily took up ukulele playing and songwriting at home, writing songs that they demonstrated in music class. The topics that came up in the songs were varied. Some of them were very profound – they ranged from personal fears and experiences to general social concerns, e.g. exclusion, racism, loneliness or environmental protection – and it became clear that the students were expressing personal concerns that they have as subjects in the world. This leads me to consider whether teaching concepts such as the ukulele fairground might represent a music education implementation of Gert Biesta’s vision of “middle ground education” (Biesta, 2018) (see also: Bandlien, 2020). Biesta assumes that Art education needs both Art and Education: the “consequence of a possible lack of art or education is that the student’s desires or responsibilities towards the outside world, respectively, are removed from education. Both are equally unfortunate, according to Biesta, who proposes an art education that promotes the responsibility of the subject by asking it to seek a middle ground between its own desires and its responsibilities to the world” (Bandlien, 2020, p. 235).

## Conclusion and Perspectives

In my opinion, the linking of ukulele playing as a current musical practice among young people with creative processes in the classroom, such as songwriting, closes a musical and methodical gap in school music education: the ukulele, with its informal context and character, offers student-centred opportunities for instrumental practice, especially in a formal setting such as school music classes. In particular, connecting ukulele playing with songwriting, which is particularly reliant on instrumental skills, haphazard play, and creative freedom, seems useful. The combination of individual work phases with collaborative settings promises to be a purposeful approach, especially for compositional processes. Through the setting described, there was in many ways a connection between the school music-making practice and the students’ everyday life, which was also expressed in the fact that the students found the songs meaningful.

To provoke discussion, I would like to point out some further perspectives. After my experiences with the ukulele as a classroom instrument, I would generally like to see more music-practical approaches in schools that turn classroom music-making into a meaningful practice, that connect school and everyday life, and that also promote elementary ways of dealing with music, such as singing in its everyday variety. Moreover, the ukulele fairground concept is designed for younger secondary school students. Further development of the concept for older students would be desirable, also to counteract the “schizophrenic split” (Geuen, 2012, p. 48: “schizophrene Spaltung”) of music education at school, which places a strong emphasis on practical approaches in the lower grades and theoretical approaches

to music in the upper grades. As I illustrated above, the Ukulele Songwriting Fairground can be integrated into music lessons as a temporary limited project. However, I see potential in the systematic use of ukuleles in music lessons. The challenge, in my opinion, is not to fall back unreflectively on the logic of established string class or band class concepts that mainly focus on instruction and reproduction, but to preserve the informal character of the ukulele as much as possible and to promote a diverse and creative use of it in music lessons. Thus, approaches that counteract the dichotomy experienced by students of making music in class and “normal music lessons” would be desirable (Kuck, 2023).

Finally, the ukulele fairground is a learning concept that goes hand in hand with a change in established concepts of roles, space and time. This rethinking, combined with playful discovery, a flexible approach to time and stimulating suggestions while welcoming different paths to the goal (which is itself not fixed), is not optional, but fundamental to promoting creativity (Stöger, 2018.). The ukulele fairground can therefore serve as an example of sustainable music lessons that promote creativity. Many further steps are necessary to ensure that these types of creative and sustainable music lessons are no longer the exception but the rule in school contexts. This requires not only structural adjustments on the part of educational institutions, but also the courage and willingness on the part of teachers to take risks, break new ground and push existing boundaries.

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Verena Weidner, Katharina Hermann & Marc Godau

# ‘We Had the Ideas and He then Implemented Them.’

## Songwriting in School as Networking

*‘We used to travel miles for a new chord in Liverpool. We’d take bus rides for hours to visit the guy who knew B7!’, Paul McCartney remembers. ‘None of us knew how to finger it and he was the guru. We sat there and he played it a few times; then we all said: “Brilliant, thanks!” We already had E and A. The B7 chord was the final piece in the jigsaw.’*

(Pedler, 2010)

### Introduction

In this excerpt, Paul McCartney recalls how he and John Lennon took a bus through Liverpool to learn a new chord to use in their songs. This example points to the phenomenon that musical creativity is not necessarily the achievement of a single genius, but can take place as a distribution of knowledge among several actors involved. According to Timothy Warner (2000), the notion of a composing individual is a misunderstanding especially when it comes to popular music:

*The transposition of the Romantic notion of the artist as inspired individual into popular culture is undermined by the reality of pop music production, which is almost invariably the result of teamwork. (Warner, 2000, n. p.)*

Warner solely focuses on collaborating teams in the recording studio. But you could also imagine other people that play a crucial role in the entire songwriting process, sometimes not immediately thought of. Taking up the example of the Beatles, it is not only the Fab

Four, but also their producer George Martin and many nameless people like the stranger owning the B7 major chord who contributed to the music.

Against this background, we want to consider songwriting as networking. In this chapter we present empirical results from a qualitative research project on songwriting in music education.<sup>1</sup> We will use two case studies to illustrate how networks emerge in music learning processes, that relate in-school with out-of-school actors. This is innovative insofar as research on songwriting in school music has hardly addressed the interplay between learning in and outside the classroom between peers, but has focused primarily on interaction processes within groups of students (e.g. Barcellos, 2023; Duve, 2020; Grow & Ziegenmeyer, 2024; Holmes, 2023) or on formal collaborations with professionals from the music industry (Claufs & Dozoretz, 2023; Kladder & Cremata, 2023).

First, we will present the historical and theoretical background of our study: the compositional turn in music education as well as its sociological background, and learning as networking. After a brief introduction to the research project *MusCoDA*, we outline our methodological approach, and illustrate how songwriting in schools can take place as informal networking with peer-experts from outside the school. We reconstruct the learning processes of two small groups of students, compare their forms of networking and supplement this with insights into the teacher's perspective. The focus is on the different meanings and implications that networking with external peer-experts can have for students. Of particular interest is a field of tension that emerges in one of the two groups: On the one hand, their networking ensures that they successfully complete the task with the help of an expert, on the other hand, it is considered an, at least, ambivalent or perhaps cheating practice. As a conclusion, we address networking as a central, but, in the school context, demanding competence of the 21<sup>st</sup> century.

## **Compositional Turn in Popular Music Education and its Overall Societal Background**

In recent decades popular music education has been shaped by a compositional turn. This includes an increased emphasis on songwriting, in contrast to simply rehearsing or covering pop songs, and a shift from closed forms of composition to open forms of creating. Including practices of sharing, networking and remixing, Allsup (2013) predicted that these open forms “will become increasingly unfinished, a process of sharing and linking, and

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<sup>1</sup> The research project *MusCoDA – Musical Communities in the (Post)Digital Age* (2020–2025) at the Universities of Erfurt Paderborn is funded by the Federal Ministry of Education and Research in the funding line “Research on Digitalisation in Education” (FKZ 01JD2005A+B) (p. 3.).

looping and quoting, all within fluid layers of meaning that evolve and mutate as contexts change” (p. 68).

This orientation can be linked to the creativity dispositive<sup>2</sup> relating to society as a whole (Reckwitz, 2017; s. also Sachsse, 2020) and the hybrid double construction of ‘creative subject’ and ‘entrepreneurial subject’ (Reckwitz, 2006, p. 500; translated by the authors of this chapter), which can be observed in Western culture since the 1980s and continues in (post)digital culture. This cultural orientation represents a counter-movement to rule-oriented, organised modernity and its bureaucratic employee culture, in which given tasks are carried out by individuals within hierarchical organisations. Included is an orientation towards an “intersection of aestheticization and the social regime of novelty” (Reckwitz, 2017, p. 9), which became decisive for the entire society and as such also part of neoliberal economic policy (Stalder, 2016, p. 33). Today, networks as communities of exchange, sharing and cooperation provide agency for the creative production of information, knowledge and skills through ubiquitous digital communication (Stalder, 2016, p. 38).

## Learning as Networking Inside and Outside School

In recent years, perspectives based on network theories have become increasingly important in the study of social processes. These include, first and foremost, developments in the digitisation of society as a whole. For example, in his observations on the “Kultur der Digitalität” (culture of digitality), Felix Stalder (2016) speaks of a networked subjectivity in which individuals position themselves in social networks. Alongside traditional institutions such as the family or the workplace, networked collectives have gained increasing importance. A concomitant of this development are phenomena of disconnection, which go hand in hand with a romantic idea of naturality and more authentic connections (Karppi et al., 2021).

Networking processes have generally been taken up by connectivist and relational learning theories and paradigms (e.g. Künkler, 2011; Siemens, 2005). They emphasise the development of relations between diverse actors as nodes and learning in networked communities. For the informal, out-of-school learning of bands, Godau and Haenisch (2019) have shown how songs are not to be understood as works, but as a process of continuous and dynamic networking of heterogeneous entities (people & things). Similarly, but with a focus on networks between people, Längler (2022) shows that for pop

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<sup>2</sup> A dispositif is a social network of socially dispersed practices, discourses, artefacts and modes of subjectivation which, while not necessarily completely homogeneous, are nevertheless held together and coordinated by an order of knowledge. Accordingly, the creativity dispositive describes the social and cultural-historical process whereby people in modern society are increasingly expected to be creative and at the same time increasingly want to be creative (Reckwitz, 2017).

musicians in particular networks of musicians (e.g. band members or instrumental teachers) are important in the process of acquiring expertise informally. The latter indicates that network analyses are important, in which the relations between formal-institutional and informal-extra-institutional contexts are observed.

Up to now empirical network analysis on school learning processes mainly focuses on classroom interactions between students or between students and teachers (Mejeh & Hascher, 2021; Troll et al., 2022). In music education, the use of network analysis is extremely rare. One exception is Kulin (2012; see also Kulin & Schwippert, 2012), who investigated networks of teachers in the JeKi<sup>3</sup> project and, among other things, highlighted an expansion of opportunities for action through social capital at the level of social relationships. Besides that, Godau (2017) shows that when groups of students cover songs, not only in-school actors (e.g. members of other groups or teachers), but also people outside of school (e.g. relatives and acquaintances) become important for successful learning. These first indications underline the idea that looking beyond the classroom context can open up new perspectives on students' musical learning processes and how they may be optimally supported. Beyond supporting the acquisition of subject-related competences in the traditional sense, this may also apply to the acquisition of network competences themselves.

### **Research Project MusCoDA – Musical Communities in the (Post)Digital Age**

The research project *MusCoDA*<sup>4</sup> at the Universities of Erfurt and Paderborn addresses music learning as networking. It examines songwriting as an example of collective creativity in (post)digital communities. During a first stage of research, the Paderborn subproject researched how songs are composed in amateur bands and on platforms like TikTok or YouTube under the conditions of increasing digitisation (Haenisch et al., 2023). Meanwhile, the Erfurt subproject investigated songwriting in school music lessons, using teaching methods and suggestions from music education literature (Weidner et al., 2023). In the second phase, both subprojects will be brought closer together with the aim of consolidating the previous results and evaluating a second, jointly developed lesson design.

In this paper, we will present first results of the Erfurt subproject relating to songwriting in the classroom. The focus is on how informal, out-of-school actors are involved in the formal learning processes and how a field of tension emerges when digital culture shows up in networking processes at schools.

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<sup>3</sup> Every very Child an Instrument (JeKi) was a music education program in North Rhine-Westphalia (Germany) in which children get to know a variety of instruments, with a focus on making music together and the associated learning of musical and social skills.

<sup>4</sup> see footnote 1.

## Data Collection and Analysis

The first research phase involved gathering video and interview data as well as data from learning journals from a total of eight classes of grade nine (age: approx. 15) across four schools in Thuringia.<sup>5</sup> To ensure that the results are comparable and teachers are involved in planning the lessons a card game was created (Weidner et al., 2023; Fig. 1).



Fig. 1: Write Your Song! Card Game

It is based on music education literature on songwriting (236 documents such as studies, practical examples and teaching concepts) and reconstructs various teaching strategies and approaches that are already widespread in music education. The card game supported the teachers in planning a lesson series<sup>6</sup> in which the students were asked to compose their own songs in small groups using the equipment available in their school. All songwriting groups were videotaped throughout the entire period. These videos were used in interaction analyses and video-stimulated recall interviews with the students, in which they were asked to talk about the persons involved, both inside and outside the school. In addition, the students kept learning journals, in which they recorded everyone and everything that helped or hindered their songwriting process.

These data were analysed with reference to qualitative network analysis (Hollstein & Strauss, 2006; Rürup et al., 2015) and constructivist grounded theory methodology (Charmaz, 2014). Two types of network maps were created from this data, relational network

<sup>5</sup> Data collection took place from March 2022 to February 2023 in the form of face-to-face lessons.

<sup>6</sup> Consisting of eight lessons, each lasting 45 minutes.

maps and process maps. The relational network maps show the different actors involved, their respective roles, and the quality of their relations reconstructed from the group's point of view. On the one hand, these networks are characterised by certain practices that were reconstructed on the basis of the videos and interviews. On the other hand, the narratives with which the participants identify play a role. Both components are made visible in the form of relations between the actors. The actors themselves (individuals, groups or organisations) are understood as nodes that form the intersections between the relations (Fuhse, 2008; Rürup et al., 2015). In addition, we use process maps to trace how the respective practices and actors characterise the songwriting process over time. By combining these two network maps in the course of theory development, a multidimensional view of the emerging songwriting and learning networks can be developed.

## Results: Networking with Experts from Outside the School

In the following we illustrate how networking between small groups of students and extracurricular experts emerges during the songwriting process. The two cases presented derive from two 9<sup>th</sup> grade classes at an urban secondary school. They have the same music teacher and are given the task to write their own song together within three or four blocks of lessons.<sup>7</sup> Both groups are formed within the first lesson block, which the teacher uses to introduce the task and to present basic musical elements and the classical structure of songs. Further on, each of the two groups involve a brother of one member to support them in fulfilling the task. The two case studies and their comparison will show that these two expert networks have both similarities and differences that may be important to the further understanding of networking with out-of-school actors.

### *The Jasper-Group*

The Jasper-Group consists of four boys, named Jasper, Frank, Aaron and Valentin, and they begin their songwriting by entering into a discussion about the preferred genre of their song and working on the instrumental and the lyrics. Because the students consider their work process to be unproductive, after the third teaching block, they create additional communication rooms and times independent of the lessons. They set up a WhatsApp-group in which they continue the discussion about the genre and begin to work on the song outside of class time at home, sharing, discussing and improving partial outcomes via the messenger.

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<sup>7</sup> The period (11 weeks) of the series of lessons lasted from March to June 2022 and was repeatedly interrupted and extended by holidays and cancellations of lessons. Both groups had a double lesson (90min) of music lessons every fortnight. The Jasper-Group is from an iPad class which means that everyone has their own iPad. The Leon-Group only had access to iPads during music lessons.

In addition, the group and Jasper in particular are now drawing on an already existing musical exchange between Jasper and his brother. Jasper’s brother has skills in music production with digital audio workstations (DAWs), he regularly creates house music tracks himself, and he sends two or three tracks to friends per month to gather their feedback. On several occasions he has also shown Jasper projects and sent him tracks to listen to and give feedback. Besides that, the two of them had already composed one or two tracks together for fun. According to Jasper, that’s why he already knew the basics about the structure of house tracks and what else you have to pay attention to.

Now Jasper and his brother are building on this joint work on the occasion of the school project. They sit down together and the brother shows Jasper how he usually proceeds when he makes a song, and displays certain techniques, such as the arpeggiator or the volume control in GarageBand. At some point, Jasper did everything on his own and only called his brother for feedback.

Mediated by Jasper, this exchange between him and his brother eventually gains significance for the entire group. This affects the instrumental track, where the group follows the clues provided by Jasper’s brother, and it also affects the lyrics, which don’t really fit the instrumental. That is why the group uses the fourth and last lesson block to adapt lyrics and instrumental as well as possible. However, in the end the result remains unsatisfactory: The song is still unfinished, the lyrics still don’t fit the instrumental properly and don’t really appeal to the group. Overall, the song is ‘*not a masterpiece*’ and ‘*not such a burner*’.<sup>8</sup>

### ***The Leon-Group***

During the first lesson block the Leon-Group, which consists of Leon, Friedrich and Mael, already has written a script that makes it clear what their song should look like. The group starts the second block of lessons by each working on the instrumental parts of the song. After a short feedback session with the teacher on a melody, the three students move on to expanding and developing the song idea together. At the end of this block, it is decided that Leon will continue working on the song at home.

At home, both Leon and Friedrich start a repeating process in which each of them tries out different ideas for the instrumental on the tablet, spins them further, evaluates them, discards the result, and then tries them out again, etc. Because of this the students come to the conclusion that while they have succeeded in creating a vision for their song, they lacked the skills for the technical implementation.

In order to find a solution here, the group starts a WhatsApp communication in which they agree to ask Leon’s brother for help, since he has technical expertise and a better software at his disposal. The group messages Leon’s brother via WhatsApp, arranges a joint

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<sup>8</sup> All interview quotes have been smoothed and translated for this text.

virtual video meeting on Discord and sends him their song script as well as various sound recordings and videos that are supposed to represent the group's song idea.

Using these recordings, Leon's brother creates a sample song in preparation for the first meeting. During the three Discord meetings that follow, each lasting about two hours, the group and Leon's brother work closely together on the joint song. At the end, Leon's brother sends the group the finished song.

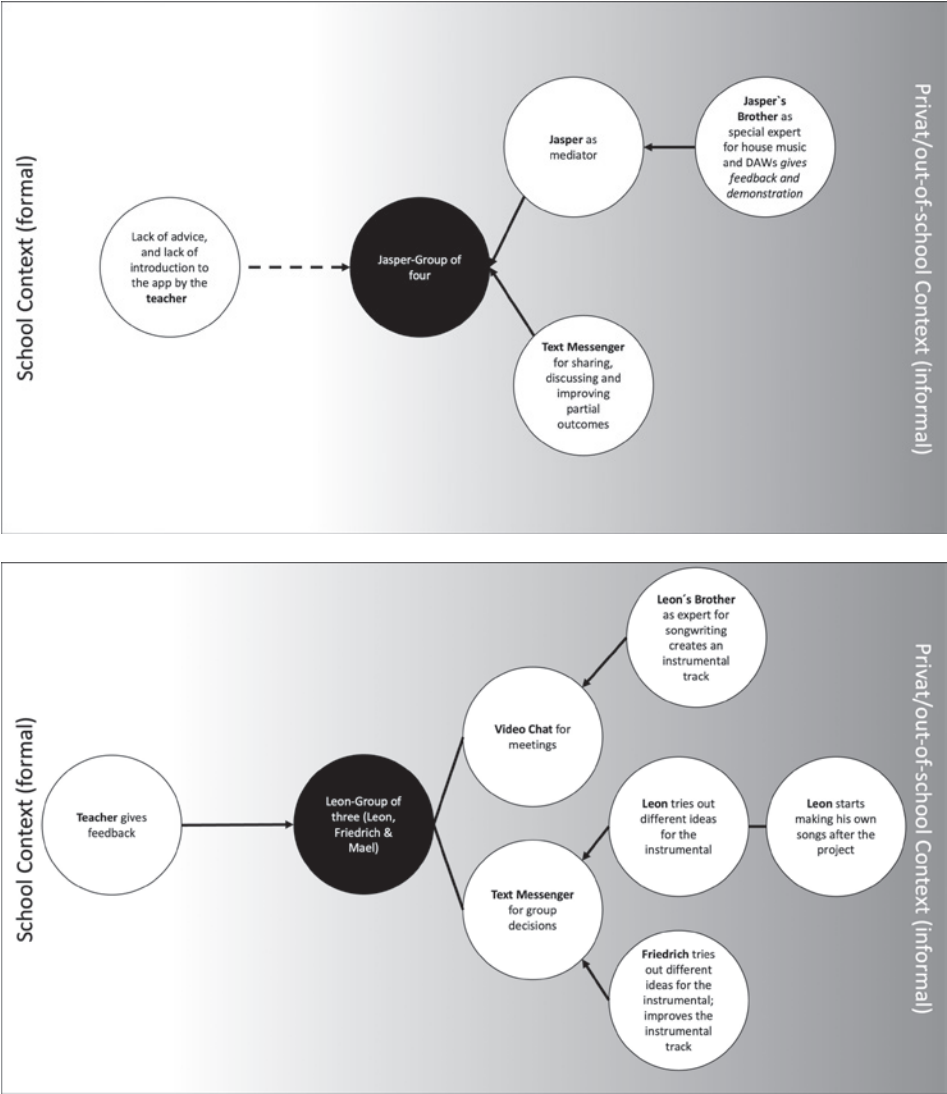


Fig. 2: Jasper-Group & Leon-Group

The third and last teaching block is used by the group to improve the lyrics. The students work on it in threes at first, before Friedrich opts out and improves the instrumental instead. The group ends the lesson sequence by handing in a finished song, and Leon also begins to make music and write songs in his free time.

### ***Comparison***

If we compare the two network formations of the Jasper group and the Leon group, some similarities first catch the eye: Both groups intensify their communication before the last lesson block and find additional times and spaces in which they can work on their song. And both groups network during this process with the brother of one of their members and thus a familiar family member, who supports them with regard to the instrumental parts of their songs.

Despite these striking similarities, differences also become apparent. This concerns firstly the addressing of the two brothers with regard to their respective expertise: although they both are seen as experts, at the beginning only the Jasper-Group knows that Jasper's brother *'creates electronic music as a hobby'* (Jasper in the interview with the Jasper-Group). The Leon-Group only learns this in the course of the exchange with Leon's brother. So, while Jasper's brother right from the start is addressed as someone who can speak generally about *'what you have to pay attention to'* (ibid.) when composing songs, Leon's brother is initially only addressed as someone who has technical expertise and suitable equipment. Conversely, while Leon's brother eventually acquires the status of songwriting expert *'par excellence'*, Jasper's brother's special expertise is limited to the genre house music and therefore only has a limited impact within the group.

Moreover, there are notable differences in how each of the brothers is integrated into the group. While Jasper's brother is integrated into the group network indirectly via his relation to Jasper, Leon's brother interacts directly with all group members via WhatsApp and during the joint Discord meetings. Thus, the Leon-Group is able to *'work together practically in a group of four'* (Leon in Interview 1 with the Leon-Group).

Of particular importance is how the participants describe the involvement of the respective brother. In the Jasper-Group these descriptions are quite clear and consistent: Jasper's brother *'gave Jasper tips'* and *'showed him techniques'* (Jasper in the Interview with the Jasper-Group), and *'just gave him a bit of feedback and stuff every now and then'* (Jasper's brother in the Interview). In a way, with this the brother made up for something that the teacher had missed. The teacher would have been better off *'giving some kind of advice [...] on how [the group] can best get started and so on'* (Frank in the interview with the Jasper-Group) and *'giving a better introduction to GarageBand'* (Jasper ibid.). All in all, the brother was *'more of a guide'*, he *'didn't do things [him]self, no.'* (Interview with Jasper's brother).

The descriptions in the Leon-Group, on the other hand, are quite different here. Leon's brother also *'helped'* (Mael and Leon in Interview 1 with the Leon-Group) when they decided they needed *'outside help'*, but unlike in the Jasper-Group, it seems to have been less about help in learning the skills needed for the task than about help in completing the task: *'[Leon's brother] helped us get there, to a song that we wanted to do ourselves like that.'* (Leon in Interview 2 with the Leon-Group)

Besides that, the narratives in the Leon-Group are much more ambivalent. To one side, it is reported that the group already had *'a clear idea'* at the beginning *'how [they] actually want to design the song'* (Leon in Interview 1 with the Leon-Group) and that the brother merely supported them in the realisation, because *'he is relatively fit when it comes to pretty much everything with technology'* (Leon in Interview 2 with the Leon-Group). In this narrative, the decisive impulses come from the group itself: Leon, Mael and Friedrich send Leon's brother a script and recordings illustrating the song vision. Leon's brother only prepares *'a very small sample song. Just with a beat, a melody and in which direction it should go. So, it wasn't completely finished yet. Only what we tried to do in the second lesson. Just a beginning of the song. Yes'* (ibid.). The group gets intensively involved during the video chat meetings by discussing and voting on the brother's attempts at implementing their vision. And one of the group members (Friedrich) even tries to improve the finished instrumental sent by the brother according to his or the group's expectations. In this narrative, Leon's brother merely takes on the role of the technical expert, who translates the group's ideas into a music software. The actual creative work is done by the group.

In contrast, the interviews also reveal a different narrative, in which Leon's brother plays a much more active role: Here, too, it is the case that the group had communicated their vision to the brother in advance and got involved in the work during the video chat meetings. But the group *'of course'* had *'gratefully accepted'* the offer of Leon's brother's to *'do something further again'* (Leon in Interview 2 with the Leon-Group). Since *'all three'* of the group regarded each other as *'not really musical'*, they had *'asked him if he could maybe come up with something and [they] could just work on it with him. And he said that it would be okay like that and then he created a song with the notes that [they] sent him by photo.'* (Leon in Interview 1 with the Leon-Group)

Although at the end this instrumental has a different mood than originally intended and no longer fits the text, the group decides to adapt the lyrics – and thus also the original vision of the song – to Leon's brother's ideas:

*We had agreed in the first hour, that we would make a more cheerful song, but now we thought that after the song, the melody was finished, that [...] we would write the song more expressively* (ibid.).

The decisive musical impulses here quite clearly come from Leon's brother. In this narrative, Leon's brother has evolved from a mere technical expert to a music expert, who supports

the group by doing most of the project work himself.<sup>9</sup> In contrast, in the Jasper-Group the genre discussion remains controversial until the end and the group members are completely unimpressed by the fact that Jasper’s brother is a house expert.

### *The Teacher’s View*

In contrast to what the two student groups report, the teacher neither observed the networking with actors outside the groups or outside the school nor the additional working hours and spaces that the groups had invested: *‘I didn’t notice, so maybe I just didn’t see it’* (Interview with the teacher). Instead of referring to the fact that the song projects of both the Leon- and the Jasper-Groups have changed at some point before the last lesson block<sup>10</sup> and drawing appropriate conclusions from this, the teacher only uses his observations from other music lessons as a yardstick: *‘So, according to my observation, what I see in class, it’s like a notebook. They open it, the bell rings, it starts, and they [incomprehensible]. Then they know what they have to do and do that’* (ibid.).

## **Discussion: Networking in the School (Music) Context**

The presentation and comparison of two songwriting networks in the preceding section indicates that the idea of networking between school and non-school actors is not only quite new in terms of research (see above), but also raises previously unasked questions.

This is true not only with regard to collective creativity and the observation that the creative impulses can no longer be traced back to single individuals (Burnard & Randles, 2023), even by means of intensive research work, but also in relation to what goes along with the idea of networking in the context of school task fulfilment (Breidenstein, 2006; see also Theisohn, 2023). It can be assumed that different narratives circulate in contact with the Leon-Group not only because of gaps in memory, but also because something not quite permitted seems to be at play here.

While in the network of the Jasper-Group a role description prevails, that is a legitimate practice also in other school contexts – a family member helps with homework with the aim that the student learns what there is to learn through the assigned task – there seems to be something else at play with regard to the Leon-Group. One can assume that from the group’s point of view with regard to the relatively active role of Leon’s brother in

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<sup>9</sup> Although the Leon-Group reports quite extensively about the work process in two interviews, unlike in the Jasper-Group, every attempt to get an interview with Leon’s brother fails. There were several attempts on the part of the research team, both inside and outside the classroom, to request an interview with Leon’s brother. However, Leon quickly refused each time and a tense, unpleasant atmosphere arose as if we were doing something illicit.

<sup>10</sup> We have not carried out any product analyses, but this is hardly conceivable otherwise after analysing the work process.

the second narrative the suspicion of cheating may be in the air, even so it is not possible to trace back when this view became present<sup>11</sup> or how dominant it is from the group's perspective.

Independent of the views of the students, the perspective of the teacher is also informative here. What is particularly striking is how little he notices about the additional commitment of the two (and also the other) groups. Apart from the fact that this may show a lot about this teacher's quite low insights into the self-directed learning processes of his students, his assumptions also give indications of the image that this teacher has of his students. Rather than seeing them as the networked creative subjects they acted as in the course of their songwriting project, his view of them is more reminiscent of the rule-oriented individual subjects that Reckwitz describes in reference to bureaucratic modernity (see above). They merely carry out given tasks within an externally defined temporal and spatial framework without bringing in too much of their own initiative.

As a consequence, those facets, that would possibly be classified as cheating also by the teacher, are in the dark. But also all that is required of the students if they want to network successfully remains completely unaddressed: the networking not only has to be initiated and organised, but in any case also requires "exploring the potential to share visions, resources and agency, through collaboration and negotiation, across physical and virtual networks" (Cayari 2020; s. also Clauhs & Dozoretz, 2023).

At least in Leon's case this additional investment of time and attention goes along with further musical engagement beyond the school project. Although 'doing it oneself' or 'being able to do it oneself' was not the main focus within the Leon-Group and their collaboration with Leon's brother, this seems to have been one of the effects of the joint project work. This could be linked to the finding that students are '*more on task when they are working with their friends*' (Chen, 2023, p. 203) with the assumption that this could also apply to family members with whom you get along well. Seen from this perspective, networking does not only mean making work easier for the students, but also requires and may even motivate additional commitment.

Regardless of how schools in general and music education in particular position themselves in the future with regard to such networking processes, these considerations already make it clear, that it will be in any case relevant to consider them comprehensively: not only with regard to their potential downsides (e.g. ambiguities in the evaluation, no musical competence acquisition), but also with regard to their initially, perhaps, surprising side effects.

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<sup>11</sup> The fact that the Leon-Group only learns about Leon's brother's extensive musical expertise later suggests that it only became clear to them in the course of the work process that Leon's brother could compensate for their own lack of competences.

## Implications

Considering the musical practice in the age of post-digitality, two aspects can be derived that are closely tied to each other. One concerns the question of authorship and the other the question of forms of acting and the ideological background that goes with it.

Allsup himself makes the comparison between Beethoven as the only true genius or the epitome of musical individual-centrism or singular authorship, and the open-source artist Kutiman, whose practice is described as participatory practice with plural authorship (Allsup, 2013). The shift from closed forms to open texts is thus echoing post-digital practices of referencing or remixing (audio) memes or sampling etc. (Stalder, 2016). In such a culture of creative citation, authorship is located in a community rather than in individuals. For example, TikTokers make use of community comments below previous videos in so-called commentary songs, or open up songwriting with open verse challenges, or the public release of chords or beats, etc. for a collective whose members remain mutually unknown (cf. Haenisch et al., 2023). Furthermore, websites such as Songgeflüster (<https://www.songgefluester.de>), Fiverr ([www.fiverr.com](http://www.fiverr.com)) or Songlorious (<https://www.songlorious.com/>) etc. not only offer the possibility to turn one’s individual ideas into a song for a fee, but also to produce individual tracks.

Against this background, a critical argument can be made, especially for forms of composing in the context of a popular music pedagogy. As the cases presented in this paper highlight, music in schools may still perpetuate a concept of creative subjects who compose music in a self-disciplined way on their own or in one’s own group, as an expression of one’s own musical competence. Both in music education and in schools in general individual performance seems often to be the only existing perspective on achievement, which is why only this form of performance is rewarded. And overall, sometimes the image of individual bureaucratic subjects seems to prevail rather than that of networked and entrepreneurial creatives.

Looking at songwriting in the light of societal changes in the 21<sup>st</sup> century, it becomes clear that the ability to network is becoming increasingly important. In order to be successful, it is usually not enough to work alone on given tasks.<sup>12</sup> This results in new demands on pop music education (Godau & Haenisch, 2022) and the school context in general. Regarding the associated basic skills, a fundamental orientation of songwriting as networking touches on creativity and critical thinking in addition to cooperation and communication. Following these assumptions existing notions of learning have to be questioned and broadened to the sharing of knowledge and stakeholders.

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<sup>12</sup> Zwaan, ter Bogt and Raaijmakers (2010), for example, observed for the careers of 369 musicians that *‘professional attitude and professional network were significantly correlated’* (Zwaan, ter Bogt & Raaijmakers, 2010, p. 18).

However, it will be just as relevant not to simply perpetuate the neoliberal narrative (see above) of authentic and freely deciding subjects who should now also be able to form networks, reach out to others (Boltanski & Chiapello, 2013), and accumulate creative cultural capital in the process (Kanellopoulos, 2021; see also Biesta, 2013). Assuming a possible neoliberal commodification of school learning, where students are seen as entrepreneurial and competitive subjects who no longer distinguish between work and leisure, this implies the erosion of the idea of communal use or 'sharing' of resources and knowledge (Stalder, 2016; see also Kergel, 2018). Music education would then have fallen into the 'accountability trap' (Kanellopoulos, 2021, p. 153) of economic interests.

For a sustainable music education it will therefore be important that it enables students to acquire the communicative-social competences that are required to solve emerging issues and finish ambitious creative projects while at the same time focusing on existing or emerging inequalities as well as potential aesthetic experiences that the process has to offer, regardless of any transfer goals. In this understanding, learning as networking can also be seen as a way to create new opportunities for participation in creative practices and more connection in the 21<sup>st</sup> century classroom.

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### **III. TECHNOLOGY ENABLING COMPOSITION AND PRODUCTION**



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# From Sheet to Beat

## Creativity and Composition as Useful Content for (Digital) Lifelong Learning

### Introduction

At the 30<sup>th</sup> EAS Conference in Lyon in 2023, a symposium designed by members of the EAS Special Focus Group *DigiTiME* (Digital Technologies in Music Education) offered insights from five countries: Germany (University of Music Trossingen, Leuphana University Lüneburg), France (Cefedem Auvergne Rhône-Alpes), The Netherlands (ArtEZ Conservatory Enschede), Austria (University of Music and Performing Arts Vienna) and Switzerland (University of Teacher Education Lausanne). All members were dedicated to the connection between musically creative teaching as well as composing in a broader sense and the use of digital technologies. These were theoretically tied back to the two established heuristics or competency models named “technology acceptance” (TAM) and “technological pedagogical and content knowledge” (TPACK). In the work with those attending the symposium, it became very clear that on a meta-level educating teachers is not just about learning tools or expanding one’s own methodological repertoire. Rather, the lifespan perspective and mindset or habits of music teachers were recognized and discussed as the actual challenges.

Lifelong learning and lifespan perspectives have become more prominent in recent research on music education (Barrett & Westerlund, 2017; Myers, 2008). Furthermore, there are numerous studies from developmental psychology that provide in-depth insights into creative learning processes or the highlights of creative work from a lifetime perspective (Hui, He, Wong, 2019, Simonton, 2022). And there are some papers on the mindsets of music teachers in the context of changed conditions in music teaching (Salvador, Paetz, Lewin-Zeigler, 2020), even with a link to the importance of failures or errors (Davis, 2017). Therefore, the chapter will also focus on this.

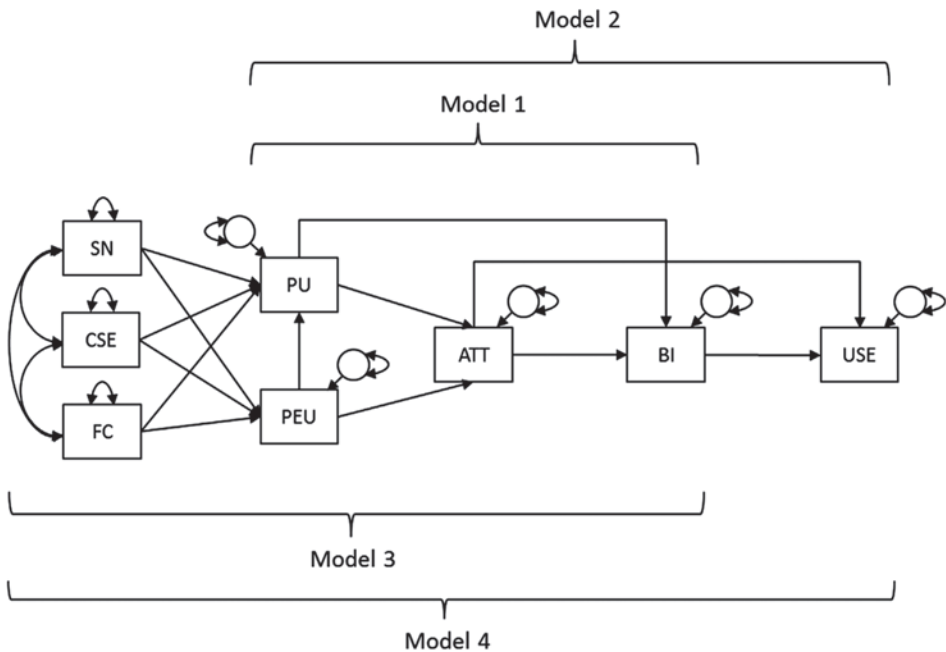
Based on the authors' own projects and the feedback from the participants, we try to reinforce the statement that the content areas and competencies for creativity and composition can be built and taught by integrating digital media. And it should become clear that the use of digital technologies must necessarily lead to lifelong learning and ongoing professionalisation of music teachers – maybe even changing their mindsets. Because without these qualifications and time investments, music lessons remain at the level of the teacher's own education – which might have been already years ago. And while it seems to be common sense on a broad level that a music instrument needs to be practised and that new pedagogical approaches are learned or tried out in professional training courses, becoming familiar with software poses a much greater challenge due to the short cycles of its development. And yet, the use of digital media opens up opportunities for a diverse practice of music teaching, as will be shown in the article. Finally, the specifics of the respective countries and the curricula must be discussed in more detail at the end of this article as relevant framings.

### **TPACK and TAM – Frameworks for Technology Implementation and Acceptance**

There are two overarching theoretical frameworks that have been widely received in the international English-speaking discourse in the last decades: the *technological pedagogical and content knowledge* framework (TPACK, <http://www.tpack.org>, introduced by Mishra & Koehler, 2006, cf. Fig. 2) and the *technology acceptance model* (TAM, initially proposed by Davis, 1985, cf. Fig. 1). These two models address the most crucial issues when it comes to technology use in education.

On the one hand, technology use has always to be seen in connection with a teacher's expertise on the respective (musical) content that is transmitted, as well as with the pedagogical knowledge on how this transmission can take place. On the other hand, the history of technology in education shows that the potential impact of emerging technologies in education does not merely depend on the technological or IT quality of the proposed tools, nor on the marketing efforts that technology industry invests to promote its products. What is crucial is the level of dissemination and the acceptance that new technologies can achieve in the educational system. Music education is a subject where – in some European countries more than in others – a tradition of considerable scepticism and reservations about the use of digital technologies exists among music teachers (e.g. Aigner, 2017, Gall et al., 2012, Höfer, 2016, Waddell & Williamon, 2019), constantly slowing down the already fragile consolidation of technology acceptance in the music education community. While rejecting technology can be seen as equally problematic as “integrating technology in music education uncritically” (Tobias 2017, p. 305), music education

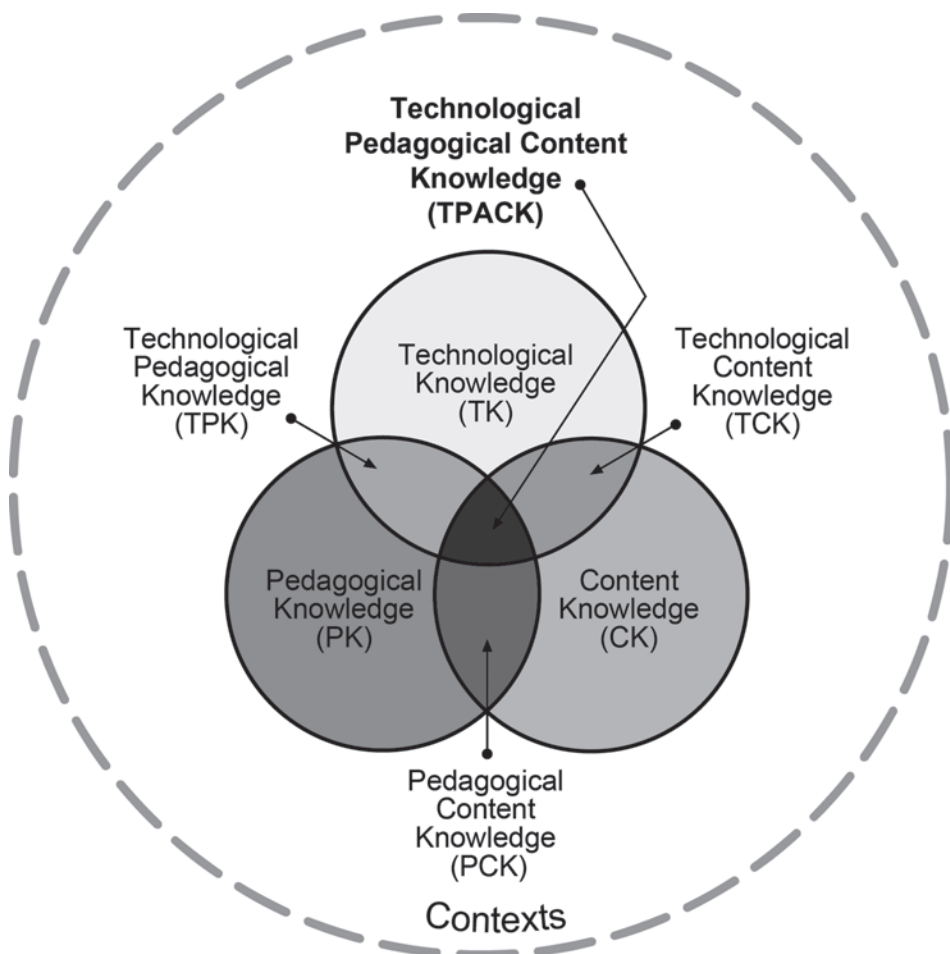
researchers have argued against technological determinism and in favour of a focus on teachers and learners “as agents of change rather than on technology itself” (Ruthman et al., 2015, p. 124). Both aspects – the competences for dealing with technology and the acceptance of technology – are closely linked to the rapid development of technical progress (Bauer, 2020) and to subject-specific problems, e.g. the fact that software and hardware tools for musical purposes tend to be highly specialised (Ahlers, 2009) and differ from other application scenarios in education.



**Fig. 1:** Current extended version of the *technology acceptance model* (Scherer et al., 2019), including subjective norm (SN), computer self-efficacy (CSE), facilitating conditions (FC), perceived ease of use (PEU), perceived usefulness (PU), attitude towards technology (ATT), behavioural intention (BI), and actual use (USE).

TAM was originally developed as a theoretical model to better understand user acceptance processes, thereby providing insights into a successful design and implementation of information systems, and as a theoretical foundation for testing users’ acceptance of new information systems (Davis, 1985). The current extended version of TAM (see Scherer et al. 2019) comprises different variables that affect one another and can predict a teacher’s actual use of technology. The model theorises, that teachers must have the intention to change their behaviour (BI) to actually use technology in their work (USE). This requires a positive attitude towards technology (ATT). Furthermore, how someone has perceived technology, i.e., if they have perceived technology as being useful (PU) and easy to use (PEU), affects

someone's attitude towards technology. These are related to external variables, i.e., opinions that important others have about technology use (subjective norm, SN), self-efficacy regarding technology (CSE), and facilitating conditions (FC), such as the availability of the required technology or the stability of the WIFI. Recently, another variable was proposed to affect technology acceptance, namely TPACK (Scherer et al., 2019).



**Fig. 2:** TPACK (reproduced by permission of the publisher, © 2012 by tpack.org)

The TPACK framework (Fig. 2) illustrates what is needed to successfully integrate the use of technology into teaching (Koehler & Mishra, 2009). It comprises three bodies of knowledge (i.e., content, pedagogy, technology). These are embedded in a context and interact with each other, thereby introducing specific extra bodies of knowledge. Content knowledge (CK) refers to the subject matter to be learned or taught. For music

education that is knowledge about music, for example, music phenomenon (e.g., beat, measure, pitch, timbre), how to write a melody, or how to play a minor scale on a piano. Pedagogical knowledge (PK) refers to what it takes to teach and learn, including knowledge about methods, strategies, techniques, student assessment, general classroom management, and how children develop and construct knowledge. In the overlapping body of knowledge, pedagogical content knowledge (PCK) is applied for the subject matter to be learned and taught. Music teaching requires specific knowledge, such as how to teach children to control their voice when singing or to realise a rhythmic pattern on a drum set. Technological knowledge (TK) refers to knowledge about how to use and interact with technology. This, for example, includes knowledge about how to operate a technology and an understanding of what the technology is capable of. If used for teaching and learning, a special body of knowledge (technological pedagogical knowledge, TPK) is required, for example, about how, why, and when to use a specific technology for teaching and learning. Technological content knowledge (TCK) refers to understanding how to use a specific technology in combination with the subject matter. Ultimately, technological and pedagogical content knowledge (TPACK) is the specific body of knowledge about the application of technology for teaching and learning the subject matter. In music education, TPACK is, for example, about how to teach and learn how to create a melody while using a specific technology.

The proposed link between TPACK and technology acceptance (Scherer et al., 2019) becomes apparent when understanding the complexity of the various bodies of knowledge. This is especially evident given that technological knowledge depends on the specific technology being used and the fact that there are rapid changes in the technologies that are being developed and made available. The lack of skills in working with specific technologies, due to too little effort and time invested in acquiring technological knowledge, can logically lead to teachers perceiving technology as difficult to use (and maybe considering it as “toys for boys”, cf. Born & Devine, 2015), which may negatively affect their attitudes towards technology. If teachers have not learned how to meaningfully use technology for teaching and learning (i.e., TPACK), they may question its usefulness. At the same time, if teachers have a negative attitude towards the use of technology for learning and teaching, it may affect their willingness to invest time and effort in acquiring the different bodies of knowledge involving technology (i.e., TPK, TCK, TPACK). So, TPACK and TAM seem to be interdependent and introduce the challenge whether to start with building technology acceptance, training in TPACK, or with both at once. Evidently, training in TPK, TCK and TPACK should be part of (music) teacher training and also stay on the agenda for professional development for in-service music teachers: As technology evolves rapidly, many music educators have not been educated in TPACK during their initial music teacher training and, therefore, lack development in TPACK

(Brown, 2015). Simultaneously, building technology acceptance may be accelerated by addressing the external variables of the TAM.

Additionally, new ideas and conceptualizations of TPACK have been proposed to connect TPACK to music education as MTPACK (e.g., Bauer, 2013; Gall, 2017), taking into account new elements from a musical perspective – for example, the cultural context in which school music is taking place and music teachers' personal beliefs and values that should be considered (Gall, 2017). Other initiatives combine the concept of project-based learning (PBL) with the TPACK approach in initial teacher education (Tejada & Morel, 2019) or deal with the training of educators in music education on the higher education level (Mroziak & Bowman, 2016). Results of a study on German music teachers in primary and secondary education (Godau & Fiedler, 2018) suggest that more research is needed to further specify MTPACK as a reliable framework. For music education, all these perspectives may accelerate technology acceptance even further.

## Feedback and Add-Ons from the Symposium

The discussion with participants of the symposium during our presentation shed light on the challenges and concerns, but also on the awareness, changes in posture and even mindset, that are taking place among music teachers today. Members of the audience spoke of “non-expertise”, “lack of knowledge”, “peer training”, “self-training”, “shared practices”, and “mutual learning with students”.

In this period of changing relationships to knowledge (from scarcity to infobesity), teachers are no longer the sole holders of knowledge in the classroom. In this new knowledge regime, they are, by turns, guides, facilitators and co-learners on a shared educational journey (Citton, 2014). This shift in posture invites humility, curiosity and the need to experiment, exploiting the possibilities offered by technology to create dynamic, student-centred learning experiences that help reinforce the creative and reflexive journey present in the literature (Schleicher, 2011; Bates, 2015; Tobias, 2017) but are often difficult to implement in practice because of the mindset shift it implies.

Talking about changing mindsets in the digital age is a multi-faceted discourse today. It is important for the authors to point out that we see this notion as far from the neoliberal discourse that tends to speak of a digital mindset as necessary today for greater efficiency and employability in the 21<sup>st</sup> century. The authors are more on the side of the utopian spirit of web pioneers working to develop collective intelligence and knowledge commons (Turner, 2012; Broca, 2013), makers' spirits reinforcing the idea that we learn by doing (Libow Martinez & Stager, 2013) or studies testifying to young people's creative and learning practices in digital worlds (Jenkins, 2006; Flichy, 2010; Labourdette, 2023). All these elements are reminiscent of the great currents of educational thought, starting with

the pedagogical methods developed by Célestin Freinet, based on group activity by pupils (he spoke of trial and error), centred on cooperation and autonomy, with the help of tools made available. Jean Piaget never ceased to repeat throughout his work that “To understand is to invent, and to explain is to prevent understanding if it prevents seeking” (1988, p. 24) and John Dewey (1938) stressed the importance of learning through experience.

Finally, exchanges with participants – most of whom were music educators/ teacher trainers or researchers themselves – of the symposium showed the extent to which the introduction of technologies into our professional practices encourages teachers to re-evaluate, redefine, and question their teaching methods and how their students learn. One of the participants even asked the following question: What is music education today? And this reflective practice is all the more necessary in today’s world of inclusion and diversity and must be part of teacher training. It is also a plea for lifelong learning to maintain this dynamic of research and new knowledge.

## Project Landscape

This section outlines a selection of exemplary projects conducted by the authors. These projects create a landscape of ways in which digital technology creates opportunities and benefits for music education. The projects are presented and discussed along the lines of peer learning, hybridity, and communities of practice. These dimensions are a result of the authors’ retrospective analysis and clustering of the discussion and participants’ feedback following the presentation of the projects during the symposium. The analytic focus lies on practice-based observations and reflections of the author’s own experiences in the projects. The unifying elements are the simultaneity of democratic and social interactions (peer learning) using digital technologies in temporally synchronous and asynchronous teaching-learning scenarios (hybridity). The bundling of these different practice-related observations and insights then feed into a call to enable and foster sustainable educational communities of practice.

### *Peer Learning among Students, Teachers and Institutions*

In order to better understand competencies and attitudes with respect to the two constructs TPACK and TAM and to support and develop professional training in this key area, a study among university teachers at the University of Music Trossingen (DE), was carried out (Ahner et al., 2019). The results indicate that university teachers do use technology in daily life but need support to connect technological knowledge, content knowledge and pedagogical knowledge.

Digital technologies can support peer learning when used as scaffolds. In particular, they can be used to host and distribute information, to structure processes and to

enable peer-feedback on (interim) results of songwriting camps at Leuphana University (DE). Another example of peer learning among teacher trainers was conducted at HEP Lausanne (CH) with a series of workshops. While some students aimed at online tools for music production and performance, some used the MakeyMakey sensor platform to build digital-analogue musical instruments, building on previous experiences in STEAM oriented teacher education (Hug et al., 2017). Although very insightful, this also showed the limits of peer learning, as these tools often require significant TCK. The experience and reflection about didactical approaches and teaching goals led the colleagues to introduce new tools in their didactic course to foster music creation by carrying out and sharing focused projects on didactic questions (PCK).

On the other hand, a subsequent project at HEP Lausanne developed a map (not yet available) that addressed the challenge in adaptation of digital music technology emerging from the abundance of music tools and the lack of didactically sound solutions. Rather than providing a list or taxonomy of apps and software, the map focuses on general functional affordances offered by digitization and computational sound, outlining links between specific musical competencies and matching digitally supported musical-functional elements. The map was presented to teachers and educational decision makers with very positive feedback and will be published in the near future. It helps to address the complexity and missing technology acceptance and supports peer learning by providing a database to consult and use to find digital tools for music teaching and learning, or to conceive teaching sequences integrating digital tools.

Peer learning is at the core of the approaches to develop TPACK and increase technology acceptance in pre-service music teachers at the bachelor Music in Education at ArtEZ Conservatory Enschede (NL). In the courses, students bring their differing expertise to the table and work intensively together with each other on innovation challenges from real-world clients. During this course, students frequently evaluate the ongoing design of other students. Assessment is also partly based on peer-evaluation.

As another example, the Higher Music Education Centre Cefedem (FR) Aura's continuing education programme is focused on the exchange of participants' practices and enables teachers to discuss their pedagogical postures, the musical concepts tackled, and the tools implemented (based on the TPACK model). Shared experiences (with their positives and weaknesses) are gathered on the learning platform of the Cefedem and are available for the learners. The platform provides concrete, contextualised examples that are the subject of shared critical analysis, a source of collective intelligence.

### ***Hybrid Learning, Combining Analogue and Digital***

Using digital technologies in music education often requires some form of combination of analogue and digital means. This hybridity offers many opportunities for music education. For instance, at Leuphana University (DE) a blended-learning setting was used to build

competencies and skills amongst students in songwriting and music production, employing creative strategies, writing music and lyrics, production or music theory, but also mandatory peer-feedbacks and final pitches of the finished products of the songwriting process. Music education students were split in two major groups: While some were able to teach the content components in songwriting, the more tech-savvy could operate the programmes and learning management systems used. The strategies and (TPACK) competencies of the two groups in using the digital tools were clearly different.

Similarly, in the technology-enriched music education learning trajectory at ArtEZ Conservatory Enschede (see Spieker, 2021), music teacher students experience examples of digitally and electronically enriched (e.g., supported, enhanced, augmented) music education. They learn and practise how to design technology-enriched music learning activities and music education settings in which children meaningfully engage in music learning. Because an important question the students must answer for their design is whether the benefits of inclusion of technology in a music lesson outweighs the investment in time, money and effort, these designs seldom lead to technology-only teaching but often result in a hybrid mix of music learning and teaching with and without technology. Students are also challenged to use technology as a source of inspiration for music activities without technology. Yet, because incorporating the technology on which the activity is based into the music lesson can help understand how the music activity can be accomplished without technology, the design is often still hybrid learning.

Also, the use of online notation and DAW tools at mdw – University of Music and Performing Arts Vienna (AT), stimulates collaborative learning and joint development of musical ideas, considering the “Anywhere-Anyone-Anytime” character (Rubens et al., 2014) of musical online tools. Examples show the importance of communication and collectivity for this hybrid kind of work, as well as the transformative potential of technology encouraging students “to think differently about the world around us” (Carruthers, 2009) when it comes to music-making and creative processes. Such online tools for collaborative music making have great potential but require some skills and experience in administration and moderation of online communities (TK), as prerequisite to enable learning scaffolds (PK).

In some areas such as composition, songwriting and even musical performance, hybrid learning can be a challenge to educators and students. Switching between domains is a challenge and participants may lose their orientation concerning their learning paths or strategies. For instance, in a collaborative music making workshop at HEP Lausanne, Reaper NinJam was used to avoid the need for low-latency setups. The focus on loops and patterns and the indirect feedback of the system forced a way of music making which was interesting, but also unfamiliar to the participants. Communication and feedback in general is an important factor in the creative processes and was challenging in the hybrid setting. On the other hand, the combination of analogue and digital can lead to innovations. For instance, in a project conducted by A. Trajanoski (2022) at HEP Lausanne, digital

tools supported learning to synchronise to music and beats, and another project used the software Music Eyes (Chatelain et al., 2023) to create animations for existing music to support learning of musical listening skills.

An important benefit of hybrid approaches is the possibility of integrating distant and asynchronous learning. At Cefedem Aura's continuing education programme, information and communication technologies are used successfully to create a community of online learners who can exchange and learn outside of scheduled meetings (access to documentation, discussion forums, work to be carried out in the field and visible to the whole community, etc.).

### ***Communities of Practice in Different Educational Phases***

Digital technologies in music education require spaces for experimentation and exchange around learning and teaching practices in the digital age. By focusing on the conception of the learner's activity with regard to the learning objectives and by taking into account the possibilities offered by digital technologies, these trainings, reported above, aim to allow teachers to reflect on the three bodies of knowledge of TPACK (i.e., content, pedagogy, technology) and their interactions. It is essential to connect the various communities of practice, e.g. pre-service, in-service, and lifelong learning, into these programmes. It is also important to take into account that different learning communities in different educational phases require specific approaches to enabling TPACK and supporting technology acceptance. Understanding that the development of students' TPACK positively influences their technology acceptance is also crucial (see Spieker, 2012), but the development of TPACK after graduation does not end here. An example of the need to establish sustainable communities of practice and development of TPACK and TAM is the effort, since 2016, at ArtEZ Conservatorium Enschede (NL), in the Bachelor Music in Education (see Spieker, 2021). Although the implementation is not yet complete and the iterative process is still ongoing, the approaches appear to confirm that developing students' TPACK positively influences their technology acceptance. Yet, developing TPACK is not finished after graduation because technology develops rapidly with frequent introductions of new apps and tools as a result. Moreover, students must still deal with technology acceptance of their colleagues after graduation.

### **Further Development and Lifelong Learning Perspectives**

The disruption of the Covid-19 pandemic has shown that teachers are not yet at a point of satisfaction with their use of technology in the classroom (e.g. Aigner et al., 2023; Beirnes & Randles, 2023; Biasutti, Antonini Philippe, & Schiavio, 2023; Hammerich & Krämer, 2021). Although many educators report that they have been able to achieve relatively satisfactory

teaching-learning settings in a short period of time, it is repeatedly emphasised that further training is needed if the use of digital tools should be integrated more regularly. Whereas the Covid-19 pandemic has confronted us with the challenge of organising lessons detached from time and space (online, or asynchronous), in the future we will probably be more concerned (again) with how technology can be part of a face-to-face lesson or can support learners during non-face-to-face learning times.

This need for lifelong learning is reflected in efforts to maintain or expand university training capacity for in-service teachers as well. To this end, universities have the option of offering *certificates of advanced studies* (CAS) or *diplomas of advanced studies* (DAS) courses with 15 or 30 ECTS points besides the existing master programmes, respectively, thus ensuring eligibility for possible master's degree programs. Within these small formats it is possible to organise part-time offers and to react to future changes in shorter cycles. The significance of these so-called micro credentials is discussed in the higher education system at various organisational levels (Cirlan, 2023; Hanak & Sturm, 2015; Strausch, 2023).

Thus, conceptual planning that is consistently oriented towards lifelong learning should take into account all life phases of learners/teachers. In school, learners get their first experience (guided by teachers) of using technology (TK, TAM) for both their learning and their music making (CK) (Ahlers, 2017). Many universities support this process by cooperating with a school as part of pre-college programmes. This support continues in the degree programme, for example, with courses on the use of (digital) technologies in teaching (TPACK) and should enable students to initiate a professional change of perspective upon graduation (Ahner, 2022, Ng et al., 2022). In addition to targeted introductions to sound and audio technology (TCK), universities could provide technically equipped rooms and training programmes. The change of perspective addressed above then especially takes place in the pre-service phase (which is designed differently in each country). As teachers, the former students then guide young students and, thus, a first circle is closed.

Technological or teaching-didactic progress then requires further post-degree qualification. These qualification programmes can be organised either in singular workshops or via CAS/DAS-programmes as mentioned above. The system of micro credentials, which is discussed at the moment (Cirlan, 2023), is supposed to offer a variable framework of eligibility of training programmes. This phase could/should decidedly involve the learners in order to avoid long delays in the use of new technologies or didactic approaches. In addition, teaching and learning settings can be established that more strongly involve the competencies of the young learners. Those postgraduate offerings are an important part of university missions in many countries, and they enable lifelong learning on a university level.

## Conclusion

The article draws connections between music education and composition, songwriting, and other creative practices within music education, as well as the use of digital media. Selected projects show the potential, but also the clear challenges on the part of teachers and students. The feedback from the participants of the Lyon symposium quickly made it clear that these are fundamental challenges, even in the second decade of the 21<sup>st</sup> century. By connecting to the existing technology acceptance and TPACK models, these challenges can be identified as multifactorial and can be well analysed. Through the discussion and feedback in Lyon, it is possible to identify meta-themes that dealt with music teachers' attitudes and the need for institutional systems for lifelong learning.

Teachers' attitudes towards their own weaknesses or insecurities are identified as a first challenge. Due to the immense speed of software development or changed interfaces, *errors*<sup>1</sup> and mistakes sometimes occur. Dealing with these apparent mistakes and re-evaluating them into common tasks to be solved with the students is a first possibility. In addition, it would be useful to deal with glitches and a positively understood tolerance for errors as possible initiators of creative projects. At this point, one should consider whether creativity should be understood as a product or as a process. We advocate that the process should be experienced primarily in the division of labour or expertise and in the context of schools on a group-based basis. A low-hierarchical way of working would support this, as would the *accept all offers* attitude in creativity research.

Furthermore, the lifelong learning of teachers is indispensable. Unfortunately, not all countries have established and popular systems for teachers to educate or re-educate themselves. However, we advocate relying on tailor-made solutions here: There should not be one solution for everyone, but individualised offers. These can range from top-down programmes with certificates to micro-credential systems. In addition, from the authors' point of view, it would also be useful if the formation of communities of practice were actively supported by the education administration. In these, reciprocal offers (e.g. from hip-hop pedagogy, called *each one teach one*) could then be created with flat hierarchies and a decentralised structure seems to make sense. Flexibility in organisation as well as flexibility in people's minds seem to be central qualifications that need to be achieved in post-digital music teaching in the 21<sup>st</sup> century.

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<sup>1</sup> This is placed in italics since we wish to stress the importance of embracing "failure" and being positive when creating music at every level.

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Yannis Mygdanis

# Little Music Makers & Producers

## Designing and Integrating Technological-Musical Educational Scenarios for Musical Creativity Development in an Elementary School in Greece

### Introduction

The emergence of digital technology has revolutionised forms of music and the ways that people engage and interact with it, unlocking a vast array of new possibilities for artistic expression, creativity, and education. Young children, being digital natives (Prensky, 2001), are exposed to musical stimuli that differ from those of their “pre-digital” parents and teachers, and they interact with music through digital forms from a very young age (Young, 2018). As a result, they are introduced to the intersection of technology and music at an early age, fostering the development of advanced digital musical literacy they expect to use in their classroom lessons (Mygdanis, 2021). Incorporating digital media and innovative technologies into music education has the potential to create a new educational environment that diverges from conventional teaching methods (Mygdanis, 2022; Brown, 2015; Williams, 2014). This approach can enhance creativity and facilitate the acquisition of musical knowledge and skills (Mygdanis, 2021). It is vital for music educators to reassess how they integrate digital technologies and strive for transformative learning opportunities (Tobias, 2016).

Modern digital technology has created novel ways of making music and learning about it through do-it-yourself (DIY) classroom strategies which are based on pervasive and ubiquitous musical computing (Lazzarini et al., 2020), aligned with informal ways of music teaching and learning (Mygdanis, 2021). By adopting STEAM educational strategies and the maker culture approach, educators can design music education activities in a totally new perspective that develops students’ problem-solving skills and encourages musical engagement (Mygdanis, 2022). Informal music learning through music production and do-it-yourself (DIY) practices that use digital media, along with coding, can broaden

students' musical horizons and provide new avenues for teaching and learning, regardless of their musical background or technical proficiency (Bell, 2018; Brown, 2015; Aaron et al., 2016; Mygdanis, 2020). These innovative strategies can transform the traditional concepts of musical creativity, giving opportunities to students to explore musical experimentation by becoming programmers, composers, improvisers, creators, and performers. All the above forms of musical creativity can shape new kinds of interaction and engagement in musical praxis (Mygdanis, 2022).

In this article, I discuss the results of the design and application of a teaching intervention that incorporated technological-musical educational scenarios for musical creativity development by applying strategies and practices of music production, maker movement, and music programming practices to music teaching and learning processes. The aim was to examine the integration of emerging technologies in elementary music education to foster creativity and collaboration.

## **STEAM Approach & Maker Movement in Music Education**

Current music education trends emphasise the incorporation of the STEAM educational approach (Mygdanis, 2022; Huang, 2020). STEAM integrates the arts into the STEM (science, technology, engineering, mathematics) framework for a more holistic approach (Kalovrektis et al., 2021; Psycharis, 2018). This educational approach is grounded in the constructionist philosophy, which is inspired by the constructivism theory (Papert, 1980). It views the learning process as a creative endeavour where students construct a meaningful work of art through experimentation (Dimitriadis, 2015). This approach highlights the significance of the work of art as a fundamental aspect of education, whether it is a physical or digital creation (Kafai & Resnick, 1996; Papert, 1980). The maker culture in education is also another instructional perspective that is aligned with STEAM principles, encouraging students to tackle real-world problems by designing and creating artifacts (Hatch, 2014; Huang, 2020). STEAM and maker movement education adopt a social constructivist approach, emphasising the importance of social, cultural, and contextual factors in learning, as well as constructionist learning through artifact creation (Mygdanis, 2022; Papademetri-Kachrimani & Louca, 2022).

The practical implementation of STEAM involves integrating context and emphasising the incorporation of elements and practices from other cognitive fields (Roehrig et al., 2012). Recent studies indicate that the integration of STEAM scenarios in music lessons can lead to increased active participation, enthusiasm, and interest, as well as the development of self-regulation, creativity, innovation, and musical knowledge (Papademetri-Kachrimani & Louca, 2022; Kalovrektis et al., 2021; Mygdanis & Papazachariou, 2022; Abrahams, 2018; Palaigeorgiou & Pouloulis, 2018). In that context, pervasive musical computing elements,

such as the use of tactile interfaces or coding practices, can further enhance music experiences and creativity by designing educational actions within the STEAM framework (Chrysanthakopoulou, 2019) that include all students in authentic teaching and learning environments (Abrahams, 2018).

## **Music Production and DIY Practices in Music Education**

The process of music production involves a variety of artistic procedures, including creating, recording, editing, and distributing. In the 21<sup>st</sup> century many artists are taking on multiple roles, such as singer, songwriter, producer, performer, and sound designer, managing these tasks themselves, and simultaneously (Mygdanis & Kokkidou, 2021) in a DIY perspective (Bell, 2018). These DIY practices are shaped and influenced by the unique musical environment of the artist, making them individually significant (Brown, 2015). Digital Audio Workstations (DAWs) have emerged as a vital component in modern music production. With the continuous technological advancements of recent years, even portable devices now have the capability to offer functionalities that were deemed unimaginable a decade ago (Bell, 2018).

According to Brown (2015), using DAWs in music teaching and learning can cultivate creativity and comprehension of musical concepts by allowing students to simultaneously experiment, produce, and listen. This approach enables students to create music without prior knowledge of composition, music reading or writing skills, or technical expertise in a musical instrument (Dammers & LoPresti, 2020; Brown, 2015). As a result, the educational content can be tailored to meet the unique needs of each student in the classroom, allowing them to progress independently and at their own pace (Dammers & LoPresti, 2020). Furthermore, music production practices align with the informal learning strategies that popular music artists use and learn (Bell, 2018).

## **Musical Programming Practices in Music Education**

Computer programming procedures involve a number of structured steps for achieving computational results. On the other hand, creative musical programming techniques focus on producing expressive and artistic outcomes (Mygdanis & Kokkidou, 2020), turning computers into musical instruments (Aaron et al., 2016). Creative coding environments use variables, functions, and parallel processes to teach musical concepts, connecting music with computer science, physics, and mathematics through an interdisciplinary framework (Mygdanis & Papazachariou-Christoforou, 2021). This approach promotes experimentation at all stages of musical engagement, from learning and composing to performing and

exploring (Blackwell & Aaron, 2015), reflecting the informal processes involved in making music (see Green, 2008). As previously mentioned, the integration of coding practices into STEAM scenarios has proved to be a harmonious fit for all cognitive fields (Psycharis et al., 2020). This is especially true when harnessing coding's potential to enhance musical creativity (Lavy, 2019) as well as supporting cooperative programming processes that enable students to advance at their own pace (Dimitriadis, 2015).

## **Purpose of the Research, Research Questions, and Methodological Design**

The purpose of this study was to design, develop, and implement an innovative teaching proposal titled "Little Music Makers & Producers," based on contemporary trends and strategies in music education – music production, maker movement, and musical programming – through a technocentric music pedagogical perspective, for primary music education, at the elementary school of Pierce - The American College of Greece.<sup>1</sup> The ultimate aim was to explore the students' engagement, focusing on musical creativity. The research questions were as follows:

- (1) Does the utilisation of practices in music production, maker movement, and musical coding contribute to enhancing creativity?
- (2) How do the participants assess their involvement and participation in the teaching intervention?

The approach taken adhered to the fundamental tenets of action research, which advocates for an ongoing process of refining and enhancing teaching strategies. Action research is a cyclical process that continuously evolves with each phase leading seamlessly into the next in a never-ending spiral. Each cycle, in turn, contributes to an increasingly comprehensive one (McNiff, 2013). In these research contexts, the teacher has a dual role as both a researcher and a facilitator of learning (teacher-researcher), closely monitoring the progress of the research and gathering insightful observations about its advancement (McNiff & Whitehead, 2012). As such, the approach is "descriptive-exploratory" by nature, with data collection integrated into an action evaluation framework that can be applied to future research cycles (McNiff, 2013).

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<sup>1</sup> Pierce – The American College of Greece was founded in Smyrna, Asia Minor, by women missionaries from Massachusetts. It is the oldest private school in Greece. For more information, see: <<https://www.acg.edu>>.

Using different methodological tools in educational research contributes to a deeper understanding of specific aspects of the studied subjects and a more profound comprehension of their qualitative characteristics (Denzin & Lincoln, 2018; Miles & Huberman, 1994). The research employed four distinct data collection methods, namely: (a) semi-structured interviews with the students organized by the teacher-assistant,<sup>2</sup> (b) diary-based observations by the teaching-researcher, (c) informal discussions conducted both inside and outside the classroom, and (d) musical-technological creations produced by the children.

The group-focused semi-structured interviews took place after the completion of the intervention and were recorded with the consent of the children and their parents. The process of conducting interviews served the purpose of achieving an all-encompassing evaluation and specifically targeting areas that may not have been evident during prior sessions (Miles & Huberman, 1994). They are referred to as SI (semi-structured interviews). To ensure research validity, the interviews were carried out by the teacher assistant. The teacher-researcher had carefully crafted a comprehensive set of questions that could be flexibly adapted based on the conversations.

To prevent the possibility of overlooking important details, the diary from observations was recorded at the conclusion of each session rather than waiting until later (Denzin & Lincoln, 2018). Data from observations were recorded through observation keys in order to enable the identification of behaviour patterns and unexpected reactions related to student interaction, interest retention, participation rates, and creative activity management. In the analysis, they are described as FN (field notes). Informal discussions were recorded with the children's consent and are referred to as ID (informal discussions). Finally, the children's creations were organised in portfolio form and subjected to peer and self-assessment.

Interviews were recorded with the consent of the children and the parents, and then the assistant proceeded with the anonymization. The data collected through interviews, observations, and informal discussions underwent a secondary transcription process for conversion into text format. The transcription process was carried out by the teacher-researcher. The study followed a triangulation perspective (Miles & Huberman, 1994). For the analysis of the data, the content analysis strategy was adopted, adhering to the principles of semantic condensation, for the identification, coding, and frequency counting of phrases, as well as data verification (see Brinkmann & Kvale, 2015; Miles & Huberman, 1994).

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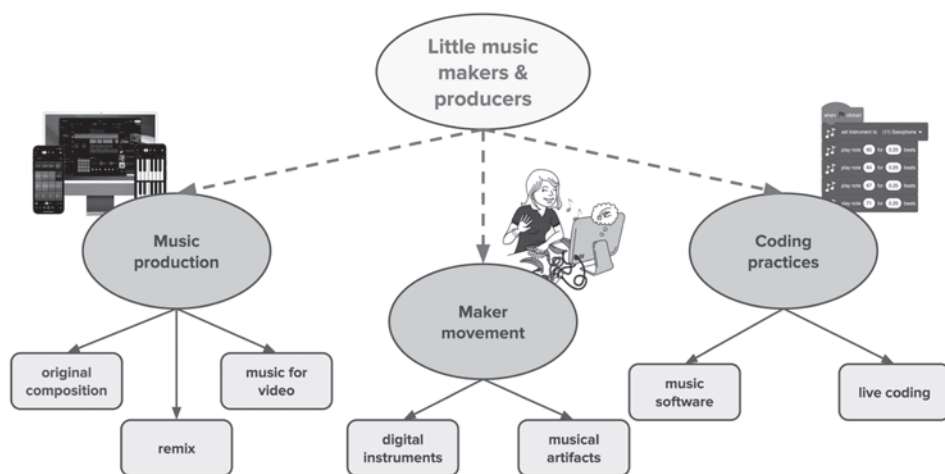
<sup>2</sup> Regarding teacher assistants, more information will be provided in the next unit.

## Design and Implementation

“Little Music Makers & Producers” was implemented over a period of thirty weeks as a music club at the elementary school of Pierce – The American College of Greece. Clubs are conducted on a weekly basis, lasting for a duration of one teaching hour (45 minutes). Participation was purely voluntary as clubs are not considered part of the mandatory curriculum. Each of these clubs is supervised by a specialist teacher with expertise in a specific cognitive domain. Depending on the number of participants, teacher assistants may also be involved in the facilitation of these clubs.

For “Little Music Makers & Producers”, twenty students ranging from third to fifth grade, with an age range of 8 to 11, participated. The students came from different educational backgrounds, sharing diverse technological and musical experiences, as well as different cultural backgrounds. Considering student profile variation, the activities were designed so that the students would have basic computer literacy skills and no prior musical knowledge.

The club was facilitated by the teacher-researcher, along with the assistance of another music teacher. The role of the assistant was purely organisational, and they were not involved in the design and development of the educational proposal. The intervention focused on cultivating creativity by providing opportunities for experimentation with various musical phenomena and techniques. The club’s technological music education scenarios were developed using the STEAM approach, which incorporates music production, pervasive musical computing, coding strategies, maker movement, and collaborative DIY practices (see Fig. 1).



**Fig. 1:** Axes of the “Little Music Makers & Producers” teaching proposal.

The designed activities revolved around project-based learning techniques that emphasised the active involvement of students in real-life music teaching and learning situations within a collaborative environment. The primary goal of these teaching scenarios was to facilitate and explore students' engagement, with a special focus on fostering their musical creativity. The teaching scenarios were designed to reflect a game-based learning perspective, drawing from authentic problems the children had to solve. Given that the integration of digital media in education aligns with informal learning practices (see Mygdanis, 2021), the activities were developed to be applicable both inside and outside the classroom, in both formal and informal learning environments (see Folkestad, 2006). Activities were reviewed and adapted weekly based on emerging difficulties and student suggestions.

In the realm of music production, students were encouraged to engage in a range of activities that included creating musical compositions, arranging pieces, and composing music for videos. To facilitate their efforts, they used the Bandlab online application<sup>3</sup> as their Digital Audio Workstation. Initially, the emphasis was on gaining familiarity with the software's various features through hands-on experimentation, resulting in small compositions. As they progressed, the focus shifted to real-world scenarios involving arrangement and video music composition, both individually and collaboratively.

Along with the maker movement perspective, in crafting musical instruments, the students explored innovative ways to build digital instruments and artifacts using the Makey Makey<sup>4</sup> interface and conductive materials such as coins, fruits, water, and aluminum foil. They also constructed their own microphones and hydrophones to capture unique sounds that they incorporated into their musical creations (Fig. 2). Using the Scratch block-based programming language (see Maloney et al., 2010), they learned essential coding skills and created diverse musical applications, including games, virtual instruments, and original musical compositions. Furthermore, they combined the programming techniques with making by programming the Makey Makey interfaces to extend and augment their musical artifacts.

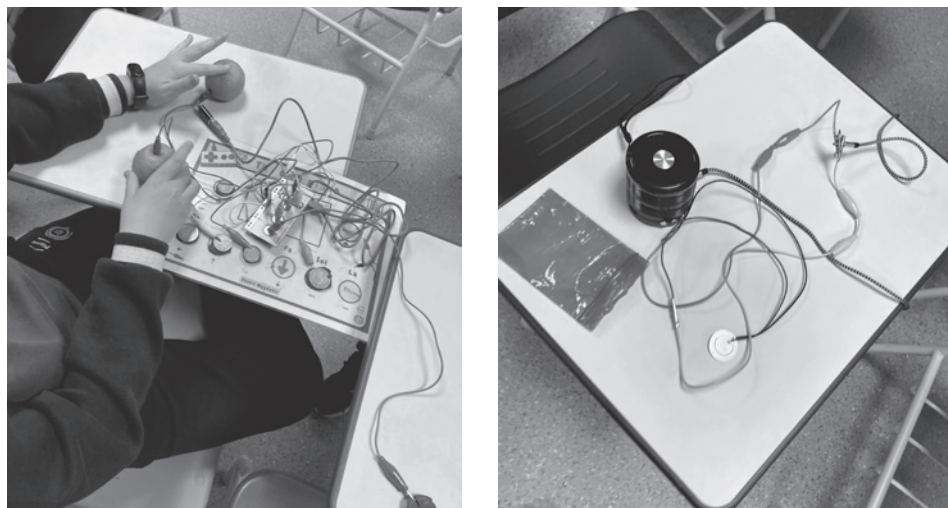
Teaching approaches are usually influenced and shaped by the age of the children being taught. In comparison to older ages, the integration of the above technological-music educational teaching scenarios in primary education emphasises gamification. The objectives are presented through the development of a storyline where the heroes of the scenario are shaped as if they are the children who must cope with specific challenges. Additionally, the selection of the problem to solve and the multiple "solutions" are more open and create conditions for experimentation (Mygdanis & Papazachariou-Christoforou,

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<sup>3</sup> BandLab provides a version that focuses on music lessons, called *Bandlab for Education*. For more information, see: <<https://edu.bandlab.com>>.

<sup>4</sup> Makey Makey is an interface that uses alligator clips to connect everyday conductive things and transform them into computer keyboards. For more information, see: <<https://makeymakey.com>>.

2023). Besides, for the effective utilisation of such actions, it is important to consider a short break, usually every 10 minutes, especially for younger children (Godwin et al., 2016).



**Fig. 2:** Construction of (a) musical instrument with conductive materials, (b) a microphone and hydrophone.

It is worth mentioning that throughout the intervention, the axes of music production, maker movement, and musical coding operated in continuous interaction. The students had the opportunity to choose combinations of strategies to achieve results satisfactory to them. Finally, as an element of authentic assessment (see Bell, 2018), a presentation concert was organised to provide a platform for students to showcase their musical-technological creations to their parents and peers. Below is a distinctive example of one activity.

### *‘Kinderwerk’*

The objective of this activity was to introduce children to the electronic music ensemble Kraftwerk and inspire them to establish their own digital musical groups. The students were organised into groups of four, each assuming a unique responsibility – *drums*, *bass*, *harmony*, and *melody*. Each team received a graphic music score for the song *Das Model* and collaborated to create their desired sound on Bandlab using virtual instruments. The result was exported in audio format and imported into Scratch where they proceeded to code their preferred digital instruments. The Makey Makey interface (as depicted in Fig. 2) can be used to expand the capabilities of these instruments. As a means of assessment, each team performed the song (refer to Fig. 3). This was followed by a discussion aimed

at identifying the similarities and differences of the acoustic output as compared to the uniqueness of each digital instrument employed.



Fig. 3: *Kinderwerk*

## Discussion

Based on the analysis, the implementation of the project seems to have broadened the musical and technological world of the children. The students showed a high level of engagement and understood various ways and strategies for creative expansion. They explored diverse forms of creativity on a musical level, including music composition using production software or coding practices and constructing artifacts within a technological pedagogical framework. They realised that musical creativity is not limited solely to the auditory outcome; instead, it can encompass aspects of musical everyday life from a pervasive and ubiquitous perspective (Lazzarini et al., 2020). Over time, they demonstrated increasing levels of autonomy, employing various practices and strategies to create works based on their own preferences and desires without the need for intervention from the educator. In fact, in many cases, they seemed to experience flow and “aha!” moments (see Csikszentmihalyi, 2009).

In a broader context, from the first meetings, they expressed a desire to engage in the activities, gradually gaining confidence to deviate from the goals and set their own: *‘Is it so easy to make a remix?’* (FN 3), *‘I would like to make another [i.e., song] for the movie [...] it will fit better!’* (FN 11). Regarding the construction of artifacts, the levels of creativity seemed very high, as evidenced by the participation rate in musical experimentation with their constructions, as well as the specificities of their artifacts: *All these will become music [i.e., musical instrument] if we put them together; [...] I want to connect them all to see what*

*happens!*' (FN 16). An important aspect that emerged was the tendency towards innovative perspectives. While the theme of the scenarios was common to all students, there was a great variety in the constructions: *'I like the drums to have apples [as a conductive material] and not water.'* (FN 19), *'Oh, look what I found, it is perfect! Haha, I bet no one has done this before [...] it is mine, [...] and unique, haha!'* (FN 21).

In the domain of collaborative learning, collective discussions play a pivotal role in fostering creativity among students. This is because such discussions create an environment where students are motivated to contribute their own innovative ideas and discoveries and explore different approaches towards achieving a common goal. *'At first, I found it hard to understand what I had to do and was afraid to try ... but my friends were a great help'* (ID 7). By participating in group experiments, they had the opportunity to strengthen their creative abilities by drawing inspiration and techniques from the creations and ideas of their peers: *'It is fun to make your own song, but it is even better when you work with others [...] they may have great ideas that you never thought of!'* (SI 4). In this context, there was a sense of recognition for efforts, regardless of their results: *'This [i.e., the artifact created by the other group] is one thing, but we did it in our own way, and it turned out very nice, and it is ours'* (ID 24). Within a wider framework, it is apparent that the shift in students' experiences and the various perceptions of creativity are exemplified in the subsequent excerpts:

*It was super awesome [the project]. I learned how to make music, and now I can make music for Pink Panther, Among Us, and even my cute doggy Toby! Haha! [...] Every time, we saw so many cool things, and I just could not wait to come to class.* (SI 1)

*It was so cool because it always turned out fantastic no matter what I did. I could mess around with the loops and make a beat. Sometimes I added stuff, sometimes I took stuff away, and then I just played until it sounded perfect ... and just like that ... it was done. Boom!* (SI 3)

However, it is important to note that in the process of implementation, some challenges arose, particularly during the initial lessons. Some students struggled with engaging in creative processes, while others felt discouraged, with statements such as *'I don't know what to do ... I'll just give up'* (FN 2) and *'This seems too difficult ...'* (FN 4). However, these difficulties presented valuable learning opportunities, as one student reflected: *'Even though I made mistakes, I had to start from the beginning ... and my best song came out of a mistake'* (ID 9).

In a broad context, the results suggest that young students wholeheartedly welcomed the activities and actively participated in the creative processes with enthusiasm. They exhibited an *impressive* adaptability to the new learning environment, quickly familiarising themselves with the tools and resources provided. The diverse learning backgrounds combined with activities that focused on no prior musical knowledge seem to contribute to creativity cultivation, as students had the space to continually experiment.

Their enthusiasm was palpable, and it was clear that they viewed the intervention as an exciting opportunity to broaden their musical horizons. The new learning environment appeared to enhance their musical and technological skills, creating new experiences and opening up new avenues in music education. Their eagerness to participate and proactive involvement in the creative processes reinforce the beneficial impact of this innovative approach to music education. The following excerpts provide evidence of the children's level of involvement and eagerness to participate in the project, as well as their overall perception of the intervention:

*Music is like magic; it's everywhere [...] You can find it in the sound of the raindrops, in the rustle of the leaves [...]. I just can't live without music. And the best part is that you don't need fancy instruments or expensive equipment to make music [...] You can make music out of anything if you use your imagination. It's like a fun game where you get to be creative and play with sounds. (ID 4)*

*Oh my gosh! Every single week was like a new adventure for me [...] There was always something super fun and exciting to look forward to, whether it was a new surprise or a cool activity in class. I absolutely love using Bandlab on my tablet, but it is even more fun when we get to use it together in class with all my friends [...] I cannot wait to do it all over again. Yay! (ID 2)*

## Conclusion

In summary, the implementation of this teaching proposal resulted in a discernible and favourable influence on the learning process and overall experience of the participants. This study exemplifies the potential of incorporating technology in educational environments and underscores the importance of offering students the chance to explore and showcase their creativity through diverse mediums. The music education activities fostered active participation and engagement by placing the children at the forefront of the educational activities, allowing for autonomous learning, and creating a new educational environment. These experiences seemed to transform the children's musical and technological skills while simultaneously strengthening collaboration and nurturing creativity.

To conclude, there is room for future prospects in the evolution of this study. In the immediate plans, including and using additional tools in this teaching proposal are envisioned, including elements of 3D printing, the application of artificial intelligence practices, and e-textile materials, among others. Furthermore, in a hybrid approach (see Tobias, 2016), a future goal is to develop and implement activities that combine the students' digital and physical musical worlds, focusing on using acoustic instruments in conjunction with digital artifacts. From a wider lens, the ultimate objective is to revamp and execute these particular instructional scenarios in a manner that permits their assimilation into general music education and the music curriculum.

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Phillip Feneberg

# Creating Music in VR

## A Study on Virtual Reality Apps for Creating Music

### Introduction

Currently, research into virtual reality (VR) in an educational context is becoming increasingly popular. In Germany, this can be seen in existing research projects on an institutional level, such as the *VRraum*<sup>1</sup> project at the University of Potsdam, funded by the *Stiftung Innovation in der Hochschullehre*<sup>2</sup> (Foundation for Innovation in University Teaching), in which educational researchers from six fields<sup>3</sup> are conducting joint research on VR, as well as in collaborative projects in the field of digitisation funded by the *German Federal Ministry of Education and Research* (BMBF), which explicitly includes highly immersive media. These include, for example, the *DigiProSMK*<sup>4</sup> research network, which was established in 2023. In this network, teaching methodology researchers in the fields of sport, music, and art from ten institutions conduct joint research on the digitisation-related and digitally-supported professionalisation of teachers. Another example is the *LEVIKO-XR*<sup>5</sup> network, which focuses on music education. This is a welcome development, as the *COPLAR Guidelines* (Goertz et al., 2021) published by the BMBF – a guide to identifying didactic concepts related to learning with augmented and virtual reality – do not yet address the aesthetic subjects.

Despite these exemplary projects, there are hardly any scientific publications on the use of VR in the context of music education. This paper addresses this research gap,

<sup>1</sup> For details, please see: <https://www.uni-potsdam.de/de/vreiraum/>

<sup>2</sup> For details, please see: <https://stiftung-hochschullehre.de/>

<sup>3</sup> The subjects involved are chemistry, geography, history, computer science, mathematics, and music (for details, please see: <https://www.uni-potsdam.de/de/vreiraum/>)

<sup>4</sup> For details, please see: <https://lernen.digital/verbuende/digiprosmk/>

<sup>5</sup> For details, please see: <https://lernen.digital/verbuende/leviko-xr/>

presents results that are part of a dissertation project on the user experience when creating music in VR, and thereby makes an initial contribution to the development of this research field on an empirical basis. In the following subchapters VR technology and its special features will be explained, as well as areas of application from the field of music (section 2). Section 3 then explores three thematic fields that appear to play an important role in the process of creating music in VR. Section 4 describes the collection of the empirical data before the data are analysed in section 5. Finally, conclusions are drawn in section 6.

## **Virtual Reality: A Brief Introduction**

### ***What Is VR?***

In the context of this research, VR refers to a completely computer-generated simulation of an environment with which the user can interact. The simulation takes place in real time and the virtual environment unfolds from the user's perspective. It is transmitted through certain hardware components, such as VR headsets, and interaction takes place through the use of interfaces, such as controllers, or tracking systems. By developing interfaces that are as natural and unobtrusive as possible – or even eliminating them by using eye- or hand-tracking – the goal is to experience one's own body as the interface for interaction with the virtual environment (Dörner et al., 2019). Thus, the user should be given the impression of actually being in the virtual world and experiencing it as if it were real. However, "real" refers to the user's experience and not necessarily to a representation of reality that is as authentic as possible.

### ***What Is VR All About?***

VR technologies are often referred to as highly immersive media and, in the discussion around VR, the degree of immersion is treated almost as a quality criterion for applications (Przybylka, 2022). In this context, immersion is a state in which the user is completely surrounded and engrossed by (media-)mediated content (Przybylka, 2022), and thus this non-technical property is attributed to the technology (Kerres et al., 2022). However, even though the experience of immersion in VR seems to be generated by the medium itself and the user probably does not have to be very active to reach this state of experience (Pietraß, 2018), no medium is immersive per se. The experience of immersion is a subjective phenomenon, and its intensity always depends on various factors, including the willingness of the person to engage in the experience at that moment, as well as the equally individually perceived degree of coherence between the prepared content and the medium (Kerres et al., 2022). In order to emphasise the individually-perceived character of this phenomenon we will, therefore, speak of an immersion experience.

In the context of learning environments in VR, one possible positive effect of the immersion experience has been discussed, namely that learners can experience a task instead of merely studying it (Przybylka, 2022). The experience aspect was emphasised in a study in the field of music psychology by Orman (2004). Orman evaluated the experience of advanced undergraduate music students suffering from the negative effects of performance anxiety in four simulated examination and performance situations in VR. The virtual environments were designed with the aim of gradually increasing the subjects' level of arousal. Orman collected physiologically measurable data such as heart rate and psychological data through the subjects' self-assessment using the SUD<sup>6</sup> scale. The results of the study demonstrate the previously anticipated increase in arousal level over the four simulated situations through a gradual increase in physiological and psychological measures. The extent to which this effect can be used positively for learning applications still needs to be examined.

VR technology, therefore, is expected to enable the user to be immersed in different perspectives, especially ones that are new, unusual, and otherwise difficult or impossible to take on<sup>7</sup>. It is important to keep in mind that it is never possible to convey a neutral perspective, but rather always a subjective one (Brendel & Mohring, 2020), shaped by the many decisions made during the production of the application (Przybylka, 2022).

### ***How Do Music and VR Go Together?***

As with digital or digitally supported music applications, two types can be distinguished in the field of VR: active and receptive formats (Busch & Moormann, 2020). Receptive formats include, for example, virtual concert experiences, such as *On stage with your favourite band*<sup>8</sup>, or educational offerings by concert halls such as Mussorgsky's *Pictures at an Exhibition*<sup>9</sup>, recorded by the *Augsburg Philharmonic*, which allows the listener to take up different positions in the orchestra. Also, there are new concert programmes with experimental elements, such as *Reflect*<sup>10</sup> by the *Kammerakademie Potsdam* combining music and visual installation art. Active formats include the simulation of instruments (theremin, percussion, etc.), rhythm movement games, simulations of a DAW<sup>11</sup> or the environment of a mixing studio, and learning applications for conducting or DJing. In addition, there are apps that aim to open up new approaches and concepts for creating music involving the spatial

<sup>6</sup> *Subjective Units of Discomfort (SUD)* is a scale with gradations from 0 to 10 for self-assessment of anxiety.

<sup>7</sup> Examples would be the geography student taking field trips to Mount Everest, the biology student journeying through the human body, etc.

<sup>8</sup> For details, please see: <https://www.deutschlandfunk.de/virtual-reality-fuer-die-musik-mit-der-lieb-lingsband-auf-100.html>

<sup>9</sup> For details, please see: [https://staatstheater-augsburg.de/bilder\\_einer\\_ausstellung](https://staatstheater-augsburg.de/bilder_einer_ausstellung)

<sup>10</sup> For details, please see: <https://www.kammerakademie-potsdam.de/event/reflect-eine-begegnung-von-mensch-und-maschine/>

<sup>11</sup> A *Digital Audio Workstation* is a piece of software for music production, e.g. *Cubase* or *Ableton Live*.

aspect. These two types of formats enable both active and receptive musical practices<sup>12</sup> in virtual spaces, whereby receptive practices of course already include active elements. But, in virtual spaces new, flat hierarchies manifest themselves and thus the transitions between active and purely receptive become even more fluid (Feneberg & Schmidt, 2024). This study is concerned with an application that focuses on an active musical practice.

## Virtual Reality Environments for Music Education: Conceptual Foundations

The following section briefly outlines three central thematic fields that guided the development of the research and the interview guidelines, and the analysis of the collected data.

### The Act of Creating Music in Multimedia Spaces

The moment users put on a VR headset, they enter a computer-generated, virtual environment that simulates a three-dimensional space. Through the possibility for interaction, the virtual space can be constituted and experienced – despite its indirectness and immateriality – as if it were real (Pietraß, 2018). We usually first explore a space with our sense of sight, by relating the objects within it to our own bodies (Pietraß, 2018). This also applies to virtual spaces, and so when entering virtually simulated spaces, the visual aspect initially dominates the other human sensory channels (Kasprowicz, 2019).<sup>13</sup> It also becomes clear that the user's own body, which serves as both a point of reference and an interface for interaction, becomes a major focus. In the discussion about VR environments – but also other multimedia applications such as video games – music is often seen as a component that can intensify the immersive experience (Fassbender, 2008; Serafin, 2004), as it is often assumed that adding another sensory channel makes the experience more immersive (Kasprowicz, 2019). But, what are the implications when the music itself is at the centre of a VR application? As a temporal art, music has a tense relationship with space (Schatt, 2020). Although we can visually perceive movements in space as temporal sequences and locate sounds in space through our auditory sense, the primary perception of space takes place through the sense of sight, whereas we hear music as a sequence of sounds in time (Kowalewski, 2018). Nauck's conception of *Klangraum* ['sound space'] (Nauck, 1997) considers the expansion of musical events in space and time: music and sound unfold their own sound space and are able to divide spaces into several sound spaces that can mingle in our perception. Such aspects play a significant role in sound or music installations, as well as in

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<sup>12</sup> Lehmann-Wermser and Krupp-Schleußner define active and receptive musical practices in a study in 2017.

<sup>13</sup> From the beginning, the image has been the main focus in the development of VR technology to provide users with the best possible immersion experience (Kasprowicz, 2019).

contemporary but also traditional composing, as music is usually created for an ensemble that has a specific line-up.<sup>14</sup> Therefore, the spatial aspect is considered from the very beginning.<sup>15</sup> When it comes to digital music production, panning and tonal depth gradation play a particularly important role in the process of mixing. However, when creating music digitally in educational settings, spatial aspects are often not considered. If they are taken into account at all, they tend not to be conceptualised. With that said, the question arises as to how these existing musical practices are reshaped through the role of space in VR.

### *New Perspectives in and through VR*

One challenge we often encounter when composing or creating music with children and adolescents is that they have already internalised strongly anchored ideas about what composing entails and who is or can be a composer and who cannot. These ideas about composing were discussed in detail in a study by Meisterernst (2020) and seem to stem from the fact that “[...] society’s perspective on composing is primarily determined by the assumption that this activity is reserved for an artistic elite” (Meisterernst, 2020, p. 120). This notion of “composing as mastery” (Meisterernst, 2020, p. 116) can be inhibiting to amateurs in the process of creating music. Other, more experimental or contemporary approaches to composing or, rather, music creation, are often not perceived as equal by students.<sup>16</sup>

As explained in section 2, VR allows the user to adopt new, unusual, difficult, or even impossible perspectives and experience them as if they were real. This raises the question of whether applications for music creation in VR can enable the user to slip into the role of composer and go through the experiences associated with the creation process. In this context, it is advantageous that digital music technologies are often considered to provide intuitive access to musical practices that do not necessarily require traditional musical competencies, such as instrumental skills or music theory, while at the same time raising “the base level at which music-making begins. [...]” (Spiegel, 1986/1993, p. 3). The focus can, thus, be more on “aesthetic content, on feeling and movement in sound, on the density or direction of experience, on sensuality, structure and shape”, and allowing more people to “make more satisfying music” (Spiegel, 1986/1993, p. 3).

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<sup>14</sup> Orchestras and choirs usually have a specific seating arrangement. Two more obvious examples would be Venetian polychorality or modern performances that require musicians to walk around the concert space.

<sup>15</sup> A very detailed analysis of the role of space in contemporary composing is provided by Kowalewski (2018) and more historical analyses are provided by Düwell (1963) and Werbeck (2022).

<sup>16</sup> Especially nowadays, new and possibly digitally enhanced compositional approaches require a detailed examination of the exact meaning of the terms ‘composing’ and ‘creating’, but also other facets such as producing or generating.

### *Dimensions of Experience*

Educational research on VR so far has mainly focused on learning outcomes. Kerres, Mulders, and Buchner (2022) point out that VR might not have any decisive advantages for an increase in learning efficiency since, according to the *Cognitive Load Theory* by Sweller (2010, as cited in Kerres et al., 2022, p. 322), the limited capacity of working memory significantly shapes the learning process. Therefore, the multi-mediality of VR technology – especially those immersive experiences – can have an overwhelming effect. At the same time, however, learners using VR show greater involvement on an affective level (Kerres et al., 2022), which may hold potential for aesthetic experiences (Feneberg & Schmidt, 2024). To describe the characteristics of multimedia experiences, Kerres et al. (2022.) define eight dimensions of experience; two of them – immersion and flow – seem quite related to the field of aesthetic experience. The experience of immersion involves focusing attention on a specific environment or imagined world (Kerres et al., 2022) and can thus be used as a metaphor for increased blurring of the boundaries between the virtual and the physical (Kasprowicz, 2019). The flow experience entails successfully focusing on the execution of an action. Thus, immersion is related to the environment and flow to the activity. In his research on aesthetic experience in composition tasks, Zill (2015, section 2, paragraphs 3, 4 and 6) elaborates on German philosopher Seel's (2007) three core features of aesthetic experience according: (1) self-purposeful perception, (2) meaningfulness, and (3) attitude change. Self-purposeful perception describes the perception of things for their own sake and not for their use value. The moment of meaningfulness is especially crucial when it comes to the depth of an aesthetic experience<sup>17</sup>: the perceived acquires meaningfulness and generates enthusiasm in the perceiver. Through changes in attitude, a new relationship to the perceived phenomenon and its genesis, and thus ultimately to the world and to oneself, can emerge. This is accompanied by an intersubjectivity in which it is assumed that what one individual finds pleasing may also be of interest to others.<sup>18</sup>

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<sup>17</sup> According to philosopher Seel, aesthetic experience can reach various degrees of depth.

<sup>18</sup> For detailed discussions of aesthetic experience, see: Brandstätter (2008), Seel (2007), Rolle (1999), and Zill (2015, 2016).

## Setting and Research Methodology

### *Research Interest*

These three briefly outlined topics lead to the main question: How do young people between the ages of 10 and 15 experience the creation of music in VR? This overarching question was approached by five sub-questions:

- How do these young people describe their experience?
- Which roles are opened up to the participants? Which roles do they assume?
- What is the aesthetic nature/quality of their experience?
- What conclusions can be drawn about the impact of multi-mediality, especially visuality, on the process of creating music?

### *Sample, Setting, and Data*

Six young people aged 10 to 15 participated in the study. Apart from age, there were no restrictions for participation, such as musical competence. The names have been pseudonymised to protect the participants' privacy.

The participants were found via an open call that went out to the youth departments of local clubs<sup>19</sup> in two different locations. All participants had different prior experience with regard to music education, digital technologies, and gaming (see Table 1). Only one participant, Ana, had created music on a tablet at school and experienced VR briefly before. As the participants were minors, an informed consent discussion was held with their parents in advance, in which they were informed about the details of the study as well as potential risks of using VR headsets.<sup>20</sup> The parents gave their written consent. The children were also informed in advance about what to expect. The mothers of three of the youngest participants remained present during parts of the process.

<sup>19</sup> The clubs were the voluntary fire department, the local sports club, and brass ensemble.

<sup>20</sup> At the time of the data collection, there was no generally valid specification regarding the age at which VR is approved. A lower limit of 10 years is currently being discussed. The limit has to do with both health and legal issues (Zender et al., 2022). All parents, especially those of the youngest participants, were explicitly informed and educated about this. The apps used in this study have no age restrictions. Furthermore, this study is not based on the long-term use of a VR headset. For more details, see: <https://www.meta.com/de/quest/parent-info/>.

| <b>Name<sup>21</sup>,<br/>gender,<br/>age</b> | <b>Instrument</b>                              | <b>Digital Technology</b>                                                          | <b>Gaming</b>                                                                                              |
|-----------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Ria,<br/>f, 10</b>                         | Likes to sing along with the radio             | No smartphone, uses her parents' tablet sometimes                                  | Plays with her cousin's console sometimes                                                                  |
| <b>Dart,<br/>m, 12</b>                        | -                                              | Has his own smartphone                                                             | Has a gaming console, plays every day with console and smartphone                                          |
| <b>Link,<br/>f, 12</b>                        | Trumpet, 3 years                               | Has her own smartphone                                                             | Family has an older gaming console and portable console, plays 3–4 times a week with console or smartphone |
| <b>Fin,<br/>m, 13</b>                         | Violin, 5 years; plays in the school orchestra | Has his own smartphone, also uses the "family tablet"                              | Shares a gaming console with two brothers, plays from time to time                                         |
| <b>Ana,<br/>f, 14</b>                         | Piano, 5 years, on and off                     | Has her own smartphone, tablet and computer                                        | Shares a gaming console with two sisters, plays rarely                                                     |
| <b>LP,<br/>m, 15</b>                          | Guitar, 5 years                                | Has his own smartphone, tablet, computer, and drone; very interested in technology | Has a gaming console, plays with computer or with console 3–4 times a week                                 |

**Table 1:** Overview of the participants

Data collection took place in a one-on-one setting for about 90 to 120 minutes with each participant at the University of Potsdam or in a rehearsing space of a local brass ensemble, depending on the families' place of residence. Before and after the experience in the virtual world, a guided interview was conducted with each of the participants. The pre-interview served to shed light on their previous musical and media experiences (including gaming). While being in the virtual world, participants wore VR headsets but were able to remain acoustically connected to their environment by foregoing the use of shielding headphones and playing sound directly through the headset's head mount. The time spent in the virtual environment was recorded from two perspectives: the individuals were filmed in the physical environment, and their perspectives in the virtual world via screen capture. Before the participants started creating music, they completed a tutorial to familiarise themselves with the controllers. To collect the data on the music creation process, the participants were asked to create music until they were ready to present their result. They were also asked to document the result by creating short videos with the help of the programme's integrated camera. Subsequently, another guided interview was conducted, which included questions about the aesthetic experience – based on the criteria for the qualitative empirical study of aesthetic experiences established by Zill (2015/2016) – as well as questions about

<sup>21</sup> Pseudonymised names, chosen by the participants.

their experience of immersion according to selected items of a questionnaire by Witmer and Singer (1998) and their experience of flow according to a questionnaire by Heutte (2021). In addition, in a video-stimulated recall, the researcher and the participant viewed the video of the final result and talked about the procedure and their intentions and attitude towards the product. Supplemental research notes were taken by the researcher to record particularly significant incidents that took place during the creation process. These could be anything, such as technical interruptions, or comments from participants that were not captured in the interviews. The interviews were transcribed and analysed using thematic qualitative content analysis (Kuckartz & Rädiker, 2022). The videos were used to verify certain observations in the researcher's notes and statements the participants made during the interviews.



**Fig. 1:** Participant creating in VR. Left: Her view in the virtual environment; Right: Participant in the physical environment.

### *The VR Application*

For this research, the app *Drops: Rhythm Garden* was used. This software lets the user place objects in a virtual room designed as a very simple cave-like environment. From some of these objects, marbles fall at regular intervals. When a marble hits an object, it creates a certain sound that is different for every object and also for each side of the object. Resizing the object makes the sounds brighter or darker. As the marbles repeat at certain intervals, the sounds merge into loops that can be rhythmic or polyrhythmic and either noisy or tonal. The decision is up to the users, who can create their own rhythm-based sound installation or sound world. The selection criteria for this app were as follows: (1) space: breaking away from the two-dimensionality of a screen as one of the main characteristics of VR is

a significant aspect; (2) transparency: user actions have clear consequences, and there are not too many parameters hidden in the background that cannot be influenced by the user; (3) subtle visualisation to reduce distractions on a visual level; (4) easy handling: no need to spend hours learning the software; (5) no age restriction, and (6) its release on the *Steam*<sup>22</sup> platform, not *Meta*<sup>23</sup>, in order to not be bound by *Meta* policies.

Although the app is categorised as a game on *Steam*, *Drops: Rhythm Garden* does not follow typical video game principles: there are no scoring systems or rewards to unlock, there are no progressions to higher levels or clearly defined tasks. The application provides a framework – the room – and within it offers tools allowing the participant to create freely, that is, to play freely<sup>24</sup>. It can best be described as a musical *sandbox game* (Austin, 2021).

## Results

In the following section, results are presented in relation to the thematic fields outlined in section 3: (1) the act of creating in multimedia spaces, (2) new perspectives in and through VR, and (3) the dimensions of experience.

### *The Act of Creating Music in Multimedia Spaces – Visual and Auditory*

First of all, to approach the question of what role the visual level plays in the musical creative process, statements from the participants as well as observations of the collected video material were consulted and are presented in part below.

When asked whether they paid more attention to the visual arrangement of the objects or to the sounds during their creative process, Dart and Fin had different approaches:

*Dart: “Like/ rather the marbles. Because you concentrate so hard on/ on how/ well, just that you build everything beautifully, that you don’t really think about the sounds.”*

*Fin: “I think [I concentrated] more on the sound.”*

The other participants showed a more mixed approach, which the following answers illustrate:

*Ana: “I don’t know. Both, I guess.”*

*LP: “I paid more attention to the sound, but, uh, it shouldn’t look stupid, of course.”*

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<sup>22</sup> Steam is a distribution platform for games and software.

<sup>23</sup> Meta Platforms, Inc. is a U.S. company that owns Facebook, Instagram, etc. and the Meta Quest VR device brand.

<sup>24</sup> Philosopher Roger Caillois defines *ludus* as regulated, purposeful play and *paidia* as free play (Caillois, 2017; Claussen, 2021).

The visual appearance of his creation also played a role for LP, who mentioned the sound first. The high importance of the visual is additionally emphasised by the fact that the participants often used visual descriptions of processes when talking about the products, for example:

*Ria: "It (note: The object from which the marble falls) threw too far."*

*Link: "I made it go fast and then immediately slow again, so that you can see the difference."*

Ria's statement occurred in the conversation about her creation. At this point, she was not entirely happy with the progression of her beat, as she referred to her work, and the assumption was that she was describing the sound triggered by the marble as coming in too late. However, she seemed to perceive this timing problem not as a time-based phenomenon, but as a visual-spatial one, in which she described the marble's trajectory as "too far." Link also referred to the visual in her explanation: she described how, at the end, when she recorded her creation, she changed the tempo to make the comparison visible – not audible.

All this may indicate that the process of music creation in VR is strongly influenced by visually motivated decisions and spatial-visual thinking. It is possible that the participants found it easier to grasp the complex acoustic phenomena via familiar visual and spatial schemas when describing them through language. Generally, however, the visual component seems to have strongly shaped the participants' auditory perception and understanding of musical processes.

To further understand these statements, the video recordings were examined. Ria and Ana showed a strong interest in sound at some points. On the video, they can be seen specifically exploring the different sounds of objects by turning them around several times, generating different sounds. Dart, on the other hand, seemed to make more decisions based on visual choices. For example, there was a moment when he moved an object with a hole until the marble fell through, which resulted in it no longer creating a sound. The same situation occurred with Fin, who said he was paying more attention to the sound. However, both did not pay any further attention to this. Ana reflected on the importance of visibility while creating music in the virtual environment at the end of the interview. She acknowledged that the visualisation supported her creative process: *"I think you can do it much better than with GarageBand<sup>25</sup>, for example, because you can really see it visually in front of you."*

Further indications of the significance of visibility and sound were provided by the words the participants used to describe their own actions: the researcher spoke exclusively of creating music and thus tried to avoid formulations such as 'composing', which may

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<sup>25</sup> GarageBand is an app to make, create or produce music on the iPad.

have already been associated with an expectation. It is noticeable that all participants established one or two verbs in the interview to describe their actions which were not necessarily music-related. Ria, Dart, Fin, and Ana used the word *bauen* (building). LP talked about *basteln* (crafting) and *ausführen* (executing), and Link consistently used *machen* (making). The use of the word 'building' could stem from the fact that creating sounds by positioning objects in space is similar to playing with building blocks. Ria explicitly expressed the association with Lego: "[...] *building, just like/ just like Lego, or Playmobil. To build/ to build a city.*"

However, 'making' is a very broad word that could indicate that Link could not yet precisely classify her action. Nevertheless, the term suggests an active, shaping process. The verb 'crafting' often is associated with manually creating something small and detailed using fine motor skills. It may suggest that, for LP, the focus was on the precise placement and arrangement of objects and sounds. 'Execution' implies a purposeful realisation of an idea or plan. In computer science, executing a command carries out a clear, predefined task. This could indicate that in the course of crafting LP developed an idea of how to act and what he wanted to achieve, and implemented this idea step by step.

What all these terms have in common is that they describe very tactile activities that commonly require manual dexterity, but also have a creative or artistic aspect. The choice of the words 'crafting', 'building', and 'executing' could imply that the participants perceived the process of creation as a haptic, actively shaped, hands-on process. This makes an interesting connection to the original meaning of the word *composere*: the Latin *componere* literally means to assemble, to put together. Accordingly, musical composing originally referred to the concrete, artisanal combining and arranging of tones and sounds into a musical work. This connection between craft and creation seems to be central to the participants' descriptions of their experience of creating music in VR.

### **New Perspectives in and through VR – Participants Describing their Role**

The following excerpts shed light on the role the participants perceived themselves to play in the creation process. Their descriptions are quite different, yet they show certain similarities:

*Dart: "I felt like a composer and like someone who is playing a video game."*

*Ria: "I was a gamer, I would say. Because it didn't seem very realistic to me that you're composing music in a cave like that."*

*LP: "The moment I put on the VR headset for the first time, I felt like I was in a game. Because the tutorials in the beginning, they were like games. And when it came to the music part, that was, well, kind of playful for me. So, to me it's more like a game."*

*Fin: "Like someone who is inventing a rhythm for a cool piece, who is adding and removing. Like an inventor, I guess. But also, a composer, too! One that has to make a new piece."*

*Ana: "Well (pauses), the creator of music, the maker. [laughs]"*

*Link: "I actually didn't think about that."*

The quite strong association with gaming could be due to the fact that – as LP noted – the tutorials at the beginning of the session were very playful<sup>26</sup>. In addition, the students noted similarities between the VR controllers and the controllers of game consoles. LP avoided a description of his own role by switching to a description of the environment. He equated putting on the VR headset with entering a game environment in which the process of creating music was accompanied by playful elements.<sup>27</sup> Nevertheless, the participants seemed to, at least playfully, slip into the role of composer. Dart described himself as equally a composer and a gamer. Particularly revealing in this context is the statement by Ria, who clearly saw herself as a gamer, as she did not consider it realistic to compose music in a cave. This implies that Ria presumably had a fixed idea of how traditional composing works, which did not allow for a cave. Nevertheless, she expressed high satisfaction with the process as well as her product: *"Everything [appealed to me] because it is a nice beat and I can imagine that being in a song that is on the charts."* It seems as though she found her own product quite appealing, but doubted the seriousness of her performance.

As Claussen (2021) states in his study on learning in *Guitar Games*, games that are designed to impart knowledge provoke a conflict: "on the one hand [users] feel they are not learning enough, and on the other hand [they] express the observation [of] 'just playing'" (p. 212). As described in section 4, *Drops: Rhythm Garden* is not a pure game and does not impart knowledge, but since the participants made references to gaming, there is a very similar contradiction here.

Fin, on the other hand, referred to himself as an inventor and a composer. He seems to have developed an idea of how to use VR as an inspirational tool to start a greater musical process – like a composer who is exploring sounds and generating new ideas for a future piece. This is related to Ana's statement that brings up the discussion of how composing is shaped by digital tools: She did not see herself as a composer, but rather as a creator. Link thought about the question, but had no answer as to what role she had taken on.

<sup>26</sup> In the tutorials, the participants were taught the basic functions of the controllers (grasp, pull, push, hold, release) by interacting with things like paper airplanes, dice, or ping-pong rackets.

<sup>27</sup> In Johan Huizinga's theory of games (2004), one of the characteristics of playing is that the players enter a *magic circle*. This circle is limited in time and space, has certain rules, and allows the player to become immersed in the world of the game (Huizinga, 2004; Claussen, 2021).

### Dimensions of Experience – Immersion, Flow and the Aesthetic Experience

What is particularly striking is that the participants seem to have had difficulties expressing in words what they had just experienced immediately after taking off the VR headset at the end of the experience:

*Ria: "Um, well. I just did/ Um. How can I explain this? Boah. Um. Well, I just/ Um. Should I tell [you] from the beginning? Um/ So you are in the other world."*

*Dart: "Um/ That was/ So it was pretty confusing/ Um/ because/ Um/ somehow there were so many sounds."*

*Link: "Hm ... [smiles, pauses, takes a deep breath] So that was very beautiful. [lets her eyes wander around the room]"*

*Fin: "[vocalising and performing light dance movements for a while]"*

*Ana: "[eats two cookies – takes about 45 seconds before she talks] I think this was cool."*

*LP: "So this was/ I think/ This was quite impressive. [drinks water – takes about 30 seconds before he continues]"*

Ria seemed to be struggling to find the right words. She paused a lot, used lots of onomatopoeia and posed the rhetorical question "How can I explain this?" as she did not seem to know how to express in words what she experienced. Dart, on the other hand, put down the VR headset and started to talk very quickly, but it was hard to follow without knowing what aspects of the experience he was referring to. With his vocalising and dancing, Fin seemed as if he was trying to bring the musical creation of the virtual world into the physical world to share with the researcher what he just experienced. Link smiled after taking off the VR headset and seemed to be very happy, but in a calm and contented way. She seemed to need a moment to re-enter the physical environment before she continued. Ana and LP seemed to be impressed. They also seemed calm and drank or ate something before they continued. An inability to express the experience verbally can be seen as an indicator of experiencing a high level of affective involvement and therefore, a high level of immersion (Witmer & Singer, 1998). Ria even said: "So you are in the other world." This could indicate that she was experiencing the removal of the VR headset as a process of moving from the "other world" back into the real world.

As the participants did not wear additional headphones, sounds that originated in the physical environment could have led to an interruption of the immersive experience. When asked whether she was bothered by the researcher being in the same physical environment, Ana answered: "*I almost forgot. I was fully immersed in the sound and everything, so I was only focusing on that.*"

While Ria was creating in the virtual environment, not only the researcher but also Ria's mother was present in the room. Asked whether she was worried what they might

think of her, she answered: *"Nah, I did not hear you at all, actually. I actually felt all alone in this cave and I sat down on the floor and that was actually very relaxing."*

Again, this statement seems to confirm that Ria was experiencing a high level of immersion, as she described the experience of being alone in a virtual cave, although her mother and the researcher were only about two meters away. She seemed to have completely blocked out the real world. During her activity, Ria actually sat on the floor most of the time, occasionally crawling between her virtual sound objects. Not caring what other people think while being immersed in a task can be seen as an indicator of experiencing flow (Heutte et al., 2021). Also, the use of the word 'relaxing' in this context is interesting, as Ria used the word three times during the interview. Feeling relaxed or being able to relax while performing an activity suggests that one is feeling safe and in control of the situation. So, Ria did not seem to be worried about her ability to accomplish the task of creating music in the virtual world. This can also be seen as an indicator of flow experience (Nowak, 2020).

All participants were asked to give an estimate of how much time they thought they spent in the virtual environment. Four out of the six estimated the elapsed time to be about 30 % less. One participant, Fin, estimated the time accurately, while another, Link, estimated the elapsed time as 65 % less. A change in the perception of time – in this case, not noticing how fast time passes – can also be seen as an indicator of experiencing immersion and flow (Heutte 2016; Witmer & Singer, 1998). Dart described the altered perception of time as follows: *"[...] with the VR headset you just keep going, because it's fun and you don't want to leave this world, because it is so nice [...] to forget about time [...]"*

When asked whether he would recommend the virtual experience to others, he said: *"Yes [...], because other people should know what this is like/ and that feeling of being in a whole different world, I think."*

Firstly, Dart again described a high degree of immersion experience by directly stating that he felt like he was in a completely different world. Secondly, his recommendation to other people could imply the assumption on his part that the experience he had had could have a similar effect on them. This suggests the intersubjectivity of the experience as perceived by the participant and can be seen as an indicator of aesthetic experience (Zill, 2015).

At the end of the interview, the participants were asked about the potential benefits of creating music in VR. The answers given by LP and Dart are particularly revealing:

*LP: "I felt more/ somewhat freer, almost. [...] You're simply in the environment and you don't just have a screen where there is something else [going on], there's just that, so to speak, and there's nothing to distract you. And you're really in there, so that's an extra world only for music [...] and you get more creative, I'd say."*

*Dart: "I didn't think about any other things at all. My mind was completely free. Because really, you just concentrate so hard on what is going on there. [...] So, I wasn't thinking about anything, just this. [...] We can create music how I like it [sic]. Because I don't think any singer or someone who makes the beats can do it exactly how I want it. Maybe when I say 'Hey, musician, I'd rather have this or that' he would have done it better. But/ no, I don't think they can do it exactly how I want it to be."*

Both LP and Dart described the virtual environment as free of distractions, where the sole purpose was to create music. This, again, speaks for a high level of immersion experience. In addition, both expressed a feeling of freedom: LP described feeling "freer", although it is not clear from the context what he was comparing this to. It could indicate that he was able to pursue his creativity more freely in the virtual environment, unobserved and free from evaluation by others. Dart spoke of a "free mind". This could also imply that in the virtual environment he was able to detach himself from the real external environment and fully engage in his activity. Having a completely clear mind can also indicate unwinding or relaxing, which is similar to the statements by Ria, who repeatedly referred to the virtual environment as relaxing. Dart also hinted that he might have gained new insight into the independent creation of music by recognising the possibility of being able to design a musical product entirely according to his own ideas and preferences. This could be an indication of a change of attitude in the course of an aesthetic experience (Zill, 2015).

## Conjectures, Conclusions, and Perspectives

Based on the results available so far, this study gives insights into the three theoretical fields described above, but also raises a number of issues. Firstly, the results suggest that the design process of creating music in VR is strongly influenced by the visual level. The participants sometimes focused more on the visual than on the acoustic part of creation. They used visual terms to describe their experience and tended to associate the activity with hand-crafting an object. This could indicate that complex acoustic phenomena are grasped and expressed via more familiar visual schemas. Whether, and to what extent, this is at odds with the act of creating music needs to be further examined, as one of the participants explicitly described the visual aspects as helpful. Also, it can be linked to the original notion of composition, which involves combining and arranging tones and sounds, and in many compositional approaches space plays a crucial conceptual role. This could open up the opportunity to include space more often when creating music with students using digital technology, since working on two-dimensional devices can exclude the conceptual approach linking space with music. A second issue is that the results indicate the participants fluctuated between adopting the role of a player and

that of a composer in the virtual environment. This could be due to their pre-existing ideas about traditional composing and attributions regarding the role of the composer. The association of VR with video games could reinforce the player role. However, it is not clear whether the action must necessarily be perceived as serious in order for the experience to be associated with the composer/creator role. A third point is that there are initial indications of flow, immersion, and aesthetic experience. This suggests that VR might act as an enabler for these experiences for people who have little traditional musical training. Whether these experiential qualities are a phenomenon that mainly occur for first-time VR users (due to the “Wow-Effect”), or are more long-term, suggests the need for further research.

For the purposes of musical education, it would make sense to develop a teaching methodology to support students in creating in virtual environments, which could intensify the experiences described here and, therefore, provide ways for students to create more music that they find satisfying. In addition, specific tasks need to be developed for creating music that take the aspect of space even more into account and strengthen a conceptual consideration of space when creating music in educational settings in general.

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# The Digital Student

## Challenges and Opportunities Using EDI in Swedish Music Education

### Introduction

This chapter is situated in the intersection between a practice paper and a scientific paper. The authors of the chapter are researchers and teachers in teacher education and upper secondary school. All are part of a funded practice-based research project focusing on EDI (electronic digital instrument), within a national pilot project commissioned by the Swedish government from 2017 to 2024, an initiative in the ULF agreement, (Utveckling [Development], Lärande [Learning], Forskning [Research]) (ULF-avtal, 2023). The national pilot project aims to develop and test sustainable collaboration models between academia and school regarding research, school activities and teacher education such as establishing research environments, conducting development and/or research projects, increasing collaboration with teacher education by integrating research with education and internship or linking student's thesis with practice-based research projects.

In Sweden, as well as in other countries, efforts to make education research-based have been manifold (Aasen & Prøitz, 2004; Adolfsson & Sundberg, 2018), focusing, not least, on the collaboration between researchers and practitioners. Thus, what we henceforth will call *practice-based research* (also known and referred to as *practice-near* [Magnusson & Malmström, 2023] and *participatory research* [Godfrey-Faussett, 2022]) has been on the agenda (Somekh & Zeichner, 2009), both in policy and the media. This is an international trend in educational policy to stimulate better links between research and practice, and to bring close-to-practice issues to the forefront in educational research (Wyse et al., 2018).

An important reason for the emphasis on practice-based research in Sweden is the wording in the Education Act (SFS 2010:800), which declares that education should be based on "scientific knowledge and proven experience". The Swedish National Agency

for Education (SNAE), (2014), explains “scientific knowledge” as “theoretical rooting, elaboration and development, as well as an empirical basis”, and “proven experience” (p. 11) as teacher knowledge that is tried and tested collegially and documented. These understandings are widely used, even though disputed (Persson & Persson, 2017). In the specific Government Official Report (SOU 2018:19) on practice-based research, *Forska tillsammans* [Do Research Together], practice-based research is described as research that concentrates on the needs of the practitioners, with the purpose of improving practice. Bergman and Hansson (2020) show how SNAE endorses implementation of the Education Act, both as evidence-based, that is the transformation of research results of what works in teaching, and as evidence-informed, where the experiences of the teachers and the local context are important aspects of how research results can be used (cf. Levinsson, 2013). An important way in which practice-based research differs from other kinds of research and previous collaboration between academics and schools is the emphasis on collaboration on an equal footing. This means, for example, that professional groups within schools should be able to initiate research projects, not just researchers. Hence, the teachers, whose activities are being studied, are also subjects in planning, implementing, and reporting the result of the research. The vision is that the collaborative models should be the basis for professional practice within school and teacher training. Research questions developed must, therefore, be formulated together by researchers and teachers, making sure that the research conducted is based on the needs of practitioners on a deeper level.

Since practice-based research and collaboration between research and practitioners are endorsed in policy and politics, and since the field is ever-increasing, it is important to highlight results, insights and experiences from research conducted in the intersection between practice and research.

Our practice-based project, presented in this chapter, has the aim of generating knowledge about how teaching and learning an electronic digital instrument (EDI) is experienced by teachers and students in the upper secondary school Aesthetics Programme Music (APM) and teacher education staff and students. As part of the national pilot project, the project also aims to develop and gather experiences of a model for practice-based research where schoolteachers’ questions are raised to a full-scale research project where researchers collaborate with teachers and students in schools, and in teacher education, in developing scientific knowledge. The project focuses on EDI and aims at answering the following research questions: What does EDI mean and how is it characterised in the APM? What are the specific challenges and opportunities involved in teaching and learning EDI in the APM? How can teaching and learning in and about EDI be designed to develop teachers’ and students’ abilities to take on new instruments and soundscapes in times of constant change?

This chapter continues with a background to the practice-based project “the Digital Student”, followed by the methodological approach, the analysis procedure and the results, and, finally, a discussion.

## The Digital Student Project

The practice-based project around EDI was created during the autumn term 2020 when we, the researcher Anna and the two upper secondary music teachers Per and Erik met with Joakim, music production teacher in teacher education. One of the upper secondary schools in this project have been a tone-setter in introducing EDI as an instrument in Swedish upper secondary schools in 2017 (24ystad, 2017). In that context, EDI is described as a composite system based on three components: 1) computer 2) user-configured software, often Ableton Live or FL Studio 3) digital controllers (grid control, keyboard control and mix control) which, combined, act as a single instrument that has a wider range of musical possibilities and expressions. At Berklee College of Music (n.y.), the corresponding description is used under the designation and abbreviation *EDI* (electronic digital instrument). This has led to EDI becoming a collective name for the computer as an instrument (both in- and outside the project) and Berklee College of Music were used as a critical friend in disseminating the results in the project.

Both upper secondary teachers had identified opportunities and challenges working with EDI at their respective schools. In teacher education the challenge was to make sure that student teachers had enough skills based on constant digital development and upper secondary schools’ needs. The conditions for working digitally differed in part between the two upper secondary schools. Teaching with digital tools clearly had its challenges for teachers and students. Teaching in and about EDI had, largely, completely different challenges. In practice, this could mean, for example, that teachers in ensemble are placed in front of a group which include both traditional ensemble instrument and students who play EDI, all of whom must reach the learning outcomes according to the same curriculum. Given that the field on EDI is relatively unexplored both practically and theoretically, there was every reason to draw synergy effects from a joint practice-based project. The discussions about the opportunities and challenges regarding teaching and learning EDI led to a collaboration and in spring 2021, a project was created highlighting a common research interest and a need for in-depth collaboration. The project was funded by the national pilot project ULF between fall 2021 until the end of 2023.

The APM consists of numerous music courses and most teachers in this study teach ensemble and instrumental courses and also ear training, harmony and music theory, aesthetic communication, music production, arranging and composition, improvisation etc. Almost all teachers meet and teach students playing EDI in these different courses. Half of

the teachers use, or let the students play, EDI during their courses, a third never use or let students play EDI during their courses. At the two schools there are currently four teachers teaching EDI in instrumental courses. All have a background within music production and music technology.

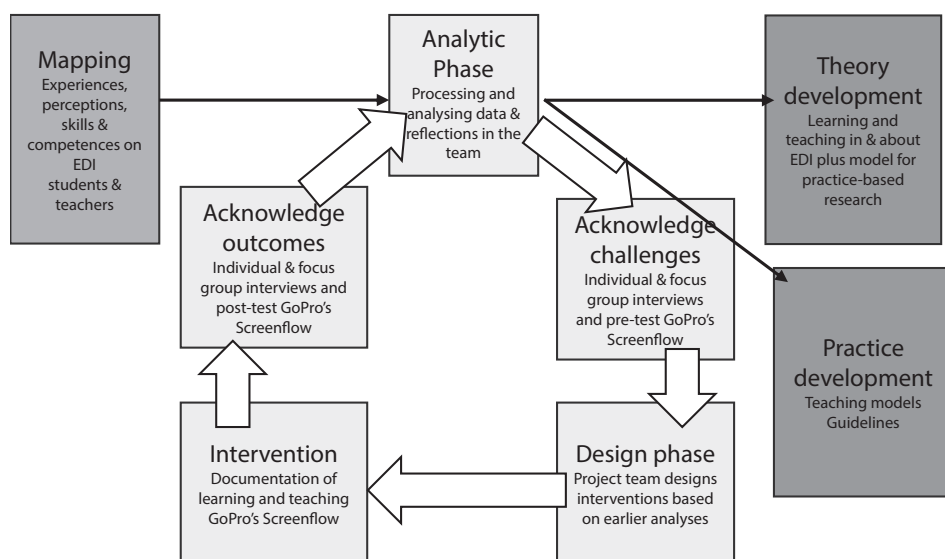
The project's starting point was to generate a scientific understanding on how EDI is experienced by teachers and students at the upper secondary school APMs and the music teacher education staff and students. Hence, we wanted to capture the lived experiences and perceptions, the narratives, and descriptions, of what EDI means to them; we wanted to be responsive, attentive, and open to the participants' lived experience of an instrument in constant change. Starting from previous research from the related field music technology (Jonasson, 2020; Sørbo, 2020; King, Himonides & Ruthman, 2017; Ruthman & Mantie, 2017) the project team, decided to start the project by conducting mapping interviews and surveys with open-ended questions with teachers and students at both upper secondary school and music education. The interview material and the surveys were processed and analysed by the project team. The result formed the basis for designing interventions together with students at the respective school. The interventions were conducted at both upper secondary schools, where the two teachers in the project team taught EDI students in instrumental and ensemble courses. The methodological approach is described in more detail in the forthcoming section.

### ***Educational Design Research***

The design of the interventions was based on *Educational Design Research* (EDR) (McKenney & Reeves, 2012), where great emphasis is placed on collaboration between researchers and teachers, how both parties can learn from each other, and how the research process itself can contribute to knowledge about practice and how practice theoretically can be understood.

EDR is characterised by researchers and teachers collaborating by jointly designing interventions in the classroom environment and developing these in an iterative process. In the iterative cycles, the result of one cycle forms the basis for the design of the next. When designs are tested in the classroom this way, these can be seen as formative interventions (Engeström, 2011) with the aim of developing both practice and the theoretical understanding of the phenomenon being studied, in this case EDI. Designs are tested, analysed and modified to be refined in the iterative process, which promotes an increasingly deep and fine-grained analysis of what is studied and how it can be developed, both theoretically and in practice (Stahl, 2011).

In this project the teaching and its outcomes were examined and analysed through several iterative cycles. Interventions in classrooms were combined with regular meetings where researchers and teachers in schools and teacher education met for the analysis of learning and teaching, methodological discussions, processing of data and finally, creation of guidelines.



**Fig. 1:** EDR Workflow in *The Digital Student-project*

## Methodological Approach

The project has an exploratory approach, suitable for the complex and multifaceted field relating to EDI. The methods used in the data collection and analysis are explained below.

### *Mapping Interviews and Surveys*

In the initial project stage, mapping interviews and surveys were conducted with teachers and students at both schools, and with students in teacher training. The project wanted to generate a scientific understanding on how teaching and learning EDI is perceived and experienced by teachers and students at the upper secondary school and students in music teacher education. At this stage, this initial part of the research relied on the theory on discretionary power, which focuses on the factors that constitute, enables and limits the room for action that the teaching relates to (Houmann, 2010). More explicitly, this mapping was not only about examining available equipment but also teachers' and students' conditions, i.e. their previously acquired experience and knowledge regarding EDI. This culminated in a discussion about the challenges that appeared to surround the teaching of EDI. In the Autumn semester of 2021, 52 participants; 18 teachers, 20 upper secondary students and 14 trainee teacher students took part in the survey. Parallel to the survey, mapping interviews were carried out with the two headmasters of the respective upper secondary schools, four teacher students during internship at the upper secondary schools and the two teachers, Per and Erik, teaching EDI at their respective schools. After the results of the

survey and interviews were analysed by the team, the project team visited the respective upper secondary schools during staff meetings and reported on and discussed the results. The teachers were divided into a total of four groups (two at each school), with five teachers in each, to discuss the results during a focus group conversation, also recorded and part of the data collection.

### *Interventions in Instrumental and Ensemble Courses*

The results from the mapping interviews and surveys formed the basis for the creation of two periods of interventions carried out in the classrooms during Spring and Autumn 2022. The starting point here was that Per and Erik already had a well-functioning theory of how teaching EDI could be designed, and felt that it was possible to learn a lot from it. This type of approach slightly turns the traditional idea upside down: that academics develops theories about how teachers should work which must then be transferred to teaching reality. In addition, these are theories that have been tested in concrete teaching situations and, thus, have a high degree of what is usually called ecological validity (Lewkowicz, 2001). According to Dewey (1988), real teaching is the ultimate test for a teaching theory. Adjacent to this practice-based project focusing on EDI is a more philosophical approach and concerns questions about what a teaching subject/field is, what constitutes its core and periphery, what relations to neighboring fields look like, and the related question of what a teaching subject/field should be. Hence, using interventions or didactic settings (Nilholm, 2021) in this project, highlights the creative feature in teaching EDI while clearly illustrating that it is didactics that are at stake, i.e. the central questions of education research: why, how, when and to whom should EDI be taught? In this sense, teaching designs include material as well as social qualities and involves the planning and orchestration of environments and processes conducive to learning (cf. Jewitt, 2009; Leijon, 2014; Lindstrand, 2006; Selander & Kress, 2010). Both cultural and material tools and artefacts are used to shape and reshape, design and redesign learning trajectories. Design further entails critical thinking and reflection about learning, both individually and interaction with others. The basic assumption of the interventions is that the intentions with, and design and orchestration of, learning environments and situation play an important role in students' learning and meaning making regarding EDI.

The first intervention focused on teaching and learning EDI in an instrumental course where four students (two at each school) were taught EDI in a one-to-one setting by Per and Erik. The aim of the intervention was to test teaching designs with the purpose to give the students an increased understanding of EDI through a task where the student could explore multiple musical competences that would simulate an authentic situation as EDI instrumentalist. More specifically, the students learn to play music as EDI instrumentalists by taking part in various teaching designs focusing on different elements such as rhythm, melody and harmony. Both teachers used the same teaching design and

the same song; *Cold Heart (PNAU Remix)* by Elton John, Dua Lipa and PNAU. The teaching designs was tested in three separate lessons specifically focusing on one element. During the interventions, students solved tasks, while wearing GoPro's, enabling a video recording of where the students directed their focus.



**Fig. 2:** Intervention Instrumental Course

In total 12 individual instrumental lessons, six per school, involving four students, two at each school, was recorded with audio and video, together with recordings of the different screens used by the teachers and students (ScreenFlow).

To explore the effect of the teaching designs Per, Erik and their students answered a set of questions before and after each intervention, recorded on video:

- BEFORE
  - What is the purpose of this lesson?
  - How do we achieve the purpose?
  - How have you prepared for this lesson?
  - What are your expectations on this lesson?
  - What challenges do you see that you/the student have connected to this lesson?
  - What solutions or strategies could lead to fewer challenges for you/the student connected to this lesson?

- AFTER
  - What was the purpose of the lesson?
  - Has the purpose been achieved?
  - How do you know?
  - What went well?
  - What could be improved in the teaching design?
  - What is different?
  - What could be done differently?
  - What problems or solutions do you/they have?

The second intervention focused on teaching and learning EDI in an ensemble course at the respective school. The aim was to test teaching designs focusing on the role and function of EDI in two different ensembles with different instrumental settings during a longer period. At one school the ensemble consisted of three EDI instrumentalist, one keyboard and two singers and at the other of two EDI instrumentalist, two keyboard, two guitar and four singers. During a five-week period, interventions were carried out during a 90-minute ensemble lesson three times at each school. The lessons were recorded by two cameras (GoPro's) overlooking the room and another one directed at the EDI students' control surface; recordings of the different screens used by the students were also made (ScreenFlow). As in the first intervention, teachers and students answered questions before and after each intervention; these were recorded on video. All in all, 16 students and two teachers took part in the second intervention.

In between and during the two interventions in the instrumental and ensemble course the project team frequently processed and analysed the data, acknowledging challenges and transferring insights, experiences, and reflections in the teaching designs. The material (recordings from interventions and interviews) formed the basis for both analysing the interventions and the process where iterative cycles refined the teaching design (see Fig. 1). The regular project group meetings where the empirical material was analysed, and interventions were planned, were also recorded (audio). This varied material was collected in order to both develop and draw scientifically based learnings from practice regarding EDI and to draw conclusions from the practice-based research model. Approximately 250 hours of data were collected in this part of the project (besides the data from the project group's regular meetings).

### *Analysis Procedure*

Audio and video recordings of interviews, focus group conversations and classroom interactions were all transcribed. When analysing classroom activities, interaction analysis was used (Jordan & Henderson, 1995) to identify interesting situations, so called 'hot spots'. Thematic analysis was used to critically examine the collected material in the project,

including the survey with open-ended questions. Themes were generated based on the project's research questions connected to the EDR cyclic process.

At the heart of the teaching design was a cyclic process of (re)designing and instructional activities regarding EDI. In each lesson cycle the project team conducted an anticipatory thought experiment by envisioning how the proposed EDI activities might be realised in interaction in the classroom, and what the students might learn as they participated in them. During the enactment of the activities in the classroom, and in retrospect, the project team tried to analyse the actual process of students' participation and learning. Based on this analysis the project team made decisions about the validity of the conjectures that were embodied in the activities and the revisions of those specific aspects of the design. The design experiment therefore consisted of cyclic processes of thought experiments and instruction experiments (Freudenthal, 1991) (see Fig. 1). These cycles required the project team to engage in an ongoing analysis of the individual students, and of classroom social processes, to inform new anticipatory thought experiments, the design or revision of instructional activities, and, sometimes, the modification of purpose and learning outcomes.

In addition to the adaptation of the overall learning process, during the design experiment the team also discerned macrocycles, which spanned the entire intervention, in the sense that the retrospective analysis of the design experiment for instrumental courses on EDI could feed forward to inform the next intervention regarding ensemble courses on EDI. In this cycle, the conjectures and assumptions formulated at the outset when planning the teaching design were scrutinised in the retrospective analysis. An example of such an analysis can be found in Cobb et al. (1997). The intent was to develop a local instruction theory on EDI that could function as a frame of reference for teachers who want to adapt the corresponding instructional sequence to their own classrooms, and their personal objectives.

### ***Ethical Consideration***

The Swedish Research Council's ethical guidelines and Lund university rules for handling personal data in connection with research were applied in this project (i.e. regarding information and consent, how data is collected, processed, and stored correctly and finally deleted or archived depending on the circumstances). A form for consent to participate in the project was developed together with university representatives for data protection and GDPR. All participants were over 15 years of age. All information that could be linked to individuals was removed from the final reporting material.

## Findings

Under this heading, the most prominent themes that have emerged from the data in the project are presented focusing on how teaching and learning an electronic digital instrument (EDI) is experienced by teachers and students in the upper secondary school Aesthetics Programme Music (APM) and teacher education.

### *EDI as Lived Experience*

In the educational settings included in the project, there are different prerequisites, prior knowledge and abilities that provide different perspectives and examples of how EDI is experienced and perceived. In this way, EDI is defined and redefined as an instrument by everyone, every time, they use it:

Who cares about acronyms and definitions – I define it every time I play it. (Student in upper secondary school APM)

It is a very unique “instrument” and opens up more possibilities in an ensemble than other instruments. It’s a very “versatile” instrument in the way that you can do so much of it. You can play drums, chords, melodies and sample ready-made melodies and play (a bit like Louis Cole does), not to mention all the effects and live mixing capabilities of the instrument. (Student in upper secondary school APM)

It is using the computer as an instrument. That those who play EDI use the computer as their main instrument in musical interaction. It is a method to be able to physically make music in the moment with others and be an integral part of e.g. an ensemble. To contribute to the musical end result in an equal way compared to the other instruments in the group. (Teacher in upper secondary school APM)

Making music with the computer, either directly in the computer or via different types of control units. Both live and with prepared productions. (Teacher in upper secondary school APM)

The most prominent programmes used by students when playing EDI were Ableton Live, Logic Pro and FL Studio and the two schools provided the students with all of these, together with a computer, launchpads and MIDI keyboards.

The result demonstrates different settings for EDI; something strongly linked to whether the instrument was seen as an instrument on its own merits or a complementary instrument in an ensemble, functioning as or doubling as bass or drums. According to the survey most students and teachers agreed that EDI is an instrument like any other instrument and users should be treated no different than other instrumentalists.

Teachers at the two schools saw no obstacles when teaching EDI based on the current curriculum for upper secondary school, regarding instrumental and ensemble courses, and acknowledged great benefits using the instrument in an ensemble. Here, EDI was seen as an integral part of music creation, both in the studio, classroom and on stage. This

means that there are new ways for students to create music, to explore new possibilities for expression and provides new roles and functions when the students play live together. In the upper secondary schools, teachers and students described that they were provided with rich opportunities constantly pushing the limits of what EDI is and what it can do.

Teachers in the upper secondary schools, viewed EDI as a natural part of present and future music making and hence an obvious main instrument to study at the upper secondary APM. It was seen, to some extent, as broadening the previous music education and being more in tune with the contemporary music and the young generation of today. In this context, this means that the students, among other things, used EDI as a live instrument, synchronized with other instruments and musicians. The students used various forms of music-related software and hardware to play, make and create music. More explicitly, some teachers said that it involves working with the computer, music programmes and controllers. Others believed that EDI is:

An instrument that can be a bit of anything, both physically, sound-wise and functionally in a group. Actually, like any instrument, but with greater possibilities.  
(Teacher in upper secondary school APM)

Teachers and students agreed that EDI as an instrument offers endless possibilities for expression. The students' descriptions on why they started to play EDI mostly relates to EDI allowing you to explore an array of electronical music styles, they believed they can develop a high level of instrumental techniques and that it expands their capabilities to develop as a nimble, versatile, and innovative musician. The students also mentioned that EDI promotes a mindset as problem solvers and their "what if?" mentality.

Most of the teachers would like to integrate EDI more in their teaching in the future. The teachers and students suggested that EDI is most suitable in courses such as: main instrument, ensemble, music theory, ear training, music production, arranging and composition, aesthetic communication, and digital music making:

All, if slightly adapted. (Teacher in upper secondary school APM)

I would have loved to try it in ear training and music theory, but not sure if it works.  
(Student in upper secondary school APM)

The same courses as with any other instrument. It depends on the creativity of the teacher. (Teacher in upper secondary school APM)

According to the survey and interventions EDI had one or multiple roles and functions in an ensemble such as chords, lead melody by vocoder or lead FX, synth riff or bas, rhythm, light- and/pr sound-control etc. Different capabilities opened up for a variety of experiences and playing techniques such as keyboard, drum pad, grid controllers in chromatic mode, scale mode and drum mode. Teacher students specifically highlighted EDI as an instrument

that gives you instant visual music theory feedback on you controller and computer screen regarding rhythm, melody, harmony, and form.

### ***Knowledge and Competence in and about EDI***

Half of the music teachers consider themselves to have sufficient knowledge in EDI to be able to teach an ensemble with students (only) playing EDI. 72 % said they felt comfortable enough to teach an ensemble with EDI in a mixed instrumental setting. When asked if they consider that they have sufficient knowledge to teach EDI in an instrumental course only 22 % responded that they mainly or partially agree, and 78 % said not at all. Regarding the overall quality of the level of competence at the schools 39 % of the teachers stated that they believed that it was sufficient, 33 % partially agreed and 22 % stated not at all.

Technical problems leading to time consuming troubleshooting during lessons were seen as one of the reasons why EDI takes more time and focus during teaching than other instruments. However, this was usually, connected to teachers' prior knowledge and competence and whether one sees troubleshooting as part of the learning process or not. Interestingly students playing EDI did not perceive technical problems and troubleshooting as problems at all but, rather, as part of the learning and musical process.

Methodologically EDI enabled different learning processes when teaching music by synchronizing digital instruments to and from acoustic instruments, live sampling (recording and playback of sounds created by the ensemble), ensemble with non-linear backing tracks (where, for example, the form is created in the moment), production-like repetitions, process-driven ensemble lessons and visual representation of the production on a projector – rhythm, melody, harmony and form. The interventions during ensemble lessons demonstrated students' different skills including: learning performing techniques such as live remixing, finger drumming, live lopping and sequencing, real-time effects processing, and real-time performance of individual musical parts using either a grid or keyboard controller. Instrumental lessons served as setups for tracks or channels in their DAW, prepared with sound sources already on them, for the ensemble lessons. These sound sources included a melody instrument sound, a bass instrument sound, chordal accompaniment, percussive sounds, or loops.

Almost all teachers expressed that they wanted to learn more about EDI and half wants in-service training during their working hours. For the most part, teachers believed they knew what they lacked in knowledge and competence to be able to handle EDI in their courses, in which they often felt the need of the support of colleagues. The strong collegial community at both schools are often mentioned as a prerequisite for elevating the overall competence level in and about EDI. Before and during the project, both schools had had internal in-service training with specialised staff teachers, which they said had increased the feeling of getting the right support from colleagues connected to the everyday challenges and opportunities with EDI. At both schools there was collegial collaboration around EDI,

where teachers got to share each other's strengths and experiences. However, more than half the teachers believed that there was no support and, for them, a clear structure from the management of the school around EDI.

Almost all students believed that they received sufficient support from their music teachers in handling EDI during their music lessons. 70 % believed that their teachers knew enough about EDI to be able to help and support them in various courses. Interestingly most teachers and students agreed that there were insufficient teachers with high enough competence regarding EDI at their respective school.

Discussing challenges and opportunities regarding EDI in music education the teachers often referred to their own and their students' level of knowledge and competence.

The only challenge I have is my lack of knowledge to be able to fully use EDI and acknowledge its possible areas of use. (Teacher in upper secondary school APM)

Most courses should work [with EDI], but I think it is easier to support students if you have a high level of EDI competence, as a teacher. (Teacher in upper secondary school APM)

Well, it is a challenge for me and the students to figure out things since everything is so new and it keeps changing all the time. It seems we are spending a lot of time trouble- shouting. Some students are working with programs that I have zero knowledge about which makes it hard to explain to the students and keep the lesson moving forward. (Teacher in upper secondary school APM)

I think we need to rethink how we reorganize the ensembles to be able to utilize all competences in the teaching staff. The different roles and functions of EDI in the same ensemble such as rhythm, chords, melody requires theoretical knowledge at high level. (Teacher in upper secondary school APM)

75 % of the students had not played EDI prior to entering the APM. Besides music lessons in primary and secondary school, a third of the students had never studied music before. Hence, at that time, 85 % of the students had a different perception of EDI as instrument (and what it means to learn music as a subject) than when they started upper secondary school.

## Discussion and Conclusion

The findings of the project point to a general shift in focus: from teaching to learning and, consequently, from teacher to learner. Thus, it also implies a shift of focus, from how to teach (teaching methods) and the outcome of teaching in terms of results as seen from the teacher's perspective to what to learn, the content of learning, and how to learn – the way of learning. As one teacher noted:

One example from my experience is reframing my thinking on learning and teaching music. Instead of going into class thinking about what I will teach my students, I think about what I can learn from them and from that I will find out what triggers their further learning experiences. This puts me into a completely different posture – one that helps both my students and me maximize our learning about and in EDI. (Teacher in upper secondary school APM)

A point of departure for this perspective is the notion that the great majority of all musical learning takes place outside schools, in situations where there is no teacher, and in which the intention of the activity is not to learn about music, but to play music, listen to music, dance to music or be together with music. The results of the current study typify situations in which music is experienced and learned, one way or another. This is further accentuated because of computers and new technology and all the musical activities on the internet, in which the global and the local interact where students learn globally to act locally: using glocal learning based on both global and local experiences and knowledge (Robertsson, 1995). There is no sage on stage. A glocal EDI teaching-learning setting is student-centered and sees and promotes students as responsible for their own learning process. Teachers facilitate, debrief and feedback on the process, here often including the students from start to end.

The findings of this project suggests that teaching and learning EDI focuses on several aspects of the instrument: *role and function*, *playing techniques*, *music theory*, *methodology*, *construction of the instrument* and *creativity*. Teachers in the project clearly point out creativity as the overarching finding in the interventions. EDI creates possibilities for making and creating music live and in production at several points in music teaching and learning: sound design, instrument design, choosing role and function, choosing grid and control, choosing playing technique and in creating rhythm, melody, harmony and form. However, it takes quite a skilled and competent teacher and student to set the stage for the different choices you can make. For this reason, we created guidelines<sup>1</sup> to facilitate teaching and learning regarding the above-mentioned aspects of the instrument. The educational resources and approaches provided in the EDI guidelines created from the project aim to build a creative and diverse knowledge base together with teachers and students in school and teacher education, i.e. you. The challenge is not to define “good practices” or recipes, but to rely on the lived experience and analyses of professionals and learners on ways of teaching and learning in the digital age. In the funded continuance of the project, we highlight the questions above, together with collegial aspects regarding teaching and learning EDI focusing on assessing and grading students artistic and musical expression. The idea is to continuously promote research-informed teaching and inquiry-oriented school development, strengthen links between educational research and practice in schools by using practice-based research.

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<sup>1</sup> <https://www.ediguidelines.se/>

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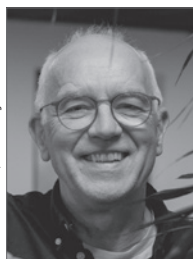
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is lead music teacher at the Aesthetic programme at Ystad Gymnasium in Ystad, Sweden, where he teaches EDI and other music courses. He holds a teaching degree: Master of Arts in Education: Music Education (2013). From 2021–24 he was part of the research project ‘The Digital Student – challenges and opportunities using the computer as main instrument in music education in Sweden’. He is interested in songwriting, music production, and pedagogical methods for nurturing students’ interests in music within music education. Erik has been the EAS national coordinator for Sweden since 2023.



## **Peter Mall**

*University of Gießen – Germany*

studied guitar in Kassel and Trossingen. He worked as guitar teacher before he finished his PhD at the University of Education Freiburg/Br. His thesis with the title ‘Orchestras and Schools’ was published in 2015. He was research assistant at the HfMDK Frankfurt a. M. and at the University of Music Trossingen (2021–2024) in the program “MidiR” (Music education in digital spaces). Peter Mall is and has been teaching music education at the HfMDK Frankfurt, HfMDK Mannheim and the HMTM Hannover and is currently representing Professor for Music Education at the University of Gießen.



## **Yannis Mygdanis**

*National and Kapodistrian University of Athens – Greece*

is a postdoctoral researcher at the National and Kapodistrian University of Athens (NKUA). He currently teaches music at the Pierce – The American College of Greece elementary school. Additionally, he serves as an adjunct lecturer in Music Studies at NKUA and in the postgraduate program “Music Education in Formal and Non-Formal Settings” at the same university. He has presented at over 45 international conferences focused on music, education, and technology, and has published more than 45 articles in chapters, peer-reviewed journals, and conference proceedings.



### Vít Novotný

*Charles University Prague – Czechia*

graduate of Charles University's Faculty of Education in Prague, is a music teacher and choir conductor. Collaborating with the renowned educator František Tichý, he creates student musical-dramatic productions inspired by the legacy of child prisoners from the Terezín ghetto (*Terezínské zvony, Návštěva z pravěku, Nepřátelé*). He teaches didactics of music at Charles University and conducts the Imbus Chamber Choir and Bohemiachor, both respected Czech amateur choirs. Novotný has also worked with Bohemia Cantat International Choral Festival and the Czech Philharmonic's educational team Opusy na kusy, and he serves on the NIPOS-ARTAMA council for adult choral singing in Czechia.



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### Laetitia Pansanel-Garric

*Louis Lumière Lyon 2 University – France*

Graduated from the CNSMD in Lyon and USC Los Angeles, Laetitia has scored more than 70 films, including the feature film *Hola Frida* by André Kadi and Karine Vezina, *Pamfir* by Dmytro Sukholytkyy-Sobchuk, selected at the Directors' Fortnight, and the short film *A Point* by Aurélie Marpeaux (in pre-selection for the César 2023). She received the 2022 Revelation Prize: Film Music Composer at the Festival des Arcs. Committed to the values of transmission, Laetitia Pansanel-Garric divides her life between composing, teaching (within the M.a.a.v master's program of the Louis Lumière Lyon 2 University), concerts and film-concerts with the symphony orchestra of Lyon 2 University, which she has been conducting since 2013.



### Elissavet Perakaki

*National and Kapodistrian University of Athens – Greece*

serves as a member of the teaching and research staff at the Department of Musical Studies at NKUA since 2020. She completed her PhD in Music Education (2009) and her post-doctoral research (2022) at the same University. She has taught music in public primary and secondary schools and conservatories since 1998. Elissavet's expertise encompasses several interconnected areas of music education, including music in infancy, primary and secondary education, music teacher education, and lifelong learning. She is the author (*Fagotto*: 2008, 2009) and co-author (*Fagotto*: 2018 & 2023 and *Ellinoekdotiki*, 2021) of five books in Greek. She is the president of the Greek Society for Music Education (GSME) and is currently the chair of ISME's Music in the Schools & Teacher Education Commission (MISTEC) for 2024–2026.



### **Benno Spieker**

*ArtEZ University of the Arts – Netherlands*

is teacher educator in technology-enriched music education at the conservatory of ArtEZ University of the Arts in Enschede, Netherlands. He holds a bachelor's degree in music in education and civil engineering, a master's degree in musicology, and is currently a Ph.D. candidate at the University of Twente. Benno is a former teacher trainer of generalist primary school teachers. His research interests include technology-enriched music pedagogy, subject integration, improvisation, and formative evaluation in teacher training in music pedagogy. He is a board member of EAS and the Dutch music teacher association VLS and entrepreneur at the intersection of music, education, technology and innovation.



### **Daniela Taylor**

*Masaryk University, Brno – Czech Republic*

is an assistant professor and a didactic specialist at the Department of Music Education of the Faculty of Education, Masaryk University, Brno. She is in charge of Didactics of Music in the context of teaching for kindergartens and primary schools of the lower and upper grades. She collaborates on creative projects supporting the activity-based concept of Music Education and on creating teaching materials for Music Education, including the textbook series *Playful Music Education* for Primary School from the TAKTIK publishing house. In 2024 she was presented with the Ministry of Education, Youth and Sports medal for significant pedagogical and educational activities and outstanding work in the field of Education.



### **Elisabeth Theisohn**

*Karlsruhe University of Music – Germany*

is Professor in Music Education at the University of Music in Karlsruhe, Germany. She holds a teaching and Master's degree in Music, German, Music & Movement and Elemental Music Pedagogy (2003/2004), a teacher's exam for Secondary School (2007) and a PhD in Music Education (2022). From 2007–2016 she works as a music teacher at a secondary school, from 2016–2023 as an Assistant Researcher at the University of Musik Freiburg. Her interests lay in improvising and composing in schools, the role of body and movement in musical learning, participation and democratic education in context of school and university as well as in empirical research on schools and teaching.



### **Johannes Treß**

*University of Education Freiburg – Germany*

Johannes Treß is a music educator, researcher and composer-performer focusing on postdigital music education, maker music, and improvisation. He explores creative processes, group improvisation, and digital tools in music education. Since 2023 he has been an Assistant Professor at the University of Education Freiburg.



### **Verena Weidner**

*University of Erfurt – Germany*

is Professor of Music and Music Education at the Faculty of Education at the University of Erfurt and the head of the Department of Music. She holds a PhD in Music Education (2015). She studied School Music and Music Theory at the University of Music and Performing Arts Munich and Philosophy at the University of Hagen and the Munich School of Philosophy. She then completed her teacher training for secondary schools in Music and Philosophy in Hamburg. Her research interests include curriculum development in music education, composition pedagogy, music education in post-digital contexts, and the relationship between music and well-being.



### **Heidi Westerlund**

*Sibelius Academy of the University of the Arts Helsinki – Finland*

Dr. Heidi Westerlund is a professor at the Sibelius Academy of the University of the Arts Helsinki, Finland, and Adjunct Professor in Monash University, Australia. Her research interests include higher arts education, music professionalism, cultural diversity, and democracy in music education. She has led several Research Council of Finland funded research projects, of which the ongoing projects are “Music Education, Professionalism, and Eco-Politics” (2021–2025) and “Transition Pathways Towards Gender Inclusion in the Changing Musical Landscapes of Nepal” (2023–2026).

Thade Buchborn, Marina Gall, Sarah Hennessy, Margret Stumpfögger (eds.)

## Liberty – Equity – Creativity

### Innovating and inventing music in the classroom

This book presents a diverse collection of perspectives and research inspired by the theme: Liberty – Equity – Creativity: Innovating and inventing music in the classroom. In 13 chapters the authors explore what it means to compose, improvise, and produce music today – whether through the use of traditional notation or digital tools, or through spontaneous sound exploration.

Featuring contributions from educators, researchers, and practitioners across Europe, the chapters explore research on composing and improvising in school as well as practical projects and technological innovations that foster musical creativity among children and young people. Topics include theoretical considerations on creativity, insights into inclusive practices for students with special needs/disabilities, the role of technology and virtual environments, and the importance of teacher training in creative music-making.

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