

Music Technology in Education – Channeling and Challenging Perspectives

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Welcome to the anthology *Music Technology in Education – Channeling and Challenging Perspectives*. This anthology presents research projects that explore intersections between music, technology and education from varying perspectives, and is the result of the efforts organized through the research group Music Technology in Education (MusTed)¹ based at the Norwegian University of Science and Technology (NTNU). The researchers in the anthology come from a range of educational programs, including traditional preschool, primary and secondary teacher education programs, as well as music performance and music technology education programs. Data has been collected not only from these respective

¹ See <https://www.ntnu.no/ilu/musted> (accessed August 5 2020).

programs, but from primary and lower secondary schools and informal learning environments as well. The anthology consists of ten chapters, arranged under the topics: (i) background perspectives, (ii) music technology channeling music education, and (iii) music technology challenging music education. The chapters in the first part are written in Swedish and Norwegian, while the remaining chapters are written in English. Before describing the anthology's topics and corresponding chapters, we will present how the global COVID-19² pandemic created by SARS-CoV-2³ in the year 2020 and its impact on music education came to create a special context for this anthology.

Music Education in the Time of Global Pandemics

When the work on this anthology started in 2018, we did not know that digitalization of the subject music and education in general would become relevant to such a degree. During the spring of 2020, the world started to grasp the scope and gravity of the global COVID-19 pandemic, and drastic measures were taken in country after country. As Norwegian society closed down to prevent the spread of the virus, so too did the kindergartens, schools and universities, compelling teachers, students, pupils and parents alike to abandon plans and normal procedures.⁴ For the educational field, this posed (and at present still poses) great challenges, including complex considerations concerning subject content, curricula, communication forms, assessment, examinations and grading. The big question was how to facilitate learning experiences for pupils and students without the opportunity to meet up physically. An obvious part of the answer was rapid digital transformation, a process described as “crash digitalization”

2 See <https://www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020> (accessed August 19 2020).

3 See <https://www.nature.com/articles/s41564-020-0695-z> (accessed August 19 2020).

4 See <https://www.nrk.no/norge/alle-landets-skoler-og-barnehager-stenges-1.14940262> (accessed July 16 2020).

in Norwegian higher education.⁵ Online teaching was something few teachers had any experience of prior to the pandemic, even though the willingness to cope as online practitioners was present (Gudmundsdottir & Hathaway, 2020). For the subject music, traditionally characterized by social and practical components such as singing and playing music together, digitalization poses special challenges. One of these challenges is how to convey important social and practical aspects of the subject music through digital platforms. Another challenge is directed at the subject music itself: what is lost by going digital, and what possibilities arise? What kind of subject can be carried out in music education that is purely digital? In some sense, the national response to the pandemic took the form of a giant educational experiment, forcing institutions to think in new ways. Without going deeper into the consequences and repercussions of this “experiment”, the comprehensive need for updated and relevant research on music technology in education suddenly became abundantly clear. However, this is not an anthology on COVID-19 or music education in the time of global pandemics. The research projects presented in this anthology were all conducted before the pandemic started. Still, this anthology provides updated and relevant insights into important topics that all levels of the educational system need to consider, actualized through the current situation. In this anthology these insights are, in addition to background perspectives, presented through the two perspectives of music technology as both “channeling” and “challenging” music education. These last two perspectives will be elaborated on in connection with the presentation of the chapters.

Background Perspectives

The first part of the anthology contains two chapters that contribute to the understanding of the background for music technology in education. In Chapter One, “I en snårskog av traditioner – musikproduktion och

5 See <https://www.fpol.no/bjorn-stensaker-om-krasj-digitaliseringen-i-norsk-hoyere-utdanning/> (accessed July 16 2020).

musikteknik i den högre musikutbildningen utifrån ett svenskt perspektiv” [In a Maze of Traditions – Music Production and Music Technology in Higher Music Education From a Swedish Perspective], Jan-Olof Gullö identifies traditions of importance in Swedish higher education directed at music production and audio and music technique. He asks what characterizes these traditions and what do they mean for the students pursuing a career in this area? Previous research and literature concerning music production and traditions within higher education are analyzed using a knowledge-critical approach, pointing towards challenges for students and teachers alike. In the second chapter, Eirik Askerøi addresses technological development as a driving force of musical development throughout the history of recorded music, with the overall aim of providing an inroad to understanding the concept of sound in a historic perspective. This chapter is called “Sound i historisk perspektiv: oppdagelse, naturalisering, kanonisering” [Sound in a Historic Perspective: Discovery, Naturalization, Canonization]. These chapters provide insights from two different angles into how music technology has affected music and music education historically, giving a historical “sound board” to the following two parts.

Music Technology Channeling Music Education

Music technology may function as a way of conveying music education through a channel. How can music technology help create and communicate “genuine” music experiences? What are the limits of digital music education, and what kind of music educational approaches can be fruitful in a digitalized music subject? Questions like these form the starting point for the second part of the anthology, as well as for the third chapter, called “The Notion of Presence in a Telematic Cross-Disciplinary Program for Music, Communication and Technology”. In this chapter, Robin Støckert, Andreas Bergsland and Anna Xambó examine how students in a two-campus, cross-disciplinary program in Music, Communication and Technology (MCT) experience the sense of presence of peer students and teachers, some physically co-localized, while others are present via an

audiovisual communications system. Music technology may also convey music education through the “channeling” of elements known from the students’ everyday life. In the fourth chapter, “Gamification and Formal Practice: A Pilot Study on Gamification’s Contributions on Early Childhood Student Teachers’ Musical Practice”, Thomas Nguyen explores how incorporating game elements, like reward systems, level gaining, competition, cooperation, storytelling, and goals, into a ukulele and song course can potentially contribute to formal practice and song acquisition in a group of early childhood student teachers. Another way of understanding music technology as “channeling” music education is by its ability to “form a channel” in existing practices. How can music technology shed new light on established music educational methods? In the fifth chapter, Ola Buan Øien investigates live looping as a style of ensemble conducting, asking what perspectives relevant to conducting this approach offer. This chapter is called “Loop Station Conducting (LSC): A Study on Live Looping as an Ensemble Conducting Approach”. The sixth chapter, “Making Music, Finishing Music – An Inquiry Into the Music-Making Practice of Popular Electronic Music Students in the ‘Laptop-era’”, rounds off the second part of the anthology. In this chapter, Andreas Waaler Røshol and Eirik Sørbo present a description of how Bachelor’s and Master’s degree students in popular electronic music experience making original music in their chosen Digital Audio Workstation (DAW), arguing that the students need to develop individual creative strategies suited to their unique music-making practice. In this way, music technology may “channel” or direct music education towards new pedagogical strategies suited to the “laptop-era”.

Music Technology Challenging Music Education

In one way or another, all contributions to this anthology challenge the understanding of the relationship between music technology and music education. The third part of this anthology contains chapters that, in different ways, thematize how these challenges may affect how we understand educational practices in schools and higher education, the goals

and content of music education, and the understanding of music and music creation in itself. Concerns about these challenges are not new. In 1990, Graftås and Klempe described two risks as (digital) music technology found its way into music education. The first risk was connected to the lack of technological knowledge, making it difficult for people with music knowledge to critically assess modern music technology. It was equally dangerous if one possessed music-technological skills but lacked the ability to assess them in light of the subject of music and music pedagogy (p. 9). Thirty years later, questions concerning music teacher knowledge in connection to music technology are still highly relevant. Øyvind Johan Eiksund and Egil Reistadbakk examine how music-technological expertise can inform teaching in summer school workshops for young students. In Chapter Seven, “Knowledge for the Future Music Teacher: Authentic Learning Spaces for Teaching Songwriting and Production Using Music Technology”, they describe the knowledge at play in music technology instructors’ efforts to create authentic learning spaces for pupils from the age of 11 to 16. The eighth chapter is entitled “Balancing Educational Purposes Within Higher Electronic Music Education – A Biestaian Perspective”. In this chapter, Eirik Sørbo addresses challenges to the teachers regarding what the expected knowledge base is for the students entering the programs, how to maintain a balanced program, and how to relate to ever-evolving technologies. Based on Biesta’s educational purposes, Sørbo proposes that educators in higher electronic music education should emphasize subjectification, in addition to qualification and socialization. Another chapter applying a Biestaian perspective is Bjørn-Terje Bandlien’s “Composing on iPad as Middle Ground Education”. Using the term “middle ground” as a theoretical basis, Chapter Nine investigates music teaching where the students’ creative productions are part of their learning activities, identifying inhibitory and promotional challenges in the encounters between students’ desires and the world. Returning to the challenge posed by new ways of informal learning and a different and diverse knowledge base for students, Eirik Sørbo and Andreas Waaler Røshol present a case study of the practice of a teacher at the University of Agder (Norway) who teaches electronics in one-to-one tuition. The authors discuss how this approach accommodates

challenges and, at the same time, promotes subjectivity in higher music education. This tenth chapter is entitled “Teaching Aesthetics – A Case Study of one-to-one Tuition in Popular Electronic Music in Higher Education”, and is the final one of the third part and the anthology as a whole.

The growing interest in and relevance of technology in music education may be illustrated by the fact that both Routledge and Oxford University Press have recently released major publications on this topic. *The Routledge Companion to Music, Technology, and Education* (King et al., 2017) is a comprehensive resource that “draws together burgeoning research on the use of technology in music education around the world” (Introductory text), with 37 chapters addressing major aspects of the use of technology in music education. *The Oxford Handbook of Technology and Music Education* (Ruthmann & Mantie, 2017) is described as a landmark publication in the way it critically examines “the uses of technology in the ways we teach music in elementary, secondary, and tertiary settings from a multinational, global perspective” (Foreword), emphasizing diversity and forward-facing discussion, promoting perspectives and conversational voices rather than reinforcing traditional narratives and prevailing discourses. Between them, these two publications draw together contributions from 16 countries all around the world, underlining the ambitions of presenting global perspectives on technology in music education. The current anthology takes a different approach. It provides a deep dive into a particular educational reality, giving the reader a range of possible perspectives on how music technology may “channel” and “challenge” music education from a Norwegian point of view. By being dedicated to music technology in education, this publication is unique in a Norwegian context and represents, at the same time, an important contribution to a growing international field. We hope you enjoy reading it.

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