Developing Practices and Approaches to Electronic Popular Music in Education

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Summary

English:

The field of electronic popular music education is a relative newcomer compared to most other educational fields within the arts, and the relationships between educational purposes, between the teacher and the students, and between technology and musical parameters are not as established as they are elsewhere. Through the four articles constituting this thesis, various ways of teaching electronic popular music are explored, all of which emphasize to some degree these relationships. In Article 1, I make broad discussions using continental educational theory—in particular, the work of Biesta—to generate pertinent questions for educators within electronic popular music education. I also introduce and develop an understanding of *artistic subjectification* as a means of facilitating subjectification (in the Biestaian sense), one that I argue is unique to art education. Article 2 presents a case study of the one-to-one teaching approach of a teacher in electronic music, and points to how one might teach technologies by simply ignoring them and focusing exclusively on the aesthetic parameters of the music, then leaving it up to the student to figure out how to technically achieve their creative endeavors. These two articles together point to how teachers can help students (re)gain agency in their creative practices through both explicitly focusing on how technologies mediate their practices *and* through ignoring technology altogether. The third article explores the tension between continental educational thinking and student-centered education via the case study of a task for activating student expertise in electronic popular music education, based on that tension. It then frames the findings of this case study within a proposed teaching method, and finally introduces the concept of *middle ground teaching.* Article 4 provides a case study of a collaborative music making camp involving 16 students, and develops from this case study the *model of aesthetic dialogue* that points to various aspects that influence the quality and efficiency of the collaboration. These two articles together point to ways of approaching fragmented knowledges and skills and tackling the diverse backgrounds of students.

Norsk:

Elektronisk populærmusikkutdanning er et relativt nytt felt sammenlignet med de fleste andre kunstneriske utdanningsfelt, og forholdet mellom ulike utdanningshensikter, mellom lærer og student, og mellom teknologi og musikalske parametere er ikke etablert i like stor grad som i andre felt. Gjennom de fire artiklene som utgjør denne avhandlingen, som alle i større eller mindre grad vektlegger de overnevnte forholdene, utforskes ulike måter å undervise elektronisk populærmusikk. I den første artikkelen knytter jeg overordnede prinsipper hentet fra den kontinentale utdanningstenkningen, særlig gjennom arbeidene til Biesta, til elektronisk populærmusikkutdanning. Jeg viser hvordan læreren kan bruke studentenes *kunstneriske subjektivering* til å eksplisitt adressere både teknologi og den kreative kvaliteten, noe som videre legger til rette for subjektivering (som beskrevet av Biesta). Den andre artikkelen presenterer et case studie av en lærers tilnærming til en-til-en undervisning i elektronisk musikk, og peker på hvordan man kan undervise teknologi ved å rett og slett ignorere den og utelukkende fokusere på estetiske parametere, slik at man lar det være opp til studentene å finne ut hvordan de teknisk kan gjennomføre de musikalske idéene sine. Samlet sett peker disse to artiklene på hvordan læreren kan hjelpe studentene med å øke sin kreative agens både ved å eksplisitt fokusere på hvordan teknologien medierer deres kreative praksiser *og* ved ganske enkelt å ignorere teknologien. Den tredje artikkelen utforsker spenningen mellom kontinental utdanningstenkning og student-orientert utdanning, og bruker et case studie til å teste noen av disse spenningene ut i praksis. Funnene rammes inn i en foreslått undervisningsmetode som fokuserer på å aktivere og synliggjøre studentenes egen ekspertise. Til slutt i denne artikkelen introduserer jeg konseptet *middle ground teaching*. Den fjerde artikkelen beskriver et case studie av en co-writing camp for 16 studenter, der de lager musikk på fire ulike måter og i ulike konstellasjoner. Basert på funnene utvikles *the model of the aesthetic dialogue,* som påpeker fire «domener» som påvirker kvaliteten og effektiviteten i et slikt samarbeidet. Samlet sett peker den tredje og fjerde artikkelen på hvordan læreren kan forholde seg til fragmenterte og ofte svært ulike forkunnskaper hos studentene.

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Introduction

In 2010, Gert Biesta asked a timely question: *what is good education?* (Biesta, 2010). While everyone seems to agree that making education better is the prime motivation of educational research, different answers to that question reflect the divergent, often incompatible, views regarding *how* good education might be achieved. Biesta raised the question as a critique of the ways in which business terminology and mindsets had permeated educational systems around the world in the form of benchmarking, standardization, and learning by objectives, among other things. This question has stuck with me ever since I first became aware of Biesta's work and has shaped my understanding of what education is, can be, and should be.

And what is good *music* education? Wayne Bowman makes the case that it has to be about more than "simply" music in order to be legitimate in comparison to issues like poverty, disease, starvation, war, terrorism, and so on, and that if music educators do not tackle questions of equity and social justice within their areas of expertise, they run the risk of becoming, in Elliot and Veblen's words, "quaint, if not largely irrelevant" (Bowman, 2007, p. 113). Petter Dyndahl applies this same argument to more recent developments, arguing that "today's international situation, with its increasing social and cultural instability and polarization, is of the utmost importance for music education" (Dyndahl, 2019, p. 26). Good music education, like good education in general, must actively engage with such matters.

What then, is good *electronic popular music* education? When I was offered the post of PhD research fellow, the question posed in the description was *how can music teachers meet new technology?*—a short question with a myriad of potential answers. I have considered these potential answers according to my always developing sense of what constitutes *good education* and *good music education*. This post's governing question has served as guidance throughout my whole research period, and though my focus has often been on fundamental questions of educational purpose—on *why* and *what*—the question's emphasis on *how* (how the *teacher* can teach with technology so that the *student* can learn with technology) has always lurked in the background, pulling me back to the teacher's perspective. Consequently, while I look close at questions of why and what, three out of the four articles presented here are also concerned with *how*. They explore practices but always in dialogue with questions concerning educational *purpose*.

Further, I follow the advice of Biesta and take what he calls a pragmatic[1] approach to the research in this thesis, which is not to imply that I admit to pragmatism but rather that I avoid confessional forms of engagement with theory (Biesta, 2020b, pp. 7-24). This approach is reflected in the theoretical underpinnings of my research, wherein I combine several discourses, and in the diverse nature of the reflexive methodology that constitutes my methodological framework. The result is that deeper dives into a few applied concepts have given way to the accommodation of a broader range of concepts overall. One might say that I have sacrificed nuance at the altar of perspective. Whether this is the right thing for a novice researcher to do may be questioned, and it has certainly caused me some concern. However, education is messy, and since I base many of my pedagogical perspectives on scholars who urge educators to put themselves on the line and surrender to the *beautiful risk of education* (Biesta, 2013), it seems like a proper thing to do. The nuance, with luck, will come with more experience.

Research questions

My thesis is essentially an *educational* project, through which I intend to challenge, develop, and improve practices in electronic popular music education. However, in order to do so, I must also reflect on what *improvement* ultimately means (Biesta, 2020b, p. 2). Consequently, my overall aim is to develop links between practices in electronic popular music education and the *continental configuration* (as used in Biesta, 2015; Biesta, 2020b, pp. 77–98),[2] which also has been referred to as *continental educational thinking* (as used in Siljander et al., 2012). I also explore the teacher's role in student-centered approaches and some of the ways in which this role plays out in electronic popular music education. Ultimately, I hope to combine continental educational thinking, and particularly the work of Biesta, with perspectives from the critical examination of informal learning strategies in popular music education and critical reflections concerning how the affordances of technology mediate practices and thinking. I use the combination of these discourses to investigate practices centering the student's music making and discuss the role of the teacher in these practices. Even though my research questions contain concepts that will be outlined and clarified later in the thesis, they will be presented here to prepare for the following chapters. However,

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[1] Being pragmatic here does not imply adopting pragmatism as such, which, according to Biesta, is the most unpragmatic thing one can do (Biesta, 2020b, p. 8).

[2] I will elaborate upon this term in the section titled "the continental configuration" (p. 30).

they will be revisited after the conceptual and theoretical clarifications (p. 43), to re-present them within the context of the conceptual and theoretical framework of this thesis. My overall research questions are:

- How can continental educational thinking, in combination with experiences from popular music education, challenge and shape the teacher's role in electronic popular music education?
- How can continental educational thinking and critical perspectives on technology challenge and shape students' practices of making music in the DAW (Digital Audio Workstation) environment?

I explore and nuance these questions in various ways throughout the four articles that constitute this thesis. In brief, Article 1 is a theoretical discussion of how subjectification might be facilitated in electronic popular music education. Article 2 investigates how technology and aesthetic musical parameters might be balanced in a one-to-one tuition and is further connected to subjectification. Article 3 explores how the normative process of selecting content and learning activities in music theory–related courses can be made transparent to students, and how students can actively contribute to that process. Lastly, Article 4 explores how the quality and efficiency of the negotiation of musical ideas within a group is affected by various aspects within collaborative music making. For a more thorough overview of the research, see section "research overview" on p. 43.

Framing chapter—brief overview
These next sections are intended to introduce a range of perspectives connected to the overall research questions and detail the content of my article submissions. Following this brief introduction, I start by clarifying certain central concepts. I explain my understanding of *electronic popular music,* my use of the phrase *making music in the DAW environment,* and my application of the term *education* throughout the thesis. I then provide some context for both my research and my role as researcher.

After clarifying my concepts and context, I present my theoretical grounding. There are two main discourses upon which I draw: electronic popular music education and continental educational thinking. While the latter is a rather established and defined field of research, the former is an amalgam of various fields that together supply the necessary framework for my research. To help me clarify these intersecting and overlapping discourses, I have approached the theoretical framework through four

discourses, which also serve to position me within the larger field. I also implement perspectives from the thinking of technology, and particularly the concept of *affordances*. Though I do compare and contrast different views in the theory section, I do not intend to construct dichotomies or reduce things to black and white. Instead, I seek to learn and grow from the challenging and interesting tensions found among various viewpoints, striving to find a fruitful balance between them.

I then turn my attention to my research design, starting with some reflections on epistemology in research in general and educational research in particular. I continue with some overall discussions of my research in connection to my methodological framework, *reflexive methodology,* before specifically addressing case study design. Following a research overview where I connect my research questions, is a brief description of the three case studies, before I discuss my strategy for recruiting informants, my data production and my procedures of analysis. Lastly, I address some ethical considerations and critical reflections on my research design. Before starting my discussions, I outline the four articles.

I begin my discussion with two examples of educational practices that are regarded as innovative and successful in their implementation of informal learning strategies in formal popular music education to reveal its similarities to electronic popular music education. I then present some critical examinations of the implementation of informal learning strategies in formal music education, which leads to critical discussions on student-centered learning. I use perspectives from (electronic) popular music education, Paulo Freire's critical pedagogy, and the continental configuration to illuminate student-centered education and draw conclusions about it from the perspective of the teacher. In the final sections of my discussion, I explicitly address electronic popular music education by pointing to the distinctive features of informal learning strategies in electronic popular music making, and to potential challenges confronting electronic popular music education. Finally, I discuss some implications of technology for electronic popular music education, focusing on how technology mediates students' creative practices and with what consequences. I conclude the thesis from the perspective of the teacher by summing up the discussion section and connecting my findings to some of the initial questions asked in the introduction.

Clarifications and context

In the following sections, I briefly clarify my understanding of a few key concepts and phrases. These include *electronic popular music, music-making in the DAW, the digital musician,* and *education*. I also contextualize my research within the department of popular music at the University of Agder and describe my own background and interests.

Electronic popular music

First of all, I repeatedly use the phrase "electronic popular music," and though "popular" obviously originated as a quantitative term and is clearly implicated in the workings of recording technology and mass distribution, popular music also has an aesthetic quality that is hard to ignore. There have been numerous attempts to define what popular culture and popular music are (Parker, 2011; Shuker, 2016; Storey, 2018), and the dichotomy between the quantitative and qualitative aspects of popular music is often at the heart of this discussion. Simon Frith suggests three distinct *discourses* of music based on the social constructs surrounding them: art music, folk music, and popular music (Frith, 1996, pp. 21–46). In other words, popular music could be defined as any music that is not art music (including styles like Western classical music, contemporary art music, jazz, and so on) or folk music. Such definition through negation has been resorted to by many scholars as a pragmatic if not especially accurate approach. Roy Shucker suggests popular music to be "the diverse range of popular music genres produced in commodity form, largely, but no longer exclusively for a youth market, primarily Anglo-American in origin (or imitative of its forms), since the early 1950s, and now global in scope" (2016, p. 5). In this thesis, I emphasize the qualitative aspect of popular music over the quantitative—that is, its aesthetic quality over its literal popularity. I do not, however, assume this aesthetic quality to be static or fixed in any way, instead concurring with Richard Middleton's claim that, "for most popular music scholars, it is better to accept the fluidity that seems indelibly to mark our understandings of the 'popular'" (Middleton & Manuel, 2001, p. 2). Nor do I reject the quantitative aspects entirely; they are simply not the focus of this thesis.

Nonetheless, "popular music" is too broad for the purposes of this thesis, as it encompasses styles such as rock, funk, and soul that are not intended to be included here. Consequently, the term *electronic* must be appended. Here, again, there are complications: when *electronic music* is used in literature—though notable publications continue to acknowledge the lack of a clear definition for it (Collins & D'Escriván, 2017, p. 5; Collins et al., 2013, pp. 25-26)—the association is with art music, not popular

music. While the electronic music discourse does often intend to encompass popular music as well, this is done rather awkwardly through the contrived distinction between *electroacoustic* and *electronica*. And while Nick Collins and Julio d'Escriván argue accurately that "in reality, various continua stretch between these forms" (2017, p. 3), and that their own work addresses a "mingling of electronica and electroacoustic in a bid to defuse some of the dangerous divisionism" (2017, p. 4), the notion of electronic music in the literature remains principally concerned with art music. As a result, I use *electronic popular music* throughout this thesis, though with some reservation concerning the blurry boundaries between the two notions joined therein.

Making music in the DAW environment

Another recurring phrase that needs clarification is *making music in the DAW environment*. Music making is often referred to as *composition*, *songwriting*, or *music/record production*. However, none of these terms quite captures the nature of making music in the DAW environment. *Composition* is a term rejected by DAW-savvy students themselves due to its historical connection to art music and its understood implications regarding conventional music theory[3] and notation as its main tools. *Songwriting* also does not work, for two reasons. First, songwriting is traditionally connected with the singer/songwriter tradition, the music of which typically differs substantially from the music made in the DAW environment. Second, the wording itself is problematic, as *song* indicates singing, and *writing* indicates pen and paper, neither of which is necessarily in play when one is making music in the DAW environment. *Toplining* could serve as a "modern" equivalent to songwriting, but it fails to encompass the *track,* that is, the instrumental part of the music.[4]

Literature about music production (or record production) is mainly concerned with the music producer and the ways in which producers and engineers are able to impact the creative output of the artists they produce through the affordances of the studio (see section "the studio as a creative tool" on p. 22). There is relatively little attention paid to self-producing artists, and in any case *music production* as a term is too loaded with multiple meanings and historical connotations to describe what such self-

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[3] *Conventional music theory* refers to the notation-based music theory found in most music theory courses in music education and entails a combination of what Bjørnar Utne-Reitan refers to as *music theory* and *elementary music theory* (2022, p. 9-11).

[4] In this thesis, *toplining* describes processes related to vocal production—the lyrics, melody, and harmonies—while *tracking* describes processes related to the *instrumental* part of the music. For more on this topic, see, e.g., Auvinen (2016) and Bell (2019).

producing artists do (see, e.g., Burgess, 2013; Zagorski-Thomas, 2014). Another distinction between the literature and this thesis revolves around the notion that "the record is schematic—a simplified reduction of the sounds that a composer wishes to hear" (Henson & Zagorski-Thomas, 2019, p. 14). While this might be true when capturing a performance, it is not necessarily the case when using the studio as a creative tool, where for example the sounds made and designed are *exactly* those that the music maker wants to hear. Due to these complications of the existing terminology, a number of publications (e.g., Bell, 2018; Benedict & O'Leary, 2019; King & Himonides, 2016a), including this thesis, are using *music making* instead of composing, songwriting, or music production to capture a wider range of the ways in which music is made.

The term *DAW environment*[5] derives from *studio environment*, though it is not restricted by a given physical location, and it is necessarily digital in nature. Further, it affords[6] a few unique features that distinguish it from other ways of making music. First, the DAW environment enables production and composing/songwriting to happen simultaneously (another reason to use the term *music making* to capture the work at hand). Processes like sound design and mixing, then, are integrated into the emergence of the music itself. Even mastering—traditionally the last step before the music is bounced—can be started in part prior to any creative work by placing a BUS compressor or a dedicated mastering plug-in on the master track in the DAW. Second, the music maker working in the DAW environment is able to make (almost) any change at (almost) any time, which brings with it both opportunities and challenges (Røshol & Sørbø, 2020). Third, music making in the DAW environment results in a finished product, that is, a bounced audio file that is ready for distribution. In contrast, when one writes songs or composes outside of the DAW environment, the finished song or composition still has to be recorded or performed by somebody.

The digital musician

Musicians working within the DAW environment are often referred to as *digital musicians*. When developing his notion of *the digital musician,* Andrew Hugill (2019) defines the 'musician' as "all those working creatively with sound", making 'the digital musician' a "loosely descriptive term for anyone who engages seriously with digital technologies in making music" (p. xvii). As most musicians these days engage with digital technologies in some way or another, what distinguishes the *digital musician* from the *musician* is, according to Hugill, "the extent to which a musician engages with

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[5] I (and Røshol in articles 2 and 4) am not the first to use the phrase; see, e.g., Marrington (2010).

[6] See the section on "affordances" (p. 26) for a brief outline of *affordances.*

the affordances of digital technology" (p. xxii), and whether their way of thinking is mediated by this technology (p. 4). He further distinguishes between musicians working within highly established traditions (such as "classical" music and "folk" music), within the popular music tradition (which also has a general agreement about what constitutes a good musician), and within a third type of musician that generates and manipulates sound using electronic means (p. 3). These are of course not absolute categories but does confirm the point made in the previous section on "electronic popular music" that electronic music is both distinguished from and overlapping with both the traditional and popular realm. Similarly, Heidi Partti (2014) introduces *cosmopolitan musicianship* to capture how digital musicians travels fluently through and between various communities, and points to how they continuously must "fight the temptation to extend their roots too deeply into one community" (p. 13) to maintain the necessary flexibility. Developing and balancing this argument, Hugill (2019) argues that the diversity and breath of skills required when making music in the DAW environment forces digital musicians to make choices regarding what to pursue in order to achieve real depth, and that "the digital musician is a 'jack of all trades' and a master of *some*" (p. 12, emphasis in original).

Digital musicianship in music education
Through the lens of education, in particular, making music in the DAW environment provides a formidable assortment of opportunities. While there used to be a relatively high competence threshold for making and finalizing music *of* and *on* one's own, substantial musical competence is now programmed into software, enabling even novices to make decent-sounding music, and thus questioning the sharp division between musical expertise and amateur music making (Partti, 2012). Software further ensures the necessary "multiskilled-ness," so that practically anything can be done by one person alone and at random points in the process. Students in most schools in the developed world now have access to phones, computers, or tablets, making the DAW environment a brilliant starting point for the teacher to introduce students to music (Bolton, 2008). Scholars have argued for the implementation of digital musicianship in music education through for example experiences of collaborative online practices (Partti & Karlsen, 2010; Partti & Westerlund, 2013), equal and creative music making practices (Partti, 2014), experimentation with artistic expression and the democratic possibilities of communication afforded by digital technology (Partti & Westerlund, 2012).

In addition, there has been a *compositional turn* in music education from thinking in terms of "closed forms" to approaching compositions as "open texts" (Allsup, 2013), thereby allowing for a broader perspective regarding what "counts" as composition. Collaborative music making has further been argued as a way to deal with increasingly diverse and multicultural music classrooms and, consequently, music making has become a principal activity in many music-education practices at all levels, enabled by technology that is both accessible and affordable. This has coincided with an increased focus on *creativity* in music education (Burnard, 2007, 2012; McIntyre et al., 2018), and Andrew R. Brown concludes that "the experiences of such musicians resemble a pedagogy that is based more on creativity than on repertoire" (2015, p. 20).

Though I do not give much space to creativity theory, I can briefly summarize the three perspectives from creativity research that I contrast and compare in my thesis, in line with my general strategy of balance and dialogue among insights. Similar approaches to creativity have been articulated by, for example, Beth A. Hennessey and Malcolm W. Watson (2016), who advocate for a *defragmentation* of creativity in research, and Burnard, who points to *diverse music creativities* (2012). First, I acknowledge the widely recognized creative potential in social contexts, as emphasized by, for example, Mihaly Csikszentmihalyi (1988), Teresa M. Amabile (1996), and Vlad Petre Glăveanu (2014)—Article 4 explicitly investigates a project that highlights the power of collaborative music making and creativity. Second, while *success* is often a criterion for the creative value of popular music (Bennett, 2012; McIntyre, 2008), a lower threshold for what is "truly creative" would seem to be more appropriate within an educational setting. I therefor concur with Tuomas Auvinen's misgivings about the use of the system model of creativity in music making and conclusion that "true creativity can occur even if a song is not economically successful" (2016, p. 9). Margaret A. Boden's (2004) distinction between H-creativity and P-creativity provides a useful alternative for acknowledging students' creativity.[7] Third, while musical creativities are always embedded in "constructions that reflect the tastes and fashions of social groups, social relations, and communities sharing common perspectives" (Burnard, 2012, p. 226), I am also interested in how students can develop *their own* creative potential, that is, the *individual* aspect of creative processes, particularly in the context of education.

Lastly, I hasten to add that I consider live performance and improvisation vital to all types of music education, including electronic popular music education. Thus, my

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[7] Boden (2004) describes H-creativity as creative in a historical way (it influences a particular field or a range of fields), while P-creativity is creative in a personal way (it affects only the individual).

emphasis on music *making* in this thesis is not meant to imply that performance and improvisation should not be part of such programs. Indeed, the DAW environment can also be addressed in terms of live performance. Julian D. Knowles and Donna Hewitt (2012) discuss how *threshold technologies* have actually shrunk the distance between composing and performing live music. Software like Ableton Live, which is designed to both make *and* perform music, profoundly undercuts the "once significant division between studio and live technology" (2012, p. 7). Knowles and Hewitt also look at how these technologies are implemented on stage in different ways through recordivity, depending on how artists might want to authenticate their performances (see also: Kjus & Danielsen, 2016).[8] These live practices are in turn brought back to the recording studio, where performances are recorded without quantification or sequencers. Zack Moir and Haftor Medbøe (2015) advocate for using tools and technologies that can serve both compositional and performative outcomes in educational settings and argue that students are able to take on both roles interchangeably so that learning in one domain informs learning in the other.

Education

A stubborn complication throughout this thesis is that English has only one word to designate *education*, whereas Norwegian distinguishes between *utdannelse* ("education" as it is commonly used in English literature) and *dannelse* (usually aligned with the German term *Bildung*) (Varkøy, 2017, chapter 2). Biesta explores the even deeper subtleties in the German language when making the distinction between *Bildung,* which he refers to as *education as cultivation,* and *Erziehung*, which he refers to as an *existential educational 'paradigm'* (Biesta, 2020a; 2022, pp. 25–39*)*. Despite ongoing debates regarding the definitions of these terms (Biesta, 2022, p. 34), I apply them here in line with Biesta, as my own knowledge of German is quite limited. I return to these terms in the chapter on Biesta's three domains of educational purpose, but in general I understand and use *education* in the conventional English sense and am careful to append qualifiers when necessary for clarity or nuance: for example, education *(as cultivation)* or *(existential)* education. Further, I use the term *Bildung* in the context of literature that frames itself within the *Bildung* tradition.

Context of the research

All the empirical material in this thesis has been gathered from students and educators at the Bachelor degree program at the department of popular music (DPM) at the

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[8] Imogen Heap, Ed Sheeran, and Jarle Bernhoft are a few of the artists who represent such practices.

University of Agder (UiA), and this section will provide a brief description of that setting. Since 1991, Agder Music Conservatory (part of UiA since 2011) has offered a specialized three-year *rhythmic music[9] performance* program, the first of its kind in Norway (Tønsberg, 2007, pp. 1617). In 2013 this program started to offer *electronics* as a main instrument option, which allowed students to use their *laptop* as their means of making music (in the DAW environment). In time, it became clear that the differences between the "regular" instrumental students and the students making music in the DAW environment were substantial, so an independent Bachelor degree in electronic music was established in 2020. Still, its ties to the other specializations at DPM remain close, including those involving rhythmic music performance, rhythmic music teaching, artists and songwriting, and music business. The trademark of DPM is first and foremost its focus on *performance*—that is, students are prepared to enter the music business as active participants after their completion of the degree as musicians, artists, songwriters, music makers, marketers, music managers, and so on. Theoretically, the DPM bases its curriculum on principles from popular musicology and artistic research, and the educational emphasis of this thesis thus represents an exception in this context. Since 2013, DPM has been defined by the University Board as a *signature study*, a program that "truly *excelled,* and that was the very *hallmark* of this university" (Tønsberg, 2014, p. 29; emphasis in original). Further, DPM was recently awarded the prestigious status as a *center of excellence* in creative use of technologies in music education by the Norwegian Directorate for higher Education and Skills.[10]

The Bachelor degree in electronic music program applies virtually no limitations in terms of genres/musical styles upon students working in the DAW environment, and this freedom is reflected in the richness of their musical output. There is a clear receptiveness to art music, due perhaps to the inclusion of jazz in the concept of *rhythmic music* upon which the program is based or to the way in which creative techniques, technologies, and strategies from electronic art and jazz music are directly applicable to electronic popular music as well. Producer, songwriter, and artist (in short: music maker) FINNEAS serves as an illustration of how this might work in the DAW environment. He creates some of the most popular music in the world in his bedroom with his sister Billie Eilish[11] while also using creative strategies associated primarily

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[9] *Rhythmic music* is a term used in the Scandinavian countries to capture a broad swathe of popular music, including, for example, jazz. For nuanced discussion of the term, see Tønsberg (2007, pp. 18–25).

[10] https://hkdir.no/aktuelt/tre-nye-sentre-for-fremragende-utdanning

[11] https://www.apple.com/tv-pr/originals/billie-eilish-the-worlds-a-little-blurry/

with art music. For example, he samples sounds from his everyday environment, a strategy derived from sample-based art music and ultimately *musique concréte*. A few examples are how the sound playing the sixteenth notes on the drop in "Bad Guy"[12] was sampled from a traffic light on an Australian street corner (The Tonight Show Starring Jimmy Fallon, 2020); a particular sound effect in "Bury a Friend"[13] was sampled during Eilish's dentist appointment (The Tonight Show Starring Jimmy Fallon, 2020), and the snare drum sound on "Watch"[14] is partly made of the sound of a match being lit in a bathroom (Pitchfork, 2020).[15] FINNEAS represents the type of digital musician (Hugill, 2019; Partti, 2014) found on the Bachelor degree program in electronic music at DPM and emphasized as well in this thesis: a student creating original music, as an artist or together with another artist/co-music maker, actively participating in creative decisions using a variety of creative strategies.

Background and motivation of the researcher

Because personal backgrounds and experiences influence how researchers construct research by informing their choices regarding ontological, epistemological, and methodological frameworks, among other things, a brief presentation of my own background is in order. Though my initial training on the piano as a child was by a (very) classically oriented cantor at the local church, I have exclusively played popular music in my professional work life. I completed my master's degree as a keyboardist through the program dedicated to *performing popular music* at the University of Agder in 2011, which also included qualifications in pedagogy. However, due to tendinitis in both hands for the first couple of years of my education, I was not able to become the technically brilliant jazz musician I had foreseen. Instead, I "had to" focus on music making and sound design, which is reflected in my master's thesis, "Software as an Improvisational Tool" (Sørbø, 2011). Technology became a vital part of my musicianship, and when my hands finally healed, sound design was an integral part of my playing style and artistic expression.

For some years after completing my education, I had the good fortune to play with established artists at the biggest festivals and on the biggest TV shows in Norway. However, after the birth of my second child in 2015, I stopped touring and started prioritizing teaching as well as local freelancing and music studio work. Thus, when I

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[12] https://www.youtube.com/watch?v=DyDfgMOUjCI

[13] https://www.youtube.com/watch?v=HUHC9tYz8ik

[14] https://www.youtube.com/watch?v=9dobJDxPEzM

[15] https://www.youtube.com/watch?v=FsSkRjgjFvU&t=3s

began the research involved in my PhD program, I had seven years of experience as a music teacher in high school and college and even more time as a freelancer and music maker, mainly within mainstream popular music. My extensive and ongoing use of music technology has made me very interested in the ways in which my (digital) musicianship is controlled, or at least mediated, by these technologies, which has in turn motivated aspects of my research.

While doing research involving students at the same institution in which I was employed as a researcher may complicate the relationship between myself and my informants, this challenge was substantially limited by the fact that I was not teaching at DPM or UiA prior to *or* during my period as a researcher. None of the students involved in my research had any experience with me as a teacher or had (to my knowledge) met me prior to me being a PhD candidate.[16] Resultingly, I was presumably only a researcher to the students involved, not a teacher, though there is always the chance that the students saw me as a teacher, since I was an employee.[17] Nevertheless, my experience as a music teacher at other institutions, and my ambition to *become* a teacher at DPM obviously permeates the research.

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[16] The only exception is one student (out of the 16 students in the case study of Article 4) to whom I was the teacher 4 years earlier in high school, and whose participation was coincidental.

[17] While *I* was not a teacher, my co-author Andreas Waaler Røshol was the teacher of the trackers in Article 4, which might have influenced the research data. See section "ethical considerations" on p. 55.

Defining the field

In this chapter, I will define the field in which this thesis is positioned by outlining relevant research and by defining its theoretical framework. After distinguishing four discourses that follows my emphasis on *electronic popular music education,* I will I detail the two discourses that constitute my theoretical framework. First, I present literature regarding popular music education and informal learning, followed by some critical examination of this literature. I continue to focus on *electronic popular music production* and connect it to formal music education. I also briefly present various approaches to technology in the context of its mediating role in making music in the DAW environment. In particular, I draw on James J. Gibson's concept of *affordances,* as applied by Adam Patrick Bell. Second, I zoom all the way out to educational theory in general to explore parts of the continental configuration, especially through the works of Biesta, but also including Freire's critical pedagogy.

Four discourses

This thesis is concerned with *electronic popular music education*, a formulation that implies four discourses: (1) education, (2) music education, (3) popular music education (PME), and (4) electronic popular music education (EPME). Throughout the thesis, I zoom in and out among these distinct, yet inseparably connected, discourses, depending on which I find most relevant to the matter at hand. My overarching goal is to make connections among them, allowing the research to be context specific while remaining in dialogue with general educational theory. I return to all of these discourses elsewhere but include the following sections to outline how I approach them, position myself within them, and apply them to this thesis.

When discussing (1) *education* in general*,* I draw upon continental educational thinking, or the *continental configuration*, and particularly the theoretical work of Biesta. I also incorporate aspects of Freire's critical pedagogy to both challenge and support Biesta. Further, I tackle the question of educational purpose and the ways in which education can and should be about more that qualifying for a job and becoming integrated in society. That said, I do crack the door to the discourses otherwise criticized by the continental configuration, or what Biesta terms the *Anglo-American configuration.* While I concur with the critiques raised by Biesta and other continental scholars, I read the critique to mainly target the lack of balance in Anglo-American educational policy. I therefore allow myself to occasionally apply arguments and research results that are generally associated with the Anglo-American configuration, as a *balance* to the inclinations of its continental counterpart.

I sustain the emphasis on personal growth and emancipation found in the continental configuration when approaching (2) *music education* as well, aligning myself with scholars who connect these ideas to music education in general. Further, when approaching (3) *popular music education*, I do so from a Nordic perspective that has traditionally been influenced by the continental configuration, and that integrated popular music into music education relatively early on. The experiences of over four decades of popular music in education have informed many critical discussions about the unintended consequences of this effort that can in turn provide valuable insights into (4) *electronic popular music education.* As mentioned above, EPME is generally considered part of popular music education throughout this thesis, but I also remain open to its overlap with the field of electronic (art) music education as well. Moreover, my emphasis is on music making in the DAW environment, and in this regard, the field of education concerned with popular music *production* is the most relevant. I also introduce perspectives on how technology impacts our musical practices, and how we think about technology in EPME.

I apply these four discourses differently throughout the thesis, and they serve different purposes as well. The PME and EPME discourses provide the necessary context for my research and inform discussions connected to particular practices toward the end of the thesis. The continental configuration (1) is explicitly elaborated upon here in the theoretical framework section and also plays a major role in the discussion section. Music education (2) will be used sporadically as a means of connecting general educational thinking to specific musical contexts.

Though this thesis is mainly focused on, and my empirical data collected from, students in *higher* education, some of the applied literature involves research on music education at lower levels. Obviously, certain aspects of higher education differ profoundly from compulsory school, such as the fact that students *choose* to engage in the former, which implies a certain level of interest and motivation (and a greater level of expertise). Still, there are three areas of the literature upon which this thesis relies that connect to compulsory school: *informal learning*, *gender imbalance in popular music*, and *the changing role of the teacher.* All are both relevant and transferable to higher education: informal music learning generally looks the same regardless of the student's age; gender imbalance carries through from the lower levels to the universities; and the teacher's role is challenged both in compulsory school and in higher education.

Electronic popular music education

Popular music education and informal learning

As indicated previously, popular music is a fluid and muddy term that constantly develops in dialogue with culture in general, global economics, social trends, and technology, to mention but a few areas of influence upon it. Moreover, "what it means to be a professional musician is often unique to individuals, as each carves his or her own niche in the field," and "the requisite skill-set for professional musicians is, therefore, fluid, highly personal, and forever evolving" (Smith, 2014, p. 36). What a popular music program in higher education should look like has therefore been widely discussed from a range of perspectives (see, e.g., Dean, 2019; Hess, 2019; Hunter, 2019; King, 2017; Moir & Hails, 2019), and David Henson and Simon Zagorski-Thomas recently concluded that "there is no single, well-established, and suitable theoretical framework applied to the field of popular music education for learning instrumental/vocal technique, composition/songwriting, collaborative creativity, and critical listening/analysis" (Henson & Zagorski-Thomas, 2019, p. 11). Their proposed framework, in turn, aims to encompass this diversity of popular music in education (Henson & Zagorski-Thomas, 2019, pp. 16–24).

One major international "breakthrough" in terms of scholarly interest in popular music education involves Lucy Green's seminal works *How Popular Musicians Learn* (2002) and *Music, Informal Learning and the School: A New Classroom Pedagogy* (2008). She first observes that popular musicians "teach themselves and 'pick up' skills and knowledge, usually with the help or encouragement of their family and peers, by watching and imitating musicians around them and by making reference to recordings or performances and other live events involving their chosen music" (Green, 2002, p. 5). Then she notes that, while a growing number of educational institutions include popular music in their curricula, they tend to hold on to the structures of formal Western classical music education rather than adapt to the informal learning strategies of popular musicians (Green, 2008). She points to five key principles of this informal approach: (1) the music is self-selected by the learner; (2) the main method for the acquisition of skills and repertoire involves aural imitation of a recording; (3) the learning is self-directed and peer-directed, usually without an adult supervisor; (4) the skills and knowledge are acquired holistically and according to the music being played, rather than according to a planned progression; and (5) there is a "deep integration of listening, performing, improvising and composing throughout the learning process, with an emphasis on personal creativity" (Green, 2008, pp. 9–10).

Research and scholarly publication concerning popular music education have since flourished, developing theory in constant dialogue with practice. In the last six years alone, five major publications have addressed the development of PME: *Music, Technology and Education: Critical Perspectives* (King & Himonides, 2016b), *The Routledge Research Companion to Popular Music Education* (Smith et al., 2017b), *The Bloomsbury Handbook of Popular Music Education* (Moir et al., 2019), *The Routledge Companion to Music, Technology, and Education* (King et al., 2017), and *The Oxford Handbook of Technology and Music Education* (Ruthmann & Mantie, 2017). In addition, numerous journals continuously publish articles on the topic, including the *Journal for Popular Music Education*, *Journal of Music, Technology & Education*, *Music Education Research*, and *International Journal of Music Education*.[18]

With regard to PME in higher education, Gareth Dylan Smith applauds the UK, the Nordic countries, and Australia when it comes to the implementation of popular music, noting that, with a few exceptions (like Berklee), "popular music has been almost entirely shunned by the academy in its home country" (2014, p. 33). Gavin Carfoot et al. (2017) show how popular music has been implemented in Australia in *parallel* or *series,* or *integrated* with existing music programs. In particular, the Queensland Conservatorium at Griffith University in Australia is considered a pioneer for its implementation of new pedagogical approaches in PME (Smith, 2014; Smith et al., 2017a; Till, 2017) and exploration of the ways in which informal learning strategies can impact formal music education (Anthony, 2020; Ballantyne & Lebler, 2013; Lebler, 2007, 2013; Lebler & Hodges, 2017; Lebler & Weston, 2015). Even as popular music received increasing attention, however, electronic popular music remained "often overlooked in preference for popular music styles that are more closely related to traditional musical instrumentation and traditional musicological frameworks" (Thompson & Stevenson, 2017, p. 205).

Despite many shared challenges, Roger Mantie (2013) also points to a major difference between PME in the United States and in Europe: US PME scholars were particularly concerned with legitimation and preservation, that is, whether popular music should be part of music education at all (see, e.g., Rodriguez, 2004), whereas European (and Australian) PME scholars were more interested in utility, that is, on how to teach and learn popular music in the best possible way. This latter orientation was particularly characteristic of the Nordic countries; Göran Folkestad writes: "The

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[18] Not all these publications and journals are concerned strictly with *popular* music education, but they all address relevant discussions and contribute to the discourse.

question of whether or not to have, for example, popular music in school, is irrelevant: popular music is already present in school, brought there by the students, and in many cases also by the teachers, as part of their musical experience and knowledge. The issue is rather: how do we deal with it?" (2006, p. 136). Though this example is not from higher education as such, it still reflects this region's general scholarly interest in popular music, and in understanding the popular musician's acquisition of knowledge and skills (Berkaak & Ruud, 1994; Johansson, 2002; Lilliestam, 1996).

Popular music in the Nordic educational context

As indicated, popular music was addressed in formal education in the Nordic countries as early as the late 1970s and early 1980s, when "formal and informal arenas for music learning in terms of intentional and functional music education" began to be explored (Karlsen, 2010, p. 35). A music teacher program in Sweden had been accommodating styles such as jazz, folk music, pop, and rock as early as 1971 (Dyndahl et al., 2017), and popular music was soon given similar attention in the other Nordic countries (see, e.g., Kalsnes, 2017; Väkevä, 2006). By the turn of the millennium, scholarly interest in the impact of popular music upon education had become an established discourse with a growing body of publications. Research showed that formal and informal practices are always blurred when it comes to learning popular music (Folkestad, 2006; Gullberg, 2002; Söderman, 2007), and that it no longer seems appropriate to distinguish between the two whether within or outside of formal education (Christophersen, 2009).[19]

In the Norwegian classroom setting, Even Ruud started the conversation around popular music in education when he published *Rock og pop i klasserommet* [Rock and pop in the classroom] in 1981 and proposed that those genres should be part of the official curriculum (Ruud, 1981). The next national curriculum of 1987 (known as M87) became the first to clarify that "music teaching should be based on the student's personal and music-cultural prerequisites" (M87, p. 253). Since M87, popular music has been consistently integrated into national curricula and is now a normal part of the subject of music in Norwegian schools. In Norwegian higher education, the implementation of popular music came from a slightly different place. The established classical conservatories started offering jazz harmonization as an elective, and eventually the first formal jazz education degree program was founded in Trondheim in 1979. Several other conservatories started to implement jazz and *rhythmic music,* and a specialized three-year rhythmic music program was established at the Agder Music Conservatory (now

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[19] While this discussion concentrates upon the Nordic perspective, similar discussions have also arisen beyond the Nordic setting; see, e.g., Lebler (2007), and Moir and Hails (2019).

part of the University of Agder) in 1991 (Tønsberg, 2007, pp. 16–17). Other conservatories followed suit, and today several Norwegian universities offer rhythmic music in their programs, though not as an explicit educational program, as is the case at UiA.[20]

Critical examinations of informal learning

The previous sections have shown that popular music has been substantial part of a Nordic and Norwegian music education for at least four decades. Catharina Christophersen and Anna-Karin Gullberg note that "the Nordic countries' long history of and experience with popular music education provides a privileged position, not only for critical discussion, but also for informed speculation about future developments" (2017, p. 433). These experiences and perspectives inform the educational response to new practices such as music making in the DAW environment, as I will address in the discussion chapter. Thanks to these experiences, for example, scholars undertook critical investigations into the challenges and limitations of popular music in schools. Dyndahl and colleagues (2014) uncover a shift in the social status of popular music, or a *musical gentrification*, that grants popular music an almost hegemonic position in compulsory school music education. They continue to problematize which types of popular music have been included and excluded and for what reasons, and with which consequences. Scholars also point out that informal learning is not disruptive or innovative on its own terms, and that what is considered innovative versus traditional depends on context (Carfoot & Millard, 2019). They have also pointed to how "pop/rock was included in the curriculum without much theorizing as to its pedagogical implications" (Väkevä, 2006, p. 127), and that pedagogy should not be developed without "critical and self-reflexive deliberations concerning the complexities and contradictions that are implicated in the actual pedagogical practices" (Dyndahl, 2019, p. 26). Green's work on informal learning, then, "provided something that the Nordic music educators had not yet been able to develop: a comprehensive, research-based popular music pedagogy" (Karlsen & Väkevä, 2012, p. viii). She in turn compelled the scholarly shift "from descriptive research of what popular musicians are actually doing (…) to heuristic investigations into the *whys* and *hows* of popular music and informal learning, especially as these domains intersect with schools" (Allsup & Olson, 2012, p. 12).

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[20] It should be noted that there are several private institutions and colleges that also provide programs that are explicitly focused on rhythmic and/or popular music, though there are no *universities* other than UiA.

Informal learning and diversity

Recurrent challenges in the implementation of informal learning strategies in formal education involve inclusion and diversity (Dyndahl et al., 2014; Dyndahl & Nielsen, 2014; Georgii-Hemming & Westvall, 2010), as well as the degree to which popular music might be expected to "democratize" music education (Dyndahl, 2019, p. 11). Questions about *whose* music is regarded as important (Bowman, 2002; Dyndahl et al., 2014; Hess, 2019; Hunter, 2019; Väkevä, 2012b) and who has access to that music (Väkevä et al., 2017) quickly become ethical quandaries that potentially contribute to maintaining structural hegemonies. Bowman argues that existing structures and processes "could not assure replication of the status quo more decisively had they been devised solely and explicitly for that purpose" (Bowman, 2007, p. 120).

Some scholars problematize how popular music and informal learning strategies in schools sustain gender stereotypes (see, e.g., Abramo, 2011; Green, 1997; Onsrud, 2013) and point to the need for teachers and researchers to develop "new and flexible strategies for change in creative and critical spaces for all students" (Blix et al., 2021, p. 17). Cecilia Björck, for example, observes that women generally lack "access to the necessary (1) material conditions such as space and equipment, (2) subjectivities providing agency to 'claim space' and be confident, and (3) homosocial networks for interaction and cooperation essential to music-making" (2021, p. 44). She wants to see girls and women who claim space and are confident in their abilities and possibilities (Björck, 2011); other scholars have urged them to transgress established identities in the classroom (Askerøi & Vestad, 2021).

Various strategies have been proposed to disrupt the gendered patterns in the field of music production (Brereton et al., 2020). There are also conflicting views among female participants in the music technology scene regarding how gender and femininity should be approached (Kill, 2020; Thompson, 2020), some *protective* and some *confrontational* (Björck, 2021), and it has been acknowledged that women can become uncomfortable when assigned the involuntary task of "representing women" (Björck & Bergman, 2018). Carina Borgström Källén laments, "As a music student, it is more convenient doing gender as 'usual' and thereby avoiding the risk of being excluded or questioned during concerts, rehearsals, and exams. Privileging conformity therefore restricts change and contributes to inertness in discourse" (2021, p. 91). Some have called for the majority group (in this case, the male participants in the field) to drive change (Brereton et al., 2020), a task that Henrik Marstal (2020) finds quite challenging even with the best of intentions, given the delicate balancing of potentially conflicting interests that is involved (Hebert et al., 2017, pp. 463–465). Bowman concludes, "the

richer and more complex and more diverse our professional membership becomes, the more we will need to develop complicated and robust senses of belonging, and the more we will need to find multiple ways to interact comfortably with the widest variety of people and situations" (2007, p. 120).[21]

Other researchers in music education point to the complexities connected to multiculturalism in music classrooms, due to continuous refugee immigration and increased mobility across national borders. Sidsel Karlsen (2013) argues that content integration as a means of making the students feel culturally recognized is not a straightforward task, and risks functioning as an act of alienation rather than one of inclusion. Similar points are made by Sæther who warns against exoticism when approaching diversity in music education (Sæther, 2010), and stresses that immigrant students often wish to be freed from the societal expectation to represent a particular cultural identity (Sæther, 2008). Further, Karlsen notes that immigrant students' musical competences were not always recognized within the formal educational system, and that the "forms and aspects of musical agency exercised and emphasized inside, and outside music lessons were quite different ones" (Karlsen, 2012, p. 131).

Consequently, Westerlund, Partti and Karlsen (2017) argue that musical identities in a diverse music classroom need to be examined from multiple perspectives to avoid such simplistic approaches. A similar point is made by viewing identity through the lens of intersectionality, emphasizing the complexity of how various identities overlap and interact (Koskela et al., 2021). Other possible approaches are using the students' musical agency (Karlsen, 2011) to facilitate for knowledge production to avoid essentialist notions of culture (Westerlund et al., 2017), and student-centered musical cooperation to meet the need for immigrant students to be "treated just like 'the others' and not to be identified as 'the Other'" (Karlsen, 2012, p. 144).

Numerous other critical perspectives address matters of diversity in music education from different points of view (see, e.g., Abramo, 2011; Ewell, 2020; Hein, 2016; Jonasson, 2020). However, since gender balance has been a defined focus at DPM for some time through initiatives such as the *Genus Project*,[22] my discussions connected to diversity will emphasize, and mainly discuss issues related to, gender balance.

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[21] While Bowman discusses music *teachers* in this article, the argument applies to students in EPME as well.

[22] https://www.conferencegenus.com/about

Popular music studies

While popular music education has become a distinct area of research, it owes much of its legacy to, and is in constant dialogue with, the broader field of popular music studies. Popular music studies initially emerged within the field of cultural and social studies based in Marxist theory (Frith, 2019) and New Left criticism (Scott, 2009) in the late 1970s, and *popular musicology*[23] became a distinct field when scholarly interest extended beyond popular music as a social phenomenon to encompass the music itself (Scott, 2009, p. 2). Thus, earlier generations of musicologists started developing new means of analyzing popular music on its own terms (Hawkins, 2002, 2003; Moore & Martin, 2019; Tagg, 1982, 1994) while simultaneously refining their arguments for the value of such analysis (Middleton, 1990). From the 1990s onward, scholars also paid increasing attention to electronic popular music, including hip-hop (Rose, 1994; Williams, 2015) and electronic dance music (Butler, 2006; Ferreira, 2008; Hawkins, 2003, 2008; Rodgers, 2003; Tagg, 1994; Toynbee, 2000). Philip Tagg, for example, returned to his claim that popular music could not be captured within the parameters of classical music (Tagg, 1982, p. 41), this time applying it to how rave music[24] could not be properly understood within the *rockologist* rationale: "rave music—especially techno—differs so basically from rock and roll as regards its musical structuration that old models for explaining how popular music interacts with society may need radical revision" (1994, pp. 209–210).

Such musicological developments ultimately inform electronic popular music education as well: for example, Tagg's *Everyday Tonality II* (2014) provides new ways of understanding and teaching musical structures; S-notation supplies a system of notation for scratching and sample music that is starting to make its way into formal institutions (Sonnenfeld & Hansen, 2016); and New York University's Music Experience Design Lag designed the "Groove Pizza" to support drummers and drum programmers (Hein & Srinivasan, 2019). In this thesis, I mainly draw upon the musicological work within the discourse of *music production,* and particularly the discussions concerning the *studio as a creative tool*.

The studio as a creative tool

Popular music is inseparably connected to technological developments and especially *recording* technology, as recorded music's inherent potential for mass distribution was a prerequisite for the emergence of popular music. Though recordings were initially

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[23] "Popular musicology" was first coined by Derek Scott and Stan Hawkins (Scott, 2009, p. 1).

[24] Tagg's use of *rave music* seems similar to Butler's (2006) notion of EDM.

about preserving music or capturing a performance, musicians and engineers soon started to explore the ways in which these technologies could be (mis)used for aesthetic purposes, turning music technology into a driving force in the development of the *sound* of popular music (Askerøi, 2016, 2020; Brøvig-Hanssen & Danielsen, 2016; Warner, 2003). Among the countless steps, big and small, in both the development and the use of technology related to popular music production, two major shifts in the history of recorded music production stand out (beyond the invention of recording itself in the late 1800s). The first is the invention of tape recording in the 1940s (Moorefield, 2005, pp. 3–4), which allowed for the manipulation of sound in unprecedented ways, followed closely by the multitrack recorder in the 1950s (Moorefield, 2005, pp. 5–9), which allowed for overdubbing and recording separate sources independently. The second is digitization, which has been called the biggest change to musical practice since the development of music notation (Taylor, 2014, p. 3). Music digitization gave rise to several significant changes, including MIDI, digital recording, and eventually what has been referred to as the democratization of music technology itself.[25]

It must be noted that the idea that recorded sound could be something more than a captured performance has been present from the very beginning of recording as a practice (Pras et al., 2013, p. 614). As technology has evolved, two views of the recording process have emerged—on the one hand, it is the accurate capture of a performance; on the other hand, it is the active use of the studio as a musical instrument (Moorefield, 2005; Théberge, 1997). The latter approach is the most relevant to EPME, as it emphasizes the aesthetic choices made by whoever was responsible for the given recording. Early on, these choices were limited to which microphones were used and where they were placed, but evolving technologies afforded more and more creative potential. For example, when the tape machine was invented, tape could be cut, replaced, and reversed, and when the multitrack recorder was invented, the same could be done on individual tracks while the levels were mixed independently. Thus, in "tandem with technological inventions, studio professions evolved throughout the 20th century from a very technical role to a more artistic one" (Pras et al., 2013, p. 618), with pioneers such as George Martin, Phil Spector, and Brian Eno leading the way. The studio had become a creative tool, and one could make music according to what the given facilities allowed (Eno, 2004). Richard James Burgess recalls, "making records with the Roland

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[25] Numerous publications have described the developments of music technology in detail; see, for example, Moorefield (2005), Taylor (2014), and Théberge (1997).

MC-8 MicroComposer in the '70s, I realized I was constructing performances not capturing them" (Burgess, 2013, p. 240).

Accessibility also factors into this discussion, particularly regarding aspects such as cost, size, and speed. Analog gear was too expensive for amateurs to buy, and it required large physical spaces to be used to full advantage. Further, many procedures (for example, grappling with tape and razorblades) were complex and time-consuming and required highly developed knowledge and skills (Schedel, 2017, pp. 29–30). When digital technologies infiltrated the recording business, such experts were gradually replaced by technology (Schedel, 2017, p. 32), so that the formerly distinct roles of record producer, recording engineer, editor, mixing engineer, and mastering engineer were merged into a "multiskilled professional handling the entire production process" (Pras et al., 2013, p. 616). In addition, the affordability of such technology allowed musicians and artists to build their own studios at home and do the recording and production themselves. Such artist-producers or auteur-producers now represent a large and growing part of the music business (Burgess, 2013, p. 9). The advantages are obvious: freedom both economically and artistically and the ability to work whenever it suits. The democratization of digital technologies has further made music making increasingly available to musicians who lack professional knowledge (Pras et al., 2013). The studio is also discussed from an educational point of view (Anthony, 2020; Bell, 2018, 2019; King, 2016, 2017; Zagorski-Thomas, 2016), which generally stresses the need to focus on both technological and musical parameters as well as abilities beyond the craft itself, such as social and project management skills (Pras, 2016; Slater, 2016).

Technology

In this section I present my approach to technology in preparation for later discussions concerning how technology mediates music making in the DAW environment. As indicated earlier, my interest in technology links my educational perspective directly to my life experience as a performing musician and music maker. I also concur with David Lines, who states that since "the field of technology now overwhelms the practices of music education in every respect, it seems fitting to discuss some of the deeper questions of how technology shapes the ways of music teaching, in pedagogy, thinking and musicianship" (Lines, 2015, p. 63). Explicitly addressing technology in the DAW environment, Bell also concludes that "it is of the utmost importance that the music educator be able to critically assess how DAWs such as GarageBand influence the decisions of music-makers" (Bell, 2015a, p. 44). After a brief introduction to some common views of technology, I will focus my attention to Gibson's concept of

affordances, a concept that has been proven useful for critical discussions of technology in music education.

There is no generally accepted "definition" of technology as such but rather a host of working notions or approaches. From a historical perspective, for example, technology is equivalent to tools, or the means to an end. This essentially *optimistic* framing is in turn the foundation of the *instrumental* view that technology is simply an extension of human action, or merely applied science—technological progress and human progress, that is, are two sides of the same coin (Mesthene, 2014). Though this approach acknowledges that values change due to technological development, it argues that technology itself is value-free and neutral: "we impose our values in deciding which technology to use and how" (Tiles & Oberdiek, 2014, p. 249).

However, there would seem to be obvious limitations to this "freedom." If we do not avail ourselves of the latest technologies, for example, we are very likely to be outmaneuvered by those who do. Consequently, one might conclude that our very way of existing is determined by technological development, and this is the basic argument of *technological determinism*. Adjacent to determinism is also the notion of *autonomous* technology, which is similar to what Mary Tiles and Hans Oberdiek term a *pessimistic* view of technology (2014). According to this view, we are in fact enslaved by the technology we create, and though we initiated it, it has now become autonomous beyond the point of our control (Ellul, 2014). This pessimistic view has in turn been criticized for moving "too swiftly from lack of total control to total lack of control" (Tiles & Oberdiek, 2014, p. 255) and failing to address the finetuned, interdependent relationship between technology and the social world. This relationship is emphasized in the *social constructivist* approaches to technology*,* which insist that society shapes technology just as technology shapes society, and that technology is "partly human, part material, and always social" (Kaplan, 2009, p. 6).

These are comprehensive discussions about profound issues, and I barely scrape their surfaces here, but I include them because they can be readily and usefully transferred to the realms of education, music, and music education, which grapple with the same range of approaches to technology. How we look at technology ultimately influences how we look at human agency and the value of creativity and aesthetics, as we are always "fully embedded in, contextualized by, and concerned about living in a technological culture" (Scharff & Dusek, 2013, p. 241).

Affordances

To further discuss technology in this chapter, I will apply the term *affordances*, a widely used concept within a variety of fields. The concept was developed by Gibson in *The ecological approach to visual perception* (2015), where he put agency back on the agenda and overturned the mechanistic framework that underlied many of the current psychological approaches (Withagen et al., 2012, p. 50). Rather than viewing the environment as a collection of stiumli that pushes the animal around, he described it as a manifold of opportunities: "the affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill" (Gibson, 2015, p. 119). Put differently, affordances do not *cause* behavior, but make it *possible*. However, affordances are not only the mere *qualities* of the environment but the "properties of things taken with reference to an observer but not properties of the experiences of the observer" (2015, p. 129). Further, "the affordance of something does not change as the need of the observer changes" (2015, p. 130). According to Gibson then, affordances are constant whatever the needs, perceptions, intentions, or the knowledges of the observer are. Still, if the *observer* changes, the affordances change as well, as they are relative to the observer.[26]

Gibson has been criticized for failing to include the sociocultural aspects of affordances and particularly a satisfactory account for the *intentions* of our engagements with artefacts. So, to develop this aspect of agency, other scholars have continued the development of affordances in various ways. Connecting affordances to technologies in particular, Ian Hutchby (2001) shows how the concept of affordances avoids both the radical constructivist position and the technological determinism, much like the social constructivist position described in the previous section. Building on Edward S. Reed's (1993) ecological approach that complements the Gibsonian approach in terms of intention and motivation, Rob Withagen and colleagues (2012) further develop affordances to possibly *invite actions*. Contrary to for example industrial designers (Norman, 1988), they do not think of affordances as perceived action possibilities, since affordances exists even if it is not perceived. However, they stress that affordances still *can* "attract or repel certain behavior of an agent if and only if the agent perceives this affordance" (Withagen et al., 2012, p. 256), as long as we "specify the environmental and organismal factors that determine whether and when an affordance invites" (p. 257).

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[26] For example, a table will have very different affordances for a baby than for an adult, due to a baby's size. As the baby become a child or youth, the table will present new affordances, such as the ability to put things on it to prevent babies from reaching them.

Hutchby (2001) neatly sums up an understanding of affordances that, in combination with the previous sections, form the basis for my usage of the concept in this chapter: "affordances are functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object. In this way, technologies can be understood as artefacts which may be both shaped by and shaping of the practices humans use in interaction with, around and through them" (Hutchby, 2001, p. 444). While using Hutchby's concise definition as a starting point, I will lean primarily on Rob Withagen and colleagues' (2012) development of the term, and on Bell's (2014; 2015; 2018) application. Other musicologists have applied affordances in various ways related to music, such as Tia DeNora (2000) who explores music's affordances as a technology of the self, and Eric Clarke (2005) in his ecological approach to the perception of musical meaning. However, my interest is in the affordances of *music technology*, and how these affordances mediate the creative process of music making. To this endeavor, and in the context of this thesis, I find Bell's application to be the most relevant.

Bell embraces the concept of affordances when discussing music technology and aligns his understanding with those of Hutchby and Withagen and colleagues when arguing that "while the affordances of an instrument guide the user actions, they are not necessarily deterministic" (Bell, 2015a, p. 48). Or, as Withagen and colleagues (2012) would formulate it, it *invites* to certain actions. Designing advanced technology such as the DAW necessarily involves prioritizing certain functions over others, as it is not possible to represent every function visually at the same time. Consequently, one's selection of musical software has real aesthetic significance, as they will provide unique affordances.

Bell proposes that any DAW can be analyzed through five aspects (Bell, 2015a, pp. 55–61). First, there are always (1) *presumptions* that specific conditions must exist in order for any instrument to be playable. To use a DAW, that is, the music maker must be adept at working with the hardware on which the DAW is hosted (a laptop, tablet, phone, or other device). The next four aspects relate to a given function's degree of privileging within the DAW. Those that are (2) *privileged* are the ones prioritized through some form of visual representation that is readily accessible. Those that must be discovered through an exploratory click or tap are referred to as (3) *provisions* (for example, functions on the menu bar). Those that are hidden, so that the user must be tipped off by other users about them or read the manual, are referred to as (4) *protections* (for example, functions exclusively available through key commands). Lastly, there are

actions that the DAW simply does not permit, which Bell refers to as (5) *preventions*. In the discussion sections of this chapter, I focus on *privilege* and *preventions*.

Educational theory

The Anglo-American configuration

This section explores my grounding and positioning when it comes to educational theory. I started my research period focused on the discourse surrounding *21st-century competencies*, including the work of the Center for Curriculum Redesign (CCR) and especially their Four-Dimensional Education model (Fadel et al., 2015). This model and similar ones derive from reports based on large-scale, quantitative research projects (e.g., EU, 2018; International Society for Technology in Education, 2019; Leeds-Hurwitz, 2013; OECD, 2006) often conducted by international organizations like OECD, ISTE, and UNESCO. By 2009, most European countries had to one extent or another implemented 21st-century competencies in their curricula (Ananiadou & Claro, 2009), and Norway was no exception. Particularly after the surprisingly weak PISA results in the early 2000s (Kjærnsli et al., 2004; Roe et al., 2007), the Norwegian government's response was a clear turn toward a *management by objectives–oriented* approach to education, particularly through means such as the National Tests[27] (Søgnen et al., 2002) and a new national curriculum, the LK06 (Søgnen et al., 2003).

Among the advantages of these research-based models, which generally fall within what Biesta calls the Anglo-American configuration of education, are their concrete and feasible solutions to documented challenges and their relative accessibility to readers outside academia. They also have clear advantages in terms of assessment because objectives are *specific* and often *standardized*, meaning they are easily measured, a central aspect of contemporary education. Early in my research, I found that *21st-century competencies* were relatively little known among my colleagues on my faculty and at other universities, so I made it my mission to enlighten as many people as possible. I presented at several conferences on the topic of how the Four-Dimensional Education model could be applied to EPME, and how 21st-century competencies such as creativity, collaboration, communication, and critical thinking (the four Cs in the Four-Dimensional Education model) would be crucial for everyone to possess in the future. Before long, however, I was gently (yet firmly) remonstrated by a senior professor in music education that this discourse was facing heavy criticism. It was an

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[27] The National Tests are part of a national system for benchmarking Norwegian schools.

embarrassing experience as I was not aware of this criticism, but one that totally changed the direction of my research.

Through numerous subsequent conversations, I came to understand three main concerns with the Anglo-American configuration. First, big numbers are not necessarily desirable or equivalent to certainty and applicability in the context of research in education, as I discuss in the method section below. Second, while 21st-century competencies like the four Cs were being presented as something radical and new, they have in fact been critical to human endeavors for centuries or even millennia (Silva, 2009). In other words, the configuration revealed a tendency to wrap old ideas in new paper. Third, I became aware that the aforementioned reports, while impressive in scale and professionalism, were not in any way neutral. Instead, they were normative with political aspirations that sought to influence policymakers. For example, one must always ask *who* would make a lot of money if the given proposed reforms were to be approved and applied. New-technology companies are typically proponents of changes, whereas the current system deliverers will unsurprisingly argue that the existing frameworks work just fine. One example is the ATC21S,[28] another big research project sponsored by Cisco, Intel, and Microsoft, that conveniently emphasized that *technology* had to be a crucial part of the assessment of 21st-century competencies (Griffin et al., 2012). Of course, such conclusions should not be rejected per se, but clear biases like these deserve to be openly and transparently examined and questioned.

So, I undertook the long process of understanding these critiques in more detail. Anne Rohstock (2012) describes and contextualizes the emergence of the Anglo-American configuration and emphasizes three tendencies that enabled such supranational organizations to arise after World War II and drive the changes that have occurred in many Western nations since the 1960s. First, these supranational organizations formed a wide-ranging and extremely productive network of experts who had previously been active in entirely *different arenas* than that of education (Rohstock, 2012, p. 168, emphasis by me). Consequently, these experts advocated for a technocratic understanding of education, arguing that it could be managed similarly to an economic system. Second, as already mentioned, their educational research functioned as policy guidance. Third, these experts often played active roles as futurists and thus "operated less in a contemporary or contextual framework, but were instead directed toward an idealized new world yet to be created—a world which would arrive above all through education" (Rohstock, 2012, p. 169). In sum, these organizations developed an entirely

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[28] Assessment and Teaching of 21st Century Skills.

new approach to education that was grounded in economic discourse rather than established educational theory. The result, according to Rohstock (2012), was that education was infused with homogenized and decontextualized approaches wherein "human capital" was seen as an important factor for growth.

The continental configuration

This new understanding of education as a technological system with economic features met with massive resistance, particularly from educational institutions in countries from northern Europe representing what might be referred to as *continental educational thinking* (Siljander & Sutinen, 2012) or the *continental configuration* (Biesta, 2015; 2020b, pp. 77–98). This critique goes far beyond my three initial concerns to encompass comprehensive lines of thought often deriving from and overlapping with the *Bildung* tradition. The continental configuration consists of a host of different discourses, most of which elevate the *purpose* of education above all else. Alongside various attempts to define what this purpose might be, they also seek to explore what constitutes the *educated* human being (see, e.g., Biesta, 2006; Bowman, 2002; Klafki, 2000b; Varkøy, 2014). Biesta, then, distills what he calls *educational ambition* down to the following*: "*to arouse in another human being the desire for wanting to exist in the world in a grown-up way" (Biesta, 2017a, p. 85). When using grown-up in this setting, Biesta is evoking the ability to distinguish between what one desires and what is desirable, taking into account long-term and contextual consequences (see also Biesta, 2017b, pp. 15-16). Educators should not, of course, *tell* students what to desire but rather "arouse an 'appetite' for living with this question, that is, for making it a living question in one's life" (Biesta, 2019, p. 1). According to Wolfgang Klafki, a notable contributor to modern *Bildung* thinking, the purpose of education is the cultivation of self-determination, co-determination, and solidarity for all (Klafki, 2000b), which in many ways overlaps with Biesta's notion of existing in a grown-up way. Others are more specific in their descriptions of the educated person, but they are also generally concerned with nurturing human autonomy and emancipation.

Though the aforementioned scholars are associated with continental educational thinking, similar ideas appear in American educational theory (Siljander et al., 2012) and especially among the developers of classical pragmatism and the progressive pedagogy movement (also referred to as *growth-oriented* thinkers) via terms such as *self-activity, self-development*, and *plasticity* (Kivelä et al., 2012). The most notable scholar here is John Dewey, whose pragmatic take on education has already been linked to continental educational thinking (Juuso, 2012; Retter, 2012; Väkevä, 2012a).

One of the main contributors to continental educational theory over the last decade is educational theorist Gert Biesta,[29] and though I refer to other authors as well, much of my theoretical discussions revolve around his thinking and publications. Biesta shares the previously mentioned concern over the way in which an economically driven attitude has infused education, one consequence of which is the *learning by objective–driven* approach to education, which measures how well students respond to predefined objectives. While Biesta acknowledges the need for what might be called *complexity reduction*, which is a prerequisite for the success of any educational system, his worry is that there is a tipping point where complexity reduction turns into unjustified control (Biesta, 2020b, pp. 37–42). Norwegian philosopher Hans Skjervheim refers to this pitfall as the *instrumental mistake*: "the pragmatic, instrumental reason certainly has its place, also in pedagogy. But it also has its limits, and it is exactly these limits I've been wanting to point to. What I have termed 'the instrumental mistake' is when such limits are being crossed" (Skjervheim, 1996b, pp. 248–249). This tendency can be discerned in the Norwegian educational system, including its music education (Dyndahl, 2004; Varkøy, 2013, 2015). Biesta also questions the "pseudo-security of numbers, stemming from the idea that measurements are objective and can release us from the more difficult task of making judgments" (Biesta, 2020b, p. 102). Biesta's objection to the extensive reliance upon measurements is usefully articulated through what he terms their *normative validity*, or "the question of whether we are indeed measuring what we value, or whether we are just measuring what we can easily measure and thus end up valuing what we (can) measure" (Biesta, 2010, p. 13). Another consequence of this reliance is, according to Biesta, that our students might be reduced to "customers"—that it does not matter *who* we educate, only *that* we educate. In other words, the process-modeled educational system, amplified by the *language of learning*, produces *interchangeable* human beings or mere *objects* (Biesta, 2006, pp. 55–71), a point also made by Skjervheim (1996a).

According to Biesta, one of the main problems with this trend, which he connects to *learnification*,[30] is that it has "facilitated a redescription of the process of education in terms of an *economic transaction,* that is, a transaction in which (1) the learner is the (potential) consumer, the one who has certain 'needs,' in which (2) the teacher, the

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[29] There is also a growing number of publications within music education engaging with Biesta's work; see, for example, Finney (2019) and Dyndahl (2021).

[30] *Learnification* refers to the implementation of new terminology from economic thinking in educational theory that has occasioned the shift from a *language of education* to a *language of learning* (Biesta, 2006, pp. 13–32).

educator, or the educational institution is seen as the provider, that is, the one who is there to meet the needs of the learner, and where (3) education itself becomes a commodity—a 'thing'—to be provided or delivered by the teacher or educational institution and to be consumed by the learner" (Biesta, 2006, pp. 19–20). In short, an economic understanding of education brings about an educational climate wherein the learners define the needs (demand) and the institutions must meet those needs by delivering the best possible product (supply). On a structural level, one consequence of this shift in attitude and language is the establishment of university-like but occupationally oriented degree programs (Rohstock, 2012) and the rise of private, vocational colleges.[31] This puts pressure on universities to make themselves ever more attractive to their students and ultimately leads to the expectation that the students themselves should be able to dictate what they learn.

Biesta takes issue with the heavy emphasis on students' *learning* and advocates instead for a much clearer focus on the teachers' *teaching*, an aspect he sees as sidelined by contemporary educational practice (Biesta, 2017b). One of the ways he develops this focus is through the three "gifts" of teaching (2020b, pp. 99–117). First, he points to the importance (or gift) of *being given what you did not ask for.* While some suggest that students should set their own goals, Biesta argues that an important rationale of education is precisely to give the students what they *did not want*, what they *did not look for*, and even what they *did not know they could be looking for*. He concludes that giving the students only what they say they want is in fact utterly unprofessional on the part of the educator, and that it remains critical, even in the current climate, to distinguish between what students desire and what can be considered desirable for them. Relatedly, the second gift of education is the "double truth," whereby students can be presented with knowledge itself *but also* with the necessary tools to recognize it *as* knowledge within their frame of reference. The third gift is "being given yourself," which connects to what he terms the paradigm of *existential education*, to which I return in the section titled "Biesta's three domains of educational purpose" (p 35). In all, he insists that it remains important "to continue to make a case for a broad understanding of what counts in education and what counts as education" (Biesta, 2022, p. 76).

Turning to the teacher's role in particular, Biesta observes that teaching amounts to a gesture of *pointing* as part of an act of *redirecting someone's gaze* (Biesta, 2022, pp. 75–89). An important aspect of pointing is its double orientation, in that it is always

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[31] This discussion has also been addressed in higher popular music education; see, for example, Hebert et al. (2017), Morrow et al. (2017), Parkinson and Smith (2015), and Hunter (2019).

directed at *something* and at the same time addresses *someone.* In contrast to *learning*, which he criticizes for being rather empty and directionless, teaching always possesses this double orientation. He then applies three particular characteristics of "professional work" to teachers (Biesta, 2020b, pp. 113–116). First, he emphasizes the relevance of explicitly engaging with the *purpose* of teaching and education, as mentioned above and revisited again below. Second, he reiterates the importance of addressing the needs of those being taught (while always weighing what is *desired* against what is *desirable*). Third, he makes the distinction between *power* and *authority* in the teacher's relationship to the students. While power is something teachers in the classroom have simply because they are teachers, authority is *relational* and must be earned. He points out, "the transformation of (relationships of) power into (relationships of) authority is one of the key dynamics of all professional relationships if they seek to operate in a democratic rather than in an authoritarian way" (Biesta, 2020b, p. 115).

The discussion about student and teacher roles is inextricably connected to *who* decides *what* is being learned and taught, and *how*. Yet, in education, there is also a third party with an interest in the selection of content and learning activities—namely, the policymakers, here represented by the educational institutions. To briefly elaborate upon this relation, I turn to the dialogue between curriculum theory and continental educational thinking (and specifically *Didaktiks*).[32] Despite their similarities (Klafki, 2000a; Lilliedahl, 2015; Westbury, 2000), curriculum theory and Didaktiks have different approaches to how content is selected and what the role of the teacher is (Westbury, 2000). Curriculum theory is oriented toward the collective, system-perspective-informed model of education at the institutional level. It seeks to provide systematized material and templates for instruction so that teachers are generally directed *by* the system, not enabled to be a source *for* the system. Didaktiks, on the other hand, is oriented toward the individual subject and teachers' reflective practice at the classroom level (Biesta, 2017b; Bladh et al., 2018; Lilliedahl, 2015; Willbergh, 2016). It considers the teacher to be the main agent in making content relevant to students and provides the teacher with tools for addressing "the essential what, how, and why questions around *their* teaching of *their* students in *their* classrooms" (Westbury, 2000, p. 17). In other words, in curriculum theory, content selection is considered to be too important to leave to the judgment of the individual teacher. In Didaktiks, such a

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[32] Didaktiks refers to "theories of instruction, which have as their principle focus the most suitable content for teaching, learning and the betterment of self and society" (Willbergh, 2015, p. 336).

decontextualized content selection at the system level does not promote the individual emancipation that is, its adherents believe, the ultimate purpose of education.

The critical pedagogy of Freire

One scholar who likewise opposes centralized curricula is Paulo Freire, and although his work somewhat sidesteps the continental configuration, it offers an instructive contrast to the aforementioned positions. Freire is critical of what he terms the *banking concept* of education, according to which "knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing" (Freire, 2005, p. 72). While this may be an exaggeration for effect, it nevertheless indicates that Freire and Biesta have very different views of the *gift of education*. Rather than teaching as something "given" to the student, Freire advocates *dialogue* and *problem-posing* in education; the program content should be "constituted and organized by the students' view of the world," so that "the content thus constantly expands and renews itself" (p. 109). Through problem-posing and dialogue, he continues, the teacher-student and students-teachers, both as *subjects*, become jointly responsible for a process through which they *all* grow (p. 80). In other words, Freire emphasizes the student as the starting point in education and a teacher who functions as a co-learner (with the student as a co-teacher). These arguments recall those proposed by Green concerning informal learning.

Here, of course, we run into the delicate balance between student autonomy and the "institutionalized canon"—that is, the notion that "other people know what is best for you." The challenges involved in student autonomy have arisen elsewhere through the critique of the informal learning discourse and Biesta's emphasis on *teaching*. The challenges involved in centralized curriculum include the constant danger of creating hegemonies and the possibility that the "interests of the dominant groups define the aims of education, neglecting the interests of the subjects being educated" (Varkøy, 2014, p. 21, see also Freire, 2005, p. 94). Much of my discussion in this framing chapter derives from the tension between these positions.

Normativity in education

The previous section also addresses another important issue—namely, the inherent normativity in educational practice. Biesta suggest that the question of what a good education is must be posed "openly and explicitly *as* a normative question—as a question of aims, ends, and values—and tackling this question head-on rather than in an indirect or implicit manner" (Biesta, 2010, p. 2). For example, a common goal in educational research is to increase the effectiveness of education, but Biesta argues that

"effectiveness is never an educational good in itself but only becomes a meaningful idea in relation to views about the purpose(s) of education" (Biesta, 2020b, p. 36). Rohstock notes how, within the economically oriented discourse of education, this "conflict between supposedly objective scientific expertise and its application for normative purposes has still scarcely been explored" (2012, p. 168). Ilmi Willbergh insists that *Bildung* "is 'openly' normative and based on the recognition that education per se is normative and a question of values" (Willbergh, 2015, p. 342), and similar issues are raised in critical pedagogy (Bartolomé, 2004; Freire, 2005; Giroux, 2011). In short, these authors criticize the lack of openness and transparency with regard to the normative implications of education that permeate all educational systems, whether this is addressed explicitly or not. Biesta then argues that teaching must be understood as a normative profession, not just a technical one (Biesta, 2020b, p. 114), and concludes that other discourses have "displaced the *normative* question of good education with technical and managerial questions about efficiency" (Biesta, 2010, p. 2; 2020b, pp. 25–46).

Biesta's three domains of educational purpose

In order to properly articulate educational questions, Biesta proposes an alternative framework and terminology to the language of learning. His point of departure is that the ultimate educational concern is *existential*, a question of "how we, as human beings, exist 'in' and 'with' the world, natural and social," and to do so "in their own right" (Biesta, 2022, p. 3). He proposes three *domains of educational purpose*: qualification, socialization, and subjectification.[33] While all three are always at work in education, they are rarely properly addressed in current educational policy and practice, and Biesta is particularly concerned with the underrepresentation of *subjectification*. As these domains were first presented more than a decade ago, and his articulation of the domain of subjectivity has changed particularly profoundly over time, my summary of it here draws mainly on two recent publications (Biesta, 2020c, 2022).

The domain of educational purpose he calls *qualification* concerns the acquisition of knowledge, skills, and dispositions that enable students to act in the world. This is perhaps the most obvious task of education and an important justification for schooling. However, even the simplest provision of knowledge and skills depends on the provider's underlying values, which brings us to the next domain of educational purpose: *socialization*. Socialization is about becoming a part of, and being able to identify with,

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[33] Biesta also acknowledges similar frameworks already published in the literature (Biesta, 2022, p. 44).

the existing social and political orders and their (re)presentation of cultures, traditions, and practices. Obviously, this domain raises complex questions of how these cultures, traditions, and practices are (re)presented in the curriculum, not to mention what is excluded and under which mechanisms this exclusion occurs. Another challenge is that students can easily become "objects-to-be-socialized," which is measured by the degree to which they meet the ideals put forward by the institutions.

Qualification and socialization inform a common but insufficient notion of education that Biesta refers to as the "paradigm of *education as cultivation*." To illustrate, he points to the *Park-Eichmann paradox* (Biesta, 2022, pp. 25–40). Whereas Adolf Eichmann, in light of this paradigm, should be considered a success ("I only did as I was told"), Rosa Park should be considered a failure (because she opposed the system). To address this glaring deficiency, Biesta introduces the educational domain of *subjectification.* While socialization involves what students need to exist *within* the existing structures, subjectification involves what students need to exist *outside* them, through their own initiative and responsibilities (Biesta, 2020c). Education always impacts the student in terms of becoming either more *dependent* or more *independent* on existing structures. Thus, as an alternative to the paradigm of education as cultivation, Biesta suggests the paradigm of *existential education*, wherein the educational work is not to "influence, direct or support the development of the human organism, but rather has to do with encouraging the self to be a self" (Biesta, 2022, p. 33). He then laments the fact that "much contemporary education seems to be significantly out of balance as a result of a strong—and in some cases excessive—emphasis on the domain of qualification, and often only on a small number of measurable 'outcomes'" (Biesta, 2015, p. 19).

Here, Biesta's thinking coincides to a larger extent with Freire's. Freire similarly, if more radically, rejects the idea that the educated person is the *adapted* person, one who is "better 'fit' for the world" (Freire, 2005, p. 76). He argues instead that, in education, both teachers and students are *subjects,* and that in "problem-posing education, people develop their power to perceive critically the way they exist in the world with which and in which they find themselves" (Freire, 2005, p. 12). Though there are differences between the respective "solutions" of Biesta and Freire, they both agree that there are problems with *education as cultivation,* and that education must include ways to critically question existing structures. Thus, if we are to take the previously discussed notion of educational purpose found in continental configuration seriously, the contradictions with the Anglo-American configuration become evident. Within an educational framework where the criteria for success are predetermined via standardized

objectives, a free learning process, self-development and personal growth appear to be rather difficult, if not impossible. Ultimately, (existential) education becomes impossible. Biesta explores this very issue in *The Beautiful Risk of Education*, where he characterizes education as an open-ended, unpredictable, and *risky* process: "to make education 100 percent safe, to make it 100 percent risk-free, thus means that education becomes fundamentally uneducational" (Biesta, 2013, p. 146).

To elaborate upon subjectification and his notion of existential education, Biesta introduces the concept of the *middle ground.* Again, the importance of *dialogue* becomes evident (and it is also emphasized by Freire) as Biesta argues that to exist in the middle ground *is* to be in dialogue. Here, dialogue is understood as "a way of existing with something or someone in such a way that there is room for all to exist and not for one to dominate and determine how others should be" (Biesta, 2017a, p. 65). Crucially, it is not about winning but about trying to *exist in dialogue*. Freire's concept of *student-teacher* similarly points to the need for the teacher to acknowledge the students' expertise—to remain curious and willing to learn from them.

Critiquing continental educational thinking

After I finished working through Biesta's most influential publications in parallel with other literature from the continental configuration, it became clear to me that education is not *one* thing. At least two distinct configurations of education have emerged (Biesta, 2015),[34] as we have seen, and while I was undeniably taken with the thoroughness and compelling argumentation of the continental configuration, no educational framework is without weaknesses. I will start by addressing my own discontent when reading this literature, and particularly Biesta's work.

While Biesta's theories are clearly explained and forcefully articulated, they are frustratingly distant from actual practice and real life. On the rare occasions when he provides actual examples (Biesta, 2017a, introduction; 2017b, 2020c), they are well outside what would count as a normal educational reality. He acknowledges as much when he refers to one of these earlier examples as "a complex and unusual incident" in a later publication (Biesta, 2022, p. 40), but he remains rather detached from actual practice throughout his oeuvre. Another issue in Biesta's writings is his aversion to the term *learning*, which, as mentioned above, he finds to be an empty and directionless word. While he discusses the relationship between learning and education (see, e.g.,

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[34] Biesta puts it this way: "those who approach education as an activity or practice governed by *cause-effect relationships* and those who see education as a human event of communication, meaning making and interpretation" (Biesta, 2015, pp. 11–12).

Biesta, 2022, pp. 75–89) and makes important arguments in his critique of the *language of learnification,* I remain unconvinced that the blame should be placed on the term *learning.* What puzzles me is that while he rejects learning due to its apparent emptiness, he seems to have no trouble spending book after book detailing and giving *education* its "proper" meaning. This is not to say that he is wrong in nuancing his notion of education, but if he had spent the same amount of time developing *other* terms, including learning, the same richness and direction might have emerged. Thus, rather than reject "learning*,"* I propose revisiting it. After all, learning *is* a part of education. For this reason, but also to better "speak" to other discourses, *learning* will be utilized throughout this chapter, though with a full awareness of its limits in educational theory.

Other scholars have questioned Biesta's tendency to favor subjectification over the other domains of educational purpose, thus perpetuating the very imbalance that he laments elsewhere in the literature and field (Dyndahl, 2021; Dyndahl & Nielsen, 2021). While I think his emphasis on subjectification is clear, this critique could easily be met with the distinction between *contributing* to balance and *being* balanced: by putting "too much" emphasis on subjectification, Biesta contributes to an overall balance in the educational discourse. The same goes for his emphasis on *teaching* rather than learning and subsequent shift from student-centered to "world-centered" education. It is up to policy makers, researchers, and educators to create balanced educational programs drawing upon his theories in combination with other approaches, and Biesta is quite clear that subjectification should *not* be the only domain of purpose in education, though it might be beneficial to consider it the *first* one (Biesta, 2022, pp. 43–50).

A further misgiving targets the skepticism toward educational research, and particularly quantitative research, that characterizes parts of continental educational thinking. Daniel Tröhler (2012) suggests that the new generation of German scholars should instead be stimulated by international research and open to historicizing their own academic and cultural socialization. Further, there are some obvious benefits to the economic and research-based approach to education. For example, given the growing competition from private colleges, universities *must* enhance their programs and become better at what they do; measurements and benchmarking *are* useful strategies for pinpointing weaknesses across multiple institutions; and the efficiencies related to standardization *do* enable institutions to save money and expand their programs. However, it is when these approaches dictate *all* the premises that they become problematic, so that Biesta expresses a reasonable frustration when he observes that "it is rather disappointing to see that so many policy makers and politicians are unable to

put findings from PISA and similar systems in a meaningful perspective" (Biesta, 2022, p. 1).

Another challenge within the continental configuration is assessment. Willbergh argues this to be the most severe challenge to *Bildung* in schooling because *Bildung* "does not work with assessment, as assessment demands reproducibility, which contradicts the idea of autonomy: a valuable student achievement from a *Bildung*-centered perspective would be the result of unique independent thinking, critical reflection and creativity" (Willbergh, 2015, p. 347). She concludes that "education is not a question of evidence, but a question of legitimacy and ethical responsibility" (Willbergh, 2015, p. 348), which are hard features to measure according to some set of established standards.

Methodology and research design

Discussions about methods involve debates about what is considered reliable knowledge and quality in research, and how researchers can go about to achieve this. A pertinent question, then, is the nature of that which we can "know about," and it is usually represented by two contrasting views: scientific realism and social constructivism (Kitcher, 2001). Along similar lines is the "paradigm-war" (Denzin & Lincoln, 2018, pp. 34-36) between quantitative and qualitative methods, where "issues surrounding the politics and ethics of evidence" (p. 30) are at the core. In educational research, some scholars advocate for scientific methods from "hard" sciences like physics, medicine, agriculture, and so on to produce solid evidence for educational reforms (see e.g., Fischer, 2009; Slavin, 2002). Bent Flyvbjerg terms this the *pre-paradigmatic argument*, but rejects this notion that nothing prevents social science, in principle, to reach the golden standards of the natural sciences (Flyvbjerg, 2001, pp. 26-28). Rather, he argues that "social science never has been, and probably never will be, able to develop the type of explanatory and predictive theory that is the ideal and hallmark of natural science" (Flyvbjerg, 2001, p. 4). Moreover, it is argued that quantitative methods often fail to accommodate the complexity of doing research in educational contexts (Berliner, 2002), and often assumes causality in its observations while expecting and striving for a predictable relation between educational input and output (Biesta, 2013). Biesta argues that attempts to control this relation are neither desirable nor possible and only contribute to making education fundamentally *uneducational* (Biesta, 2013, p. 146).

Arguably, certain types of knowledge in education *are* generally best supplied by quantitative studies, and major studies by, for example, UN, EU, and OECD undoubtedly play an important role in making education better. However, education is always particular in practice and consequently qualitative and contextualized research is critical to a fuller understanding of how education works.

Reflexive methodology

This thesis is a contribution within the qualitative paradigm, intended to contribute to a "wider range of possibilities for action, based on a wider range of understandings" (Biesta, 2020b, p. 21). I have aimed to apply what Alvesson and Sköldberg (2018) call a *reflexive methodology.* One of their key arguments is that the quality of research is a question of ontology and epistemology rather than method, so they argue for *reflexive empirical research* in which "serious attention is paid to the way different kinds of linguistic, social, political and theoretical elements are woven together in the process of knowledge development, during which empirical material is constructed, interpreted

and written" (Alvesson & Sköldberg, 2018, pp. 10–11). Rather than using a specific and defined theory and method as a means of guaranteeing rigid and thus reliable research, reflexive methodology embraces the diversity of approaches to scientific inquiry. Biesta argues similarly and suggests that researchers should be pragmatic[35] and start with the problem at hand rather than "confessing" to forms of engagement with methods and theory (Biesta, 2020b). Following these advices, my research has been guided by my research interests and research questions, rather than by any initially defined set of methods.[36]

Alvesson and Sköldberg further suggest (rather than define) four orientations (or epistemological positions) upon which such a reflexive methodology could draw: (1) the empirical orientation, to emphasize systematics and techniques in research procedures; (2) hermeneutics, to clarify the primacy of interpretation in research; (3) critical theory, to raise awareness of the political-ideological character of research; and (4) postmodernism, to address the problem of representation and authority.[37] By incorporating and balancing these orientations, I hope to have forestalled any misplaced faith in empirical facts mirroring reality (empirical orientations), the quagmire of possible interpretations (hermeneutics), ungovernably narrow perspectives (critical theory), and the ambiguity of an overwhelming number of possible perspectives (postmodernism). In short, it is a question of "avoiding empiricism, narcissism and different varieties of social and linguistic reductionism" (Alvesson & Sköldberg, 2018, p. 326). Contextual and situational factors are undeniable when striving for reliable results in qualitative research. The empirical data in this thesis was collected through interviewing particular informants (see the following chapters), in particular settings, at a particular time, and while broader assumptions have been made based on these data, they are inevitably limited in their generalizability.

Abductive reasoning

In order to succeed in reflexive research, I have tried to follow Alvesson and Sköldberg's recommendation of "creativity in the sense of an ability to see various aspects; theoretical sophistication; theoretical breath and variation; and an ability to reflect at the metatheoretical level" (Alvesson & Sköldberg, 2018, pp. 328–339). My research

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[35] Again, being pragmatic here does not imply adopting pragmatism (Biesta, 2020b, p. 8).

[36] See for example how the research question in Article 4 changed during the analysis of the data in the section "methological reflections on the cases" (p. 58).

[37] See Alvesson & Sköldberg (2018, pp. 13–14) for an outline of these orientations. For more in-depth discussion, see chapters 3–6 in the same publication.

approach was to describe and investigate practices in which informal learning strategies are key, and then bring this empirical material into dialogue with continental educational thinking to uncover ways to exploit the (existential) educational potential within these practices. Though Articles 2 and 4 might be viewed as inductive due to how the data mainly dictated the direction of how conclusions were drawn,[38] and Article 3 as somehow deductive due to how theoretical work informed the research design, it has been argued that *abductive reasoning* is the method actually used in most qualitative research processes: "induction and deduction appear more one-sided and unrealistic, if we take into consideration how research is actually carried out; in other words, those who follow them too strictly risk putting a straitjacket on their research" (Alvesson & Sköldberg, 2018, p. 5). Like induction, abduction starts from an empirical foundation but does not reject theoretical preconceptions and thus finds itself somewhat closer to deduction. Furthermore, abduction is not logically necessary but has been described instead as *inference to the best explanation* (Douven, 2021). The research process in this thesis, following abductive reasoning, "alternates between (previous) theory and empirical facts (or clues) whereby both are successively reinterpreted in the light of each other" (Alvesson & Sköldberg, 2018, p. 5).

A case study design

In acknowledging the complexities and ambiguities of qualitative research through the application of reflexive methodology, transparency becomes critical to the project's reliability. This chapter on research design is the "story" of my research (Karlsen, 2007, p. 55; Partti, 2012, p. 43), and it seeks to provide a coherent and understandable narrative regarding what was done, how it was done, and why it was done that way. Like Flyvbjerg, I find the *power of example* (Flyvbjerg, 2001, pp. 66–87) to be an important aspect of qualitative research, which is why I have chosen case studies as my research design.[39] Burnard notes in her discussion of musical creativities that "critically, there is a necessity for documentation (in music education) of emerging practices" (2012, p. 324). Further, and in the context of popular music education in particular, Ann C. Clements asks for "multiple single-case studies of these innovated programs to serve as models for future exploration and experimentation by the masses" (Clements, 2012, p. 8), and Carlos Xavier Rodriguez argues that "teachers need more concise recommendations on how to provide freedom and direction while remaining

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[38] Indeed, in article 2 we claim to start inductively but end up deductive. In retrospect, it would have been more accurate to label this form of reasoning *abductive.*

[39] For an overview of the cases, see *Table 1* on p. 44.

compassionate and resourceful leaders, even as longstanding rules for teaching are replaced with newer, mostly untested ones" (2009, p. 44). This thesis is a response to requests such as these. Moreover, each case study tries to connect educational theory to educational practice and, more specifically, continental educational thinking to the practices of EPME.

Articles 2, 3, and 4 are based on single-case studies, a model that provides an established framework suitable for these types of research projects. I have used the case-study design first and foremost to delineate the research and clarify what the cases are intended to do—that is, not to extrapolate statistical generalizations but to "shed empirical light on some theoretical concepts or principles" (Yin, 2018, p. 73). This design enables me to capture the complexity of each individual case, "coming to understand its activity within important circumstances" (Stake, 1995, p. xi), and thereby refine an existing understanding rather than invent an entirely new one (p. 7).

The particular cases in this thesis have been selected due to their uniqueness but also their commonality with established practices (Stake, 1995, p. 1). Put in Yinian terms, they share characteristics with *common* cases because they represent common practices and with *unusual* cases because they partly deviate from everyday occurrences (Yin, 2018, pp. 85–86), which is why they attracted my interest in the first place. Following Stake's terminology, the cases are *instrumental* in the sense that they meet a need for general understanding and answer a research question rather than derive from an intrinsic interest (Stake, 1995, pp. 3–4), and were chosen to optimize the opportunity to learn (pp. 5–6).

Research overview

The project develops across the four articles, which approach the overall research questions in distinctive ways. In this section, I will link the articles to the overall research question connecting the continental configuration to *teaching* (the teacher's perspective), and to the research question connecting the continental configuration to *learning* (the student's perspective), respectively. While all the articles address the first research question, Articles 3 and 4 also address the second research question. Table 1 presents an overview of the four articles, their research questions, the cases, and the research data/method.

Article	Research questions	Case	Research Method/Data
Article 1: **Balancing educational purposes**	Which important questions should educators within the field of higher electronic music education ask in order to further develop educationally balanced programs?		• theoretical discussions and operationalization of Biesta's educational framework within electronic popular music education
Article 2: **Teaching Aesthetics**	How are technology and aesthetics balanced in this particular pedagogical practice, and how can this be related to and informed by Biesta's thinking on balancing educational purposes?	A teacher's approach to one-to-one tuition in electronic music	• semi-structured interview with one teacher, 58 minutes • semi-structured, individual interviews with 6 students, 32 minutes on average
Article 3: **Toxic Music Theory**	In which ways can continental thinking inform music theory–related courses within electronic popular music programs?	A task for generating new musical ideas from existing material	• semi-structured, individual interviews with 2 students, 33 minutes average • reflection notes from 2 students, 1 page on average • reflection notes from my own participation, 1 page
Article 4: **What do you mean?**	What influences the negotiation of ideas when students make music collaboratively?	A music making camp	• semi-structured, individual interviews with 16 students, 36 minutes on average • 53 reflection notes from the 16 students, ½ - 2 pages each

Table 1

My first overall research question is as follows: How can continental educational thinking, in combination with experiences from popular music education, challenge and shape the teacher's role in electronic popular music education? Article 1 responds to this specific research question: Which important questions should educators within the field of higher electronic music education ask in order to further develop educationally balanced programs? In the article, I present broad and overarching discussions using general educational theory—in particular, the work of Biesta (2006, 2010, 2013, 2017b)—to generate pertinent questions for educators within EPME. I also introduce and develop an understanding of *artistic subjectification* as a means of facilitating (general) subjectification, one that I argue is unique to art education. [40] This article's findings contribute to the first overall research question by applying continental educational thinking to the field of EPME and offering suggestions for educators. The research question of Article 2, a case study of the one-to-one teaching approach of a teacher in electronic music (TEM) that also draws on arguments made in Article 1, is as follows: How are technology and aesthetics balanced in this particular pedagogical practice, and how can this be related to and informed by Biesta's thinking on balancing

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[40] See summary of Article 1 on p. 60-61 for an outline of the distinction between *artistic subjectification* and *(general) subjectification*.

educational purposes? Here, we (I cowrote the article with Røshol) detected in TEM's teaching approach a student-centered attitude with a high degree of student autonomy, where the focus was almost entirely on the aesthetics rather than the technicalities of the technology. We argue that this teaching approach, through its emphasis on the students' *unique artistic expression*, is suitable for facilitating subjectification. This article contributes to the first overall research question by providing a case study that shows how one might teach electronic music in one-to-one tuition, and by connecting this case to continental educational thinking.

After sharing these general reflections (Article 1) and observing an experienced educator within the field (Article 2), I took another approach in the third article in response to the following question: In what ways can continental thinking inform music theory–related courses within electronic popular music programs? This article explores the tension between continental educational thinking and student-centered education via the case study of a task for activating student expertise in EPME that is based on that tension. It then frames the findings of this case study within a proposed teaching method that seeks to (1) expand and nuance notions of what music theory is and could be; (2) reveal and define potential and existing relevant music theory via the students' own creative practice; and (3) facilitate reflections and the development of democratic principles. In its conclusion, I introduce the concept of *middle ground teaching*. This article connects to the first overall research question by expanding upon the reflections of Article 1 and combining them with the findings of Article 2 and the student-expertise case study to propose a teaching method for activating student expertise in EPME, thereby contributing to the question of how continental educational thinking both challenges and shapes the teacher's role.

Lastly, Article 4 explores this question: What influences the negotiation of ideas when students make music collaboratively? Based on the findings of a case of a music making camp, it develops *the model of the aesthetic dialogue,* that points to how different domains effect the negotiation of ideas, and through which teachers in EPME can use collaborative music making as part of their teaching. Notably, the original research question for this article was as follows: What is the potential for subjectification within collaborative music making? However, this explicit connection to the continental configuration was excluded from the article both resulting from the shift of focus in the analysis, and also to keep it within the format of an article. See the section "methodological reflections on the research" (p. 59) for more on this topic.

My second overall research question is as follows: How can continental educational thinking and critical perspectives on technology challenge and shape

students' practices of making music in the DAW environment? The case study presented in Article 3 asks the participants to reflect on the nature of music theory within their own creative practices and in light of the affordances of technology, which connects both to the research question of the article and to the second overall research question. In Article 4, music making is described as a continuous aesthetic dialogue that involves a wide range of competencies in its collaboration. Positioning the students to collaborate in different modes[41] hopefully exposes them to at least some unfamiliar creative strategies, thereby broadening their creative toolbox and perspectives. The model also promotes student reflection concerning the experienced affordances of technology. Both these aspects connect to the second overall research question, as well as the research question of the article.

The cases

The following sections briefly describes the cases in Articles 2, 3, and 4. In the summary of the articles (pp. 60-67) these cases are further outlined within the context of the articles. Lastly, the articles are fully presented on pp. 116-209.

The case of a teacher's approach to one-to-one tuition in electronic music
(In Article 2)

Since 2006, students at the department of popular music (DPM) at UiA have been offered interplay with focus on sonic improvisation, putting sound manipulation at the core of improvisation. Continuing DPM's emerging emphasis on electronic music, *electronics as a main instrument* became a formalized specialization within the bachelor program of rhythmic music performance in 2013, and in 2020 a new bachelor in *electronic music* was established. In parallel with this development, Kristiansand has hosted the *Punkt Festival,* which has become an internationally acclaimed music festival for electronic music, and where DPM students are regularly involved as performers and artists. A key figure in both these developments, who is also an internationally celebrated artist within the field of electronic music, is referred to as TEM (teacher in electronic music). Both Andreas Waaler Røshol (co-writer of the article) and I have been students of TEM, and have both been struck by his, at least in our experience, rather unusual approach to one-to-one tuition. Representing a seldomly long experience of teaching electronics, we believe the (*unusual*) case of TEM's teaching can provide valuable insights for similar (*common*) contexts (Yin, 2018, pp. 85-86).

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[41] See Article 4 summary on p. 68 for an outline of the modes.

The case of a task for generating new musical ideas from existing material

(In Article 3)

Ever since DPM at UiA started offering students a specialization with electronics as a main instrument in 2013, an unresolved issue has been how to approach the subject *music theory* to these students. In contrast to the other bachelor specializations at DPM (performing popular music, teacher education, and artist/songwriter), there is no audition ensuring a certain level of knowledge or skills prior to students entering the program. This allows for students with a very diverse set of skills and with fragmented competence. For example, in the same student group we have had students that have been scoring music for film professionally for years, while other students don't know the difference between a minor and a major chord, basing their musicianship heavily on the affordances of technology. There have been various ways of structuring music theory for these students, but the highly varying competence is still a challenge, and was an important motivation for the work behind this research.

The case study aimed at exploring how teachers can evoke and activate the students' expertise within the electronic music theory course, derived from their own creative processes. To achieve this, I investigated the pedagogical potential of a creative strategy for generating new ideas, framed within the Toxic Project, which was initiated by me. The Toxic Project was a collaborative music making project with two students and me. [42] While the Toxic Project was filmed by the Faculty of Fine Arts as a mini documentary (which is why this project is referred to with a title), the case study focuses on the *initial task* of the Toxic Project, which simply was to individually generate new musical ideas *inspired by existing musical material*.[43] The main area of interest in this case study was not the musical output or the ways in which a limitation like this can foster creativity, but rather the underlying knowledge and skills that precede the ways the original ideas are transformed into something new—that is, the music theory applied. In other words, the task explores *what it is that we know that enables us to do what we do* when transforming existing ideas into new ones.[44]

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[42] We collectively decided to generate musical ideas derived from the song "Toxic" by Britney Spears (2003), hence the name of the project.

[43] *Inspired by existing musical material* should be taken in the broadest sense to implicate chord progressions, melodies, a general vibe or emotion, lyrics, sound design, singing style, rhythmical patterns, and so on.

[44] For the sake of future teachings and for personal creative interest, the Toxic Project was continued beyond the limitations of the case, to the finalization of one song and another to be finished soon.

The case of a collaborative music making camp
(In Article 4)

As pointed out in the case study in Article 3, students entering the bachelor program in *electronic music* at DMP at UiA tend to have a diverse set of skills and fragmented competences. One challenge, then, is to develop and refine learning activities that meet the needs of all students while also acknowledging the fragmented skills of the individual student as not only a hindrance but also a potential opportunity for students to learn from one another. Building on the assumption that collaborative music making is one such activity, this case study examines a project where 16 students did exactly that: made music collaboratively. Each day of this music making camp, Monday through Thursday, new trackers were coupled with new topliners, forming eight pairs of students that varied daily and worked together for seven hours on average. They were given specified assignments in terms of how to make music, varying between four different modes. The aim of this case study was to develop and nuance collaborative music making as a teaching method within electronic music education, facilitating for critical reflections and student peer-learning.

Strategies for recruiting informants

The strategy for recruiting informants varied slightly across the three cases. In the case study in Article 2, we wanted to investigate the teaching approach of TEM. In addition to recruiting TEM, we invited all his current students to voluntarily become informants in the study. Those who did not respond to the initial request were contacted once more, then left alone. Out of the eight requests made, six students agreed to participate, making seven participants including TEM.

In the case of Article 3, I investigated the pedagogical potential of a strategy for generating new musical ideas, framed within the Toxic Project. There were three participants in the project: two students and me. My motivation for participating actively in the case was to gain this reflective experience on my creative strategies for myself and to acquire a better understanding of the two students' processes. Both students were in the third year of their bachelor's degrees, one at the performing popular music program and the other at the electronic music program. They were independently contacted directly by me based on recommendations from other teachers at DPM. Their participation was voluntary and not connected to any course or assessment situation, and to my knowledge I had never met them before. As the Toxic Project was about collectively making music, the number of participants was limited to a total of three.

In the case study of the music-making camp in Article 4, sixteen students participated—eight trackers and eight topliners. Trackers were recruited through an open invitation to all second-year students in the bachelor's program in electronic music, while topliners were recruited through an open invitation to all second- and third-year students in the specialization of *artist/songwriter*, and to all second- and third-year vocal students in the specialization of *performing popular music*. The only exception to this open-invitation strategy arose when one participant cancelled the day before the project started, due to illness. We then had to contact students directly to fill in the empty spot on such short notice. In this case, we approached students using the criteria that they were vocalists and that they regularly made original music. The project was voluntary and entirely independent of any courses, so no formal assessment was involved.[45] One potential weakness in this open-invitation approach is that our volunteers for a collaborative project tend to be themselves collaborative, whereas students who prefer working alone likely stayed away. Further, the Covid-informed moment in which the study took place might have influenced the type of students who participated.

Data production

Qualitative interviews were used to produce data in all three cases, aligning with Stake's suggestion that the "understanding of human experience is a matter of chronologies more than of causes and effects" (1995, p. 39). Semi-structured interviews (Brinkmann, 2018, pp. 1000–1007) were chosen to balance the risk of being overly prepared and not allowing for enough flexibility with our interest in generating concise and relevant data. Consequently, the interviews were deliberately loose in form so that the conversation could jump between questions and themes, with the interview guide applied as a checklist rather than a rigid structure.

The interviews for Article 2 were conducted in May and June 2019 (interview guides in Appendix 7); for Article 3, in November 2020 (interview guide in Appendix 8); and for Article 4, in December 2020 (interview guide in Appendix 9). All interviews were conducted in Norwegian, audio recorded, then transcribed. After transcription, the quotes cited in the text were translated to English, following Kvale's advice that "quotes should be rendered in a readable style" while remaining "loyal to the habitual language of the interviewee" (2007, p. 132).

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[45] The participating students from the artist/songwriting specialization *could* choose to use one of the songs made within the project as one out of four mandatory tasks that semester in another course. If so, that song would be assessed by entirely different teachers and within a different context.

For the case study of TEM, semi-structured interviews are the only source of data. We did consider observation as a supplementary source, as it is best to reinforce one's interviews with other sources (Alvesson & Sköldberg, 2018, pp. 270–271). However, we were interested in the informants' long-term experiences with TEM's teaching, and their comparisons to other one-to-one tuition experiences. If we wanted to achieve that through observation, we thought we would need to attend at least three tuitions per participant. While we would have pursued a non-interventional observation (Stake, 1995, p. 12), any stranger at a one-to-one tuition would likely represent an intrusion to the student. One such session per student could possibly be defended, but three sessions constituted a substantial part of that semester's teaching, which was too much to ask. One alternative would have been the use of video to document these sessions, but that still seemed somewhat intrusive. We could have restricted ourselves to fewer participants who were willing to make this kind of commitment, but we preferred a broader range. Consequently, the data was produced through qualitative, semi-structured interviews with TEM and each individual student, to "reach areas of reality that would otherwise remain inaccessible" (Peräkylä & Ruusuvuori, 2018, p. 1163).

In the case study upon which Article 3 is based, I was an active participant myself, in addition to the two students.[46] Data was produced through one reflection note from each student and one reflection note from me (of about one page on average), and through one individual, semi-structured interview with each student. Being an active participant myself, allowed me to better understand the similarities and differences between my creative processes and those of the students. I briefly considered observing the two students' creative processes (in person or through video), but because the task was individual and performed separately, observation would have yielded little insight into the work. Reflection notes represented a better option as a data source.

In the case study in Article 4, there were two sources of data: reflection notes and individual, semi-structured interviews with each of the 16 students. Each of the four days during which the students made music, they submitted one reflection note apiece in response to five questions. With a few exceptions, all of them diligently submitted these reflection notes for a total of 53 notes ranging from one-half to two pages in length. The 16 interviews lasted 36 minutes each on average and were conducted as close to the finalization of the project as practically possible and all within a single week. With a few exceptions due to schedule challenges, all the interviews were conducted by both Røshol and me.

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[46] See the section "participating researcher(s)" on p. 56 for reflections on my own participation.

Observation (in person or through video) was an obvious alternative data source in this case study, but we rejected it after careful consideration for several reasons. First, the students were not obliged to work on campus, as we wanted them to take advantage of the best possible environments, which often included either external studios or home studios. Observation was therefore both more complicated logistically and potentially more intrusive of private spaces. Furthermore, over the course of a music-making session lasting seven hours, there will always be more and less effective periods. In the interests of observing all the groups, we would have been limited to short visits, which would have generated overly random and potentially unrepresentative data related to the entire process. We debated about observing only a few groups for longer periods but decided that would generate equally random data because some groups within the case would be left out. Last but not least, observing creative processes likely impacts these personal experiences negatively. On all of these grounds, we decided not to generate data through observation.

Analysis

As Stake (1995) reminds us, "there is no particular moment when data analysis begins" (p. 71), and "analysis should not be seen as separate from everlasting efforts to make sense of things" (p. 72). Along these lines, in the case studies for Articles 3 and 4, reflection notes were analyzed prior to the interviews to adjust and fine-tune those conversations for each informant.

As with qualitative research in general, it is important to acknowledge the interpretive aspects of the analysis of data in these cases—something that is also emphasized in reflexive methodology (Alvesson & Sköldberg, 2018, pp. 115–178). Stake argues that at no point in case research "are the qualitative and quantitative techniques less alike than during analysis" (Stake, 1995, p. 75), meaning that qualitative researchers *must* remain transparent about the procedures through which their conclusions have been drawn. In the remainder of this chapter, then, I will explain how the material was analyzed, the considerations involved in those analyses, the project's ethical considerations, and some critical reflections on the method of the three case studies.

In the case study of Article 3, I was an active participant myself, which involved doing the same task as the two student participants (generating musical ideas from existing musical material). Though I did write my own reflection note, the most important data derived from being part of the experience itself, which was my motivation for actively participating in the first place. I also analyzed the reflection notes

of the two students prior to their interviews in order to customize them. The same strategy was used in Article 4, where the 53 reflection notes were analyzed prior to the 16 individual interviews.

The interviews were analyzed in line with procedures that followed the general logic of qualitative research. In the initial phases of our analysis, Røshol and I independently applied Lin S. Norton's stages of *thematic analysis* (2009, pp. 115–123), complemented by Kvale's *content analysis* and *meaning considerations* (2007, pp. 101–119). More specifically, after immersing ourselves in the transcriptions, we generated numerous categories that we discussed, rendered graphically, and tried to rearticulate and otherwise unpack. We deleted the categories we found unnecessary, then merged those that remained into *themes* (Norton, 2009, pp. 120–121). See *Table 2* for the themes generated in the different cases. We then reread all the material with these themes in mind to uncover relevant content that we might have initially overlooked.

Article	Themes from analysis
Article 2:	• the teaching approach • teaching of aesthetics • music making as a means to uniqueness
Article 3:	• reflection on the creative process • nuancing music theory
Article 4:	• experienced affordances • ability to share or explain • shared tastes and preferences • social dynamics

Table 2

For example, for the analysis in Article 4, we initially produced one "report" each (25 and 29 pages long) with our individual suggestions for categories and quotes to support them. We then spent a lot of time considering various approaches to our findings while discussing, rearranging, merging, splitting, and deleting our categories. During this analysis, the idea of the "model of the aesthetic dialogue" emerged from the categories, again demonstrating the postmodern orientation of reflexive methodology— *we* defined the categories, *we* merged the categories into themes, and *we* decided which parts of the empirical material should be prioritized in the model of aesthetic dialogue, all of which positioned the two of us as knowledge co-constructors. Because our main interest remained connections to EPME, the material that was mainly related to the *topliners* remained largely unprocessed in the analysis. We remain confident that our familiarity with the field allowed us to make informed decisions, but there is no way around the fact that our presumptions, educations, cultural backgrounds, and gender, among other things, all influenced our construction in relation to the many other possible constructions. In Article 2, the analysis was similar in practice but smaller in scale due to fewer informants. In Article 3, I was the only author, which eliminated the collaborative aspects of the processes described above. Still, the order and procedures of the interview analysis were the same.

Content analysis such as this implies an interpretation of *meaning* that is in turn problematized by the hermeneutic orientation in reflexive methodology. In our favor, Røshol and I are quite familiar with the field as former students, creating and performing musicians, and teachers, which increases the likelihood that we were indeed able to understand what the students were saying. And because we gathered the data through qualitative, semi-structured interviews further nuanced by the reflection notes, we were able to ask follow-up questions when things were unclear in the students' responses. Nevertheless, there is always a risk of misinterpretation. Discourse analysts caution the researcher about the hazard of accepting the interview subject's view of reality as objective and real—or even as a true expression of that subject's "mental world"—and are fundamentally skeptical of the idea that any linguistic utterance can be thought to perfectly mirror either external or internal reality. Yet, Alvesson and Sköldberg do "emphasize the *partial* and *incomplete* ability of language to convey something beyond itself" (2018, p. 289), indicating that, when approached cautiously and openly, such utterances still have value. Our approach to the empirical material, then, is at what Alvesson and Sköldberg term the *ideational* level, so that we speak of "conceptions, values, beliefs, ideas, meanings and fantasies, on the basis of an interpretation of utterances during interviews and natural situations" (2018, p. 289). Such complications demand a certain amount of humility in terms of the reliability of the research, or, as Alvesson and Sköldberg write: "empirical social science is very much less certain and more problematic than common sense or conventional methodological textbooks would have us think" (2018, p. 2).

Ethical Considerations

Aligning with contemporary critical views of ethics (see, e.g., Cannella & Lincoln, 2018) and coinciding with my previous emphasis on *education as normative* (see section on "normativity in education" on p. 34), I acknowledge that research is never neutral, and that value neutrality is not something qualitative researchers should strive for (Flyvbjerg, 2001). Rather, transparency and explicit normativity become integral attributes of qualitative research. Though research ethics are in constant development (Christians, 2018), there are some basic principles on which most views agree: informed consent, privacy and confidentiality, and protection from harm (Norton, 2009, p. 181).[47] Throughout the next sections, informed by the previous discussions on methodological

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[47] The latter issue of *protection from harm* is not directly addressed in these sections, as there (to my knowledge) were no incidents that activated this aspect, neither physical harm nor psychological harm (Norton, 2009, p. 187-188).

considerations and research design, I aim at giving this research the necessary transparency to reveal which considerations have been made, and on which grounds. Again, reflexive methodology (Alvesson & Sköldberg, 2018) provides a helpful tool to include various perspectives.

The three articles that include empirical material (Articles 2, 3, and 4) have their unique ethical considerations. In Article 2, there are ethical considerations related both to issues of inclusion (recognized in reflexive methodology's critical orientation) and to power relations (recognized in reflexive methodology's postmodern orientation). Because students at DPM are allowed to choose their preferred main instrument teacher, it is fair to assume that the participants in the study liked the teaching style of TEM. By selecting our informants the way we did, we may have failed to include students critical to the teaching style of TEM, and potentially lost a more balanced view (Cannella & Lincoln, 2018, pp. 180-182). That being said, these informants would obviously have had little experience with TEM's approach and consequently, their insights would have been limited.

In terms of power relations, TEM is a good colleague of both authors, and also a potential decision-maker if we were to apply for permanent positions at DPM in the future, which could arguably prevent us from being firmly critical. Still, we chose this particular practice as an object of study because we, as mentioned, were familiar with the teaching approach and believed it offered an interesting perspective on teaching electronic music, so we were less likely to be critical in the first place.

Further, while the students were anonymized in the text, there is the "issue of confidentiality when reporting private interviews in public, and of consequences of the published report for the interviewees" (Kvale, 2007, p. 24)—in this case, the chance that TEM or other students would recognize their quotes. To ensure that the informants would not feel limited in their statements by this possibility, we were careful to inform them that they would have the opportunity to read through the final text prior to publication.[48] Indeed, they did, and consequently a few adjustments were made prior to publication. Also, Røshol had recently been a student himself and knew most of the other students personally. To allow the interviewees to speak as freely as possible, I conducted all of the interviews alone so that any personal attachments to Røshol would not influence the responses. Of course, all the interviewees were told that Røshol was a participating researcher. Lastly, TEM can easily be identified for those familiar with

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[48] See p. 56 for description of how letters of informed consent were developed and applied.

DPM, and consequently, he was thoroughly informed about this issue before signing the letter of informed consent.[49]

With regard to Article 3, the *critical* orientation of reflexive methodology becomes especially evident. Because the students in this case study were approached individually, there should have been an opportunity to break with the stereotypical gender patterns in EPME.[50] Indeed, I initially asked a female tracker to participate, but she declined, and the tracker who eventually signed up for the project was male. Thus, rather than overcoming these stereotypical patterns, this case sustained them. In the end, the priority was to engage artistically and reflexively mature students as participants to generate the best possible data for the case study (and eventually, artistic output in the continuation for the Toxic Project).

Also pertinent to this case study is the post-modern orientation of reflexive methodology, as the research design might have facilitated for a certain outcome (issues of researcher bias) and as the two students may have felt obliged not to be critical to the task since we were to collaborate creatively after the case study (issues of power). To compensate for the latter, I followed the advice of Mandakini Pant to actively engage in self-reflection and to examine how my own social powers could bias my research (2014, p. 585). I also explicitly asked for critical feedback, but even with efforts, such issues can never fully be resolved. Moreover, the researcher as an active knowledge-constructer is not necessarily regarded a problem within qualitative research given proper transparency. Lastly, the two students might, with some effort, be identified when the music from the Toxic Project is released on various streaming platforms. This has been accounted for in the letter of informed consent.

Like Article 2, Article 4 faced issues of power relations. Kvale reminds us that "the knowledge produced depends on the social relationship of interviewer and interviewee, which again rests on the interviewer's ability to create a stage where the subject is free and safe to talk of private events for later public use" (2007, p. 8). Since Røshol was the teacher of all the trackers, we must acknowledge complications around the reliability of the students' responses in relation to how they wished to present themselves. There is also a chance that the students saw me as a teacher, though I had not been involved in teaching at UiA prior to the project, which in turn may have

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[49] We were, in fact, allowed to use TEM's full name (see Appendix 3) but chose not to.

[50] Popular musicologists have exposed a host of similar issues regarding gender inequality in music production and the music business in general; see, for example, Hawkins (2017), Leonard (2007), Whiteley (1997), Whiteley (2000), Wolfe (2020).

amplified this issue. However, as advised by Kvale (2007, p. 8), we did our best to create a safe environment for the students and keep the interview as informal and conversational as possible. Further, we were very clear that there was no formal assessment involved, and that their participation, interviews, or creative output would have no influence in any courses.

Another Article 4 issue, recalling the case study of Article 3, was the gender balance of the study participants. Though the overall project balance of male to female participants was about even, there was only one female tracker (and only two male topliners). While one out of eight trackers is above the average percentage of female students at DPM's electronic popular music program since its founding in 2013,[51] this indicates the severe challenges still confronting this field. While we could have made more of an effort to influence the selection of trackers, which was based on open invitations, such manipulation brings its own challenges in terms of selection bias, which stopped us from doing so. Lastly, the way in which our analysis made us diverge from the overall research questions of this thesis (see section "methodological reflections on the research" on p. 59) activates both the hermeneutic and post-modern orientations of reflexive methodology, in that our interpretations played a significant role in how we constructed and presented the data.

All data was collected, managed, and stored in line with the guidelines of the Norwegian Centre of Research Data (NSD),[52] now part of the Norwegian Agency for Shared Services in Education and Research.[53] The plan for informed consent and data management was developed in collaboration with NSD (Appendices 1 and 2)— particularly important were the requirements of anonymization both in data management and in the written text, the medium on which the interviews were recorded (an audio recorder with no wireless capability), and the clarity and specificity of the informed consent, including the rights to read the finished article prior to publication and to withdraw from the study at any time. The letter of informed consent was emailed to all informants prior to the interviews, and at the beginning of the interviews they were asked to read it carefully before signing.

Participating researcher(s)

As repeatedly pointed out throughout this chapter, qualitative research and reflexive methodology stresses the importance of acknowledging the researcher as an active

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[51] The average percentage of female students in the period 2013–2022 is 9.2.

[52] See https://www.nsd.no/.

[53] See https://sikt.no/about-sikt.

participant in the project's knowledge-production, and this section will address some examples of this. The cases in Articles 3 and 4 were designed by me (along with Røshol in Article 4), clearly implicating me in the projects. Any research design can lean toward results that confirms what the researcher wanted to find; in addition, informants can hold back critical reflections due to a personal relationship with the researcher (Norton, 2009, p. 182). While these issues can never be completely overcome, I took precautions to minimize them. For example, it was clearly communicated in both projects that the students would *not* be assessed in relation to any courses and that constructive critiques were welcome in the interviews. Both these examples were intended to facilitate criticism and participants the space to put forward their concerns.

In the case study informing Article 3, I was an active participant myself. Whereas the overall design of the Toxic Project involved collaborative music making, the scope of the *case* was limited from its original intention, and ended up not including direct collaboration between me and the students (see section "methodological reflections on the research" on p. 58 for more on this topic). This made it hard to place the case within any established frameworks. Though the case study does not fully qualify as *participatory action research* (PAR),[54] I will apply aspects of that approach to contextualize my participation. The reason why I have kept PAR outside the former discussions on methodology, is precisely because it is applied loosely, rather than a concise framework. I thereby follow Biesta's suggestion to be pragmatic and start with the problem at hand rather than confessing to forms of engagement with methods and theory (Biesta, 2020b). I considered other participatory approaches as well, but this particular research does not incorporate the social transformation usually found in *participatory research* (Kemmis & McTaggart, 2005, p. 560)*,* and it is not *necessarily* based on the creative outputs as in *practice-based research*[55] (Candy, 2006; Skains, 2018), which is why I lean towards PAR.

PAR is commonly used to study and improve educational practices, though not necessarily in Nordic research on education (Onsrud et al., 2022). My participatory engagement with the task provided valuable insights that informed the proposed

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[54] It does, for example, diverge clearly from PAR in its lack of the cyclic development (Kemmis et al., 2014).

[55] It does, however, come close to *practice-led research* as described by Linda Candy, who suggest that "practice-led research is concerned with the nature of practice and leads to new knowledge that has operational significance for that practice" (2006, p. 1). She also point out that "such research includes practice as an integral part of its method and often falls within the general area of action research" (2006, p. 3), which support my inclusion of PAR.

teaching method in the article. My hope for the task investigated within the case study was to explore the potential for broadening the students' notions of music theory, activating their expertise within the course, and fostering their critical thinking—all principles recognized in PAR. Moreover, I sought to understand "the outcomes and longer-term consequences of the practice to discover the kinds of criteria by which the practice should be evaluated" (Kemmis et al., 2014, p. 15), which in turn aligns the case with *practical action research* (Kemmis et al., 2014, p. 15). As with PAR, my motivation to participate was to "understand and develop the ways in which practices are conducted 'from within'" (Kemmis et al., 2014, p. 5). In addition, as a participating researcher I was given the chance to "speak a shared language, using the interpretive categories, and joining the conversations and critical debates of those whose action constitutes the practice being investigated" (Kemmis et al., 2014, p. 5).

Division of labor

I cowrote Articles 2 and 4 with Andreas Waaler Røshol, and this section is an explicit clarification of our labor division, though many aspects of it have been addressed elsewhere in this chapter. In Article 2, the research design was mainly developed by me. I conducted all the interviews alone, and also did all the transcriptions. We both followed the procedures of analysis (as described on pp. 51-53) by individually familiarizing ourselves with the transcribed data and generated categories, before discussing those categories and merging them into themes. Finally, we individually re-read all of the material with these themes in mind. The structure and the content of the article were written by me, with Røshol making edits and suggestions. I was also responsible for the communication with the editors of the anthology in which the article was published.

In Article 4, we collaborated on the research design and the conducting of the interviews, and split the work related to transcribing the interviews. Again, we individually familiarized with the transcribed interviews and generated categories, this time producing one "report" each with ideas and relevant content from the transcriptions (mine was 29 pages long). Based on these reports, we collectively discussed potential ways of structuring and presenting the data, and eventually developed our model of the aesthetic dialogue. The article was then written by me, but in close and continuous dialogue with Røshol. Communication with NSD and the management of research data was my responsibility in both Articles 2 and 4.

Methodological reflections on the research

Writing this thesis has been an iterative process, and with the benefit of hindsight I can see things I would have done differently if I were to start over. In Article 3, I was planning for the case to include more of the processes in the Toxic Project, in particular the collaborative creative work following the initial task that now constitutes the case. However, due to the extent of the theoretical work in that article, I chose to narrow the case study to that initial task alone to stay within a standard article length. Given this outcome, I might instead have explored this task in a classroom setting where the number of participants would have been substantially greater[56] while the nature of the task would still have enabled me to participate myself. This might have strengthened the empirical data, making it easier to construct the categories and themes.

While the connection between all four articles was perfectly clear at the start, the way in which Article 4 developed undermined the project's overall continuity. Its case study was initially motivated by my overall research questions and responded to the following research question: What is the potential for subjectification within collaborative music making? However, as we analyzed the data and developed the model of the aesthetic dialogue, we had to abandon some of the larger considerations of the topic. For example, the term *dialogue* in the "model of aesthetic dialogue" is in fact a direct link to both Freire's emphasis on dialogue (see section on "the critical pedagogy of Freire, p. 34), and to Biesta's understanding of middle ground education, where *being in dialogue* is an essential component of (existential) education (see section on "the continental configuration, p. 30).[57] Though this article does still relate to the overall research questions, its explicit connection to continental educational thinking is weaker and its integration into this framing chapter more complicated. While we could have been more loyal to the overall research questions while conducting our analyses, I remain confident that allowing ourselves to pursue what we actually found in the data was a good decision.

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[56] This is indeed the plan for the previously mentioned studX-project.

[57] That being said, we hope to continue our work on this model throughout future publications, where the perspectives from the continental configuration, such as the potential within the term *dialogue,* will be included. In this thesis, then, *dialogue* will be used in its everyday meaning, expect for when explicitly connected to Freire or Biesta.

Summary of the articles submitted

Article 1
Balancing Educational Purposes Within Higher Electronic Music Education:
A Biestaian Perspective
(Published)

In this article, I combine the theoretical works of Biesta with the educational field of electronic popular music, to propose important questions for educators. After a brief outline of the fields of popular music education and electronic popular music education, I continue by problematizing what Biesta terms the *Technological* approach to education that penetrates major parts of the educational system, due to how the efficiency of this approach blocks alternative ways of thinking about education. By addressing the questions of *why* and *who* it is that we educate, I stress with Biesta (2013) and Skjervheim (1996, pp. 71-87) the importance of treating our students as *subjects* rather than objects, and note that subjectification is an important domain of educational purpose. I suggest, again with Biesta, that in order to facilitate subjectification in education, the students must be given space in which they can *act,* to bring their subject-ness into play (Biesta, 2020, p. 95).

Bringing in the educational framework of Biesta, I discuss how his three domains of educational purpose (qualification, socialization, and subjectification) might play out in electronic popular music education. Within each domain of educational purpose, I pose a series of questions that teachers in electronic popular music could ask to pursue a balanced education, that is, a balance between Biesta's three domains of educational purpose. I argue that subjectification might be facilitated for through an emphasis on the student's *unique artistic expression.* Through the duality of Biesta's notion of uniqueness as both *difference* and *irreplaceability,* I further distinguish between *artistic subjectification* and *(general) subjectification.* While the latter refers to the Biestaian understanding, *artistic subjectification* refers to the ways in which artists (and music students) seek to develop their own "sound" or "voice." Thus, by making students reflect on questions such as "what is my sound?" and "who am I as an artist?", in short, what *distinguishes me as an artist from other related artists,* there are clear parallels to (general) subjectification. I conclude that the emphasis on *unique artistic expression* represents an opportunity that is distinct to art education, as the teacher can approach (general) subjectification *through* artistic subjectification. Finally, I draw upon Gibson's concept of *affordances* to articulate how technology mediates our creativity and I

explore parts of Heidegger's thinking on technology, to argue that students will benefit from having a conscious and reflective relationship to the technologies in which they are immersed, to develop alternative ways of making music.

Article 2

Teaching Aesthetics:

A Case Study of One-To-One Tuition in Popular Electronic Music in Higher Education

(Published)

This article, co-written with Andreas Waaler Røshol, explores the balancing of Biesta's educational purposes within a one-to-one tuition of a teacher in electronic music (TEM) at the University of Agder who teaches *electronics* as a main instrument. Both Røshol and I have been students of TEM, and was struck by his, at least in our experience, rather unusual approach to one-to-one tuition. Representing a seldomly long experience of teaching electronics, we believe the example of TEM's teaching can provide valuable insights for similar contexts. The study is an instrumental case study (Stake, 1995, pp. 3-4), with characteristics from both *unusual* cases, due to TEM's unique approach to teaching, but also to *common* cases, as one-to-one tuition is a common practice (Yin, 2018, pp. 85-86). The empirical data was produced by qualitative, semi-structured interviews with TEM and 6 of his students, that were audio-recorded and transcribed. Analysis was done following Norton's stages for thematic analysis (2009, pp. 115-123), complimented by Kvale's *content analysis* and *meaning considerations* (2007, pp. 101-119), which broadly follows the same logic as qualitative research in general. We decided to pursuit three themes generated from the data: (1) TEMs teaching approach; (2) teaching of aesthetics; and (3) music making as a means to uniqueness.

After contextualizing the study within popular music education and clarifying our notion of some key concepts, we point to general challenges and critiques of one-to-one tuition, before outlining parts of Biesta's theoretical work on education, particularly his emphasis on *subjectification*. Turning to our discussion, we first observed that the teacher approached the tuition rather openly, more like a mentor, generally letting the students decide which directions the tuition should go and what it should cover. Several challenges from one-to-one tuition were resolved by this approach, and we also point to how TEM, by taking the position as a curious mentor, create situations that promote subjectification. Second, TEM focused almost exclusively on aesthetic parameters at the expense of technological aspects despite teaching the main instrument of *electronics*. By keeping the aesthetic parameters in focus, TEM pushed the students to figure out how to technically solve various issues themselves, which seem to be an effective way to avoid the dichotomy of either pedagogical fundamentalism or pedagogical populism (Partti, 2017). Third, we address music

making as a vehicle for Biesta's dual notion of uniqueness, and argued for subjectification through *unique artistic expression,* as in Article 1. The ways in which students had to articulate both the objectives and aims *within* their music and the objectives and aims *of* their music, provided a way to talk *about* aesthetics but also facilitated the possibility of a discussion that would reach *beyond* aesthetics to facilitate for subjectification. We conclude that the teaching of aesthetics rather than technology seemed to work well within this setting, and argue that this approach might work as an important and valuable variation for one-to-one tuition.

Article 3

Middle ground teaching:
Transparency and democracy in electronic popular music education
(Forthcoming)

This article is motivated by an urge to draw attention to critical thinking, democracy, citizenship, and subjectification in music theory–related courses in electronic popular music programs. Further, the research was motivated by exploring how teachers can activate the students' expertise within the electronic music theory course, based on their own creative processes. Firstly, I theoretically examine concepts and educational principles that I find to be relevant and helpful for teaching music theory for students in electronic music. By bringing continental educational thinking (emphasizing the teacher's perspective) into dialogue with critical pedagogy (emphasizing the student's perspective) in tandem with insights gleaned from informal learning strategies in popular music education, I both support and problematize the student-centering tendency in electronic popular music education. Further, drawing upon Bowman's distinction between being musically *trained* and musically *educated*, as well as Biesta's three domains of educational purpose, I argue that human growth and emancipation represent important goals of education in and of themselves. In turn, I argue that content selection in music theory–related courses should be made transparent, as it is a normative process, and that students should be involved in it.

    With these considerations in mind from continental educational thinking, critical pedagogy, and the experience of the implementation of informal learning strategies in formal music education, I use an instrumental case study (Stake, 1995, pp. 3-4) to explore how these principles might be combined in practice, framed within the Toxic Project. The Toxic Project was a collaborative music-making project involving one vocal student, one laptop student, and myself. While the research design does not fully qualify as *participatory action research* (Kemmis et al., 2014)*,* being an active participant myself does position this research closely to the participatory action research discourse. In the initial task of the Toxic Project, which is the object of the case study, we generated new musical ideas based on material from the song *Toxic* by Britney Spears (2003). The main area of interest in this case study was not the musical output or the way in which a limitation like this can foster creativity, but rather the underlying knowledge and skills that precede the ways in which the original ideas are transformed into something new—that is, *what it is that we know that enables us to do what we do*

when transforming existing ideas into new ones. It represents an attempt to go beyond the description of processes to investigate what makes these processes possible.

The empirical data was gathered through reflection notes from all participants, qualitative, semi-structured interviews (Brinkmann, 2018) with both students, and my own participation. The analysis of the interviews was done in line with procedures typical for data analysis in qualitative studies, and relies upon abductive reasoning. I used Norton's stages for *thematic analysis* (2009, pp. 115-123), complimented by Kvale's *content analysis* and *meaning considerations* (2007, pp. 101-119). It was to my advantage that I am familiar with collaborative music making and also participated in the process myself, which increased the probability of accuracy of my interpretations of the meaning of what was said in the interviews. From the transcriptions, I generated two themes: reflection on the creative process, and nuancing music theory. Finally, I re-read the entire material with these themes in mind to find connected content that initially might have been overlooked.

Based on a combination of the theoretical considerations and the case study of this article, a proposed teaching method with three main ambitions was developed. These ambitions are: (1) to expand and nuance notions of what music theory is and could be; (2) to reveal and define potential and existing relevant music theory via the students' own creative practice; and (3) to facilitate reflections and the development of democratic principles that reach beyond music theory. Finally, I combine all of the above with Biesta's (2018) concept of middle ground education, and introduce the concept of *middle ground teaching,* wherein teachers need to acknowledge that expertise is distributed in the classroom, balancing qualification, socialization, and subjectification within their teaching, while being able to judge when to give and when to take responsibility.

Article 4

What do you mean?

Developing "the model of the aesthetic dialogue" in collaborative music making

(Forthcoming)

The case study of this article, which is co-written with Andreas Waaler Røshol, explores a teaching method wherein sixteen students (eight topliners and eight trackers) were given the task of making music in four different ways. We designated four distinct modes of collaborative music making, all of which are widely utilized within electronic popular music–making practices. In the first mode, the students worked together in the same room and were asked to finish melody, lyrics, and chord structure *before* starting the process of arranging and producing, with no DAW involvement in the process. We termed this the *Nashville mode,* after Bennett (2011). In the second mode, the students also worked together in the same room, but in this case the DAW was the *only* available tool for making the song. We termed this the *DAW mode.* While these first two modes of collaborative music making involve being together in the same room, the next two modes represent ways of collaborating that are neither synchronous nor in the same place. The third mode is when the *track* is made first, then sent to someone else who is making the *topline*; we called it the *track-for-topline mode.* The fourth mode reverses the order, so that the topline is made first, then sent to the tracker, who makes music for it; we called it the *topline-for-track mode*. In practice, these modes are often combined in various ways, but for the sake of clarity within the case study we maintained rigorous distinctions among them here.

The modes were rendered as four tasks for the students, who were given clear instructions regarding *how* to make music each day. The topliners were paired with the trackers, and all participants made music in all four modes in a span of four days with a new collaborator each day.[58] The empirical data of the case study was produced through 53 individual reflection notes and 16 individual, qualitative, semi-structured interviews (36 minutes long on average). After transcription, the interviews were analyzed by both authors individually using the stages suggested by Norton for *thematic analysis* (2009, pp. 115–123) complimented by *content analysis* (Kvale, 2007, pp. 101–119).

Based on four themes of our analysis, we point to four domains that impact and sometimes limit the *aesthetic dialogue* (understood as the negotiation of musical ideas

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[58] Due to the combination matrix, four groups were repeated one day. However, nobody worked together face to face more than once

within the group): (1) experienced affordances, which respond to the question "how does the *environment* affect the aesthetic dialogue?" (2) the ability to show or explain, which responds the question "what is it *possible to communicate* in the aesthetic dialogue?" (3) shared tastes and preferences, which respond to the question "what does the group *want to express* through the aesthetic dialogue?" and (4) the social dynamics, which respond to the question "what is *allowed to be expressed* in the aesthetic dialogue?" Based on these domains, we develop the *model of the aesthetic dialogue* and argue that the quality and efficiency of the aesthetic dialogue is dynamic and in constant negotiation within the collaborative group, in relation to these domains. We further argue that the students' creative output depends on the quality and efficiency of the aesthetic dialogue. Lastly, we highlight five findings that were repeatedly remarked upon by the students in the interviews: (1) the heightened efficiency of the aesthetic dialogue when working face-to-face; (2) how the different modes privilege different musical elements; (3) the importance of a vocabulary with which to articulate ideas; (4) the importance of playing an instrument at a decent level; and (5) how social considerations filtered the students' willingness to share and discuss musical ideas. We suggest that these findings and the model of the aesthetic dialogue provide a useful starting point for discussing content and learning activities in courses that includes collaborative music making.

Discussion

To begin the discussion part of this thesis, I will present two practices from popular music education (PME) that are considered innovative in terms of their implementation of informal learning strategies into formal music education. I include them because many of the challenges faced by these PME practices arise in electronic popular music education (EPME) as well. For example, PME professionals had to reckon with the ways in which the informal learning strategies of popular musicians differed from those of the classical paradigm. Likewise, EPME professionals need to explore the ways in which digital musicians learn informally, how such learning strategies differ from those of popular musicians, and how these strategies might be meaningfully implemented in EPME. Since the field of EPME is embedded in ever-developing technology that often is more familiar to the students than to the teachers, it is tempting to embrace informal learning strategies and a student-centered approach (Sørbø & Røshol, 2020). However, certain PME experiences indicate challenges and side effects due to this inclusion, which is why I end up both advocating for and challenging the student-centered tendencies of EPME.

Informal learning in (electronic) popular music education

The first practice I will explore was described by Karlsen (2010) while observing BoomTown Music Education, a Swedish post-compulsory music education program built on informal learning practices from popular music and the research of Gullberg (2002) and Johansson (2002). Karlsen found that the students singled out the *authenticity* of their education and its "non-institutional" profile. In her article, she points to four important attributes of the program in this regard: (1) letting the students participate in several "popular music communities of practice"; (2) bringing in experienced professionals to act as role models; (3) having relevant and updated gear; and (4) training the students in practice-specific language through extensive reflection. She concludes, "BoomTown is a learning environment which is experienced as *authentic* and *meaningful* by popular music students because it takes into account their identity as popular musicians, and provides them with the tools to become such and to work efficiently within the wider popular music communities of practice" (Karlsen, 2010, p. 44).[59]

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[59] See, for example, Parkinson and Smith (2015) and Dyndahl and Nielsen (2014) for perspectives on authenticity in PME.

These features highlighted in the BoomTown program are common to EPME as well and appear in the articles of this thesis. The design of the project in Article 4 was intended to prompt the students to participate in several "electronic popular music communities of practice" when making music by varying both their daily collaborator and the mode of collaboration. Though the main emphasis of the article is on the influence of various domains upon the *aesthetic dialogue*, that is, the negotiation of musical ideas within the group (Bennett, 2012), the research also covers ways in which this type of music-making project can be used as a teaching method. By exploring various forms of music making with different collaborators, students are likely to be exposed to new ways of creatively making music. Further, as pointed out by the students themselves, face-to-face collaboration can be very efficient in terms of the ways in which the aesthetic dialogue develops and the disclosure of what one's potential weaknesses might be. The students' ability (or lack thereof) to show and/or explain their musical ideas was often a limiting factor to the aesthetic dialogue, which brings us to another feature of the BoomTown Music program—namely, the training in practice-specific language. While there was no direct teaching involved in the case study for Article 4, the project's ability to show students their own limitations in explaining or showing when making music with others is an excellent starting point for further teaching. Several students were clearly frustrated by their limited knowledge of music theory, limited skills on instruments, or limited practice-specific vocabulary, all of which can guide the teacher toward what that particular group of students needs and at what level it would be meaningful to start addressing those needs. This is a key argument in Article 3 as well, which also uses the students' own practices as a starting point for articulating musical parameters by making them reflect on their creative process. And Article 2 also describes how the teacher deliberately made the students *talk* about their music to develop not only their technical vocabulary but also their ability to articulate their own musical processes and aesthetic preferences.

Continuing to connect BoomTown to the empirical findings of this thesis, Article 3 also introduces a professional role model, or at least a more experienced participant (me). Additionally, Article 2 addresses the issue of role models by pointing to how the *lack* of role models and concrete ways of doing things was frustrating for some students. While most collaborations (for example, with peers) are likely to provide new perspectives and ways of making music, the ability to observe experienced participants brings something different to the mix. And finally, the facilitations and gear available to the students in these articles were excellent—students at the University of Agder have access to two professional studios with state-of-the-art equipment, as well as numerous

rehearsal rooms and laptop labs. Article 4 explicitly discusses how the *aesthetic dialogue* is impacted by *experienced affordances*, or the possibilities provided by the environment in which the students collaborate and the degree to which they are able to exploit them.

Student-centered education

I will next turn to another innovative PME program first mentioned in the theory section. Queensland Conservatorium at Griffith University in Australia is regarded as a pioneering institution in the implementation of popular music in higher education (Smith, 2014; Smith et al., 2017a; Till, 2017) and the exploration of how informal learning strategies can influence formal music education (Anthony, 2020; Ballantyne & Lebler, 2013; Lebler, 2007, 2013; Lebler & Weston, 2015). A major emphasis in all of these publications is the student-centered approach, that is, activating the students through positioning them as masters (Lebler, 2007), self-assessment and peer assessment (Lebler, 2013), and DIY (do it yourself) strategies (Lebler & Hodges, 2017).

In alignment with the Queensland Conservatorium program, this thesis also argues that students should be active and engaged participants in their programs, in this context specifically through music making in the DAW environment. As technology is a driving force in EPME, student freedom and autonomy represent a relatively common teaching strategy among teachers, particularly given that the students are often experts in areas related to particular technologies. All the articles in this thesis advocate in some way for the centering the teaching upon students' creative practices. Article 2 observes a one-to-one tuition where the teacher clearly centers the teaching upon the students' original music, developing their *unique artistic expression*. Article 4 suggests that collaborative music making, again with the students' activities at the center, can function both to expand the students' creative toolbox and to inform the teacher about what the students might need to develop their (collaborative) music-making ability.

This argument is also at the core of Article 3, where a teaching method using the students' music making as a starting point is proposed. Here, however, the students' experiences from the music-making task have the potential not only to inform the teacher about how to further progress in the given course but also to include the students in the process of selecting content and learning activities. This strategy draws on a combination of the critical pedagogy of Freire and certain aspects of continental educational thinking. As pointed out in the theory section, Freire argues that program content should be "constituted and organized by the students' view of the world" (2005, p. 109). In other words, the students' own practices should be the starting point for

further teaching, a positioning that also ensures that "the content thus constantly expands and renews itself" (p. 109).

The third article proposes a teaching method that aims to do exactly that in music theory–related courses, using the students' existing creative practices as a point of reference. After completing the initial task of generating original musical ideas based on existing music, the students will reflect on their own process, and on the question of *what they know that enables them to do what they do*. The hope here is for each student to articulate their existing knowledge and skills that enable their creative processes. When each individual student has identified the knowledge and skills that they applied, they can bring these "findings" to the rest of the group, contributing to a "pool" of applied knowledge and skills. Next, the students and the teacher can discuss ways to potentially implement aspects of the students' reflections in the coursework. Each student's individual reflections and results may or may not qualify (that is, be relevant and/or interesting enough) to be part of the course, and as argued in Article 3, this situation is what Biesta would call the *difficult middle ground,* or *existing in dialogue* (Biesta, 2017a, p. 65). The students must balance their own desires—in this case, what they would like to learn in the course—against what is *desirable* in the bigger picture, that is, how their desires coincide with those of the other students and the existing framework of the course. I would argue that such discussions, where the students are both *subjects* but also *subjected* to how others respond to their proposals, fall within the domain of *subjectification.* They also activate useful democratic principles, as the very point of democracy (unlike populism) is that you cannot always get what you want (Biesta, 2022, p. 23).

Another outcome of this strategy (and another important argument in the third article) is that the process of selecting content (and learning activities) becomes *transparent.* An important issue raised in continental educational thinking involves the *normativity* of content selection, in that, for example, every educational institution has its normative sets of values in terms of particular technologies, teaching methods, musical styles, curriculum content, and learning activities, among other things. Christophersen (2009) argues that the reproduction and reinforcement of these underlying values is not necessarily a problem; it is instead simply in the nature of every educational institution to shape the next generation of professionals. Ellen Koskoff also makes the point that we need not necessarily avoid making a *canon*, but that "the problem comes with canonization—the institutionalization of certain works over others through the imposition of hierarchies of self-invested value upon other people and their musics" (1999, p. 547). Bowman, however, cautions educators that "it is extraordinarily

difficult to avoid (mis)representing any culture as frozen when we teach it" (Bowman, 2004, p. 41). It has also been acknowledged that the selection and legitimation of knowledge begs the questions of *what* counts as knowledge and *whose* knowledge counts (Lilliedahl, 2015), and further that music is "a fundamentally social phenomenon and a powerful means of mediating inclusion and exclusion" (Bowman, 2007, p. 110). Mark Hunter worries that "while it may be desirable to build student cohorts with similar baseline competencies, the lack of both equality of opportunity and parity of esteem perpetuates a systemic violence" (2019, p. 54).

My point here is that selecting content and learning activities is not about being neutral but about being open and transparent about the biases and the values in play in this inherently normative process (Biesta, 2010, p. 2; Willbergh, 2015, p. 342) and always remaining open to other voices. As I state in the third article, students included in the process of selecting content for a given course will presumably have an increased sense of ownership. Further, as argued by Freire, such dialogues will also ensure that the content remains updated and relevant.

Challenging student-centered education

The preceding sections have included what I find to be quite compelling arguments for a student-centered approach, which also overlaps with how Eva Georgii-Hemming and Maria Westvall describe the main ideas for student-centered and informal music pedagogy: that the students will be empowered to influence and control the content, pace, and form of their own learning; they will take greater ownership of their learning experiences; and they might refine their social consciousness through participation and democratic decision-making (Georgii-Hemming & Westvall, 2010, pp. 25–26). But challenges and critical perspectives remain, and I will try to address some of them in what follows.

As mentioned in the theory section, one challenge in applying informal learning strategies in formal education connects to inclusion, diversity, and popular music's ability to "democratize" music education. EPME starts at a particular disadvantage in this regard: its participants, whether researchers, educators, or students, are overwhelmingly white and male (myself included). On the Bachelor degree in electronic music program at the University of Agder, the average number of female students in groups of eleven students was less than one from 2013 through 2019; there were three in 2020 and four in 2021. Despite this hopeful trend, the imbalance remains glaring.

There also appears to be a growing percentage of female artists working in the popular electronic music field, another hopeful trend that might lead to more role models

for future female participants and, in the end, a better gender balance (Brereton et al., 2020). However, a UK report (Smith et al., 2019) showed that though approximately half of the people working in the music industry are women, only 2.1% are music producers, meaning that women remain effectively excluded from this crucial area. This issue is further addressed in higher music education through the distinction between *vertical* and *horizontal* gender segregation (Mittner & Blix, 2021). The former points to "the way women and men occupy different positions in the hierarchies of formal power, which favor men," while the latter points to "the way women and men work in different working spaces, disciplines, or genres of a field, which is also in favor of men, who more often occupy the more prestigious areas" (Mittner & Blix, 2021, p. 182). One attempt to tackle these issues at the Faculty of Fine Arts at the University of Agder is the *Genus Project,*[60] which seeks to raise awareness of how colleges and universities can address gender and equality perspectives *before*, *during*, and *after* higher music education.

Gender is also an issue in the use of technology in music education. Technology is never neutral, whether in terms of gender, class, race or (dis)abilities, and concerns have long been raised regarding whether the democratization of technology actually promotes democracy or diversity (Bell, 2015b). Research indicates that technology is generally perceived as masculine, and that its implementation in education in fact reinforces traditional notions of masculinity and favors boys and men at the expense of girls and women (Armstrong, 2011; Green, 1997).

Clearly, then, EPME is particularly vulnerable to the reproduction of unbalanced gendered patterns due to its combination of informal learning strategies *and* omnipresent technology, both of which appear to favor male students. Nevertheless, the growing percentage of female participants in the electronic music field in combination with a profoundly changing educational field bring with them the potential to disrupt existing patterns and make change happen. Others have suggested starting this process by (1) being open about the need for greater diversity in music production (read: education); (2) being honest about the current state of industry (education); and (3) being realistic about the difficulties and challenges involved in changing cultures (Brereton et al., 2020, p. 241, brackets added). A better gender balance will not come about on its own, as

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[60] The *Genus Project* is a collaboration between four Scandinavian institutions that has developed a toolbox for achieving sustainable change regarding gender diversity in music *before* higher education (the 2019 Genus conference), *during* higher education (the Genus conference 2021), and *after* higher education (the Genus conference 2022). See https://www.conferencegenus.com.

"merely bringing people together and exposing them to diversity will hardly generate tolerance and respect" (Partti, 2017). Rather, "teachers play a vital role in creating awareness of principles of democratic practice in the popular music classroom, in affirming and reinforcing inclusion, in promoting listening and cooperative learning experiences, and in providing opportunities for voicing opinions and collaborative decision-making in impacting change" (Woodward, 2017, p. 407).

Another obvious argument challenging the student-centered approach is that if the students knew exactly what they needed to learn, they would not need to participate in an educational program; all content imaginable is available online and often extremely well presented. As previously mentioned, though, Biesta argues that it is precisely *being given what you did not ask for* that is important in education (2020b, pp. 99–117)—to have *your gaze redirected* toward something you did not know was there.

Middle ground teaching

As should be clear by now, the continental configuration (represented mainly by Biesta) and the discourses surrounding student-centered and informal learning (represented mainly by Green and Freire) are not readily compatible, at least in their rather "extreme" forms, as presented thus far. Nevertheless, I find myself attracted to both, and I will devote the rest of this discussion to trying to balance them out and apply the best of both these worlds to EPME. My considerations are grounded in the findings of all the thesis's articles but especially the third one.

Electronic popular music, as we have seen, challenges educators' positions as masters or experts (Christophersen, 2017; Väkevä, 2006), and students should be given autonomy, according to Green and Freire. Bowman also notes that "taking popular music seriously will change the role of the music educator, who can hardly presume any longer to be an authoritative purveyor of factual insights in a field notable for its effervescence, fluidity, polysemy, hybridity, and mutation. What students bring to the educational experience will of necessity become much more central" (Bowman, 2004, p. 43). This need not add up to a passive or even superfluous music teacher, as Randall Everett Allsup points out: "teaching will be more difficult than ever. We may need to keep one foot planted in the traditions of the past as we step boldly into the musical worlds our students are composing" (2013, p. 69). That is, the role of the teacher should not be conceived as downgraded or simplified as it shifts away from the traditional notion of the teacher as the only expert in the classroom. On the contrary, it becomes more important and complicated than ever: "active learning approaches are in many ways more demanding, both to teachers and students. It requires more thorough use of

methods and in some cases more knowledge from the teachers" (Kantardjiev, 2019, p. iii). Particularly if one views education as more than just qualification and socialization, the involvement and engagement of the teacher becomes more consequential (see also Smith, 2019), as does a flexible and finetuned pedagogical toolbox with good and relevant teaching methods.

While Biesta addresses the *middle ground* when discussing *students*, I applied it in relation to the *teacher* in Article 3 in the concept of *middle ground teaching*. Like students, teachers in EPME also must find "a way of existing with something or someone in such a way that there is room for all to exist and not for one to dominate and determine how others should be" (Biesta, 2017a, p. 65). For example, when balancing between too much and too little "resistance" to the students in terms of what and how they should learn, one must ask oneself: How much autonomy should the students have? How hard should the teacher push their own and the institution's agenda? In such considerations, Freire's concept of the *student-teacher* becomes useful, as it highlights the need for the teacher to remain curious and willing to learn from and acknowledge their students' expertise, and to stay in dialogue with them. Biesta's distinction between *power* and *authority* in the teacher's relationship to the students also proves useful. While the teacher clearly needs authority, it is very different from the "given power" of the know-it-all master, as the former is *relational* in nature (Biesta, 2020b, p. 115). Freire further argues that, in *dialogue*, both the teacher and the student are *subjects*. Subjectification in education, then, is a process that concerns not only the students but also the teacher. As subjects, insists Freire, the teacher-student and students-teachers become "jointly responsible for a process where they all grow" (2005, p. 80), which aligns with Biesta's argument to constantly recalibrate desires according to what is desirable. The teacher must not only initiate this dialogue but also manage to *coexist* in dialogue with the students. This dialogue and such considerations represent the difficult *middle ground* in which the teacher must try to thrive, in order to succeed in middle ground teaching.

Music making in the DAW environment in education

So far in this discussion, I have pointed to *similarities* between EPME and PME, but in the following sections I will highlight some characteristics of informal learning strategies that are typically distinctive to digital musicians as opposed to musicians learning popular music. First, they access information on a need-to-know basis from various contexts and communities rather than from a deliberately organized curriculum (Bell, 2014; Brown, 2015; Partti, 2014; Slater, 2016; Tobias, 2013), and this process is

peer-guided and self-directed (Bell, 2018). Digital musicians emphasize aural awareness (Partti, 2012), and often work in a highly improvisatory way using trial and error, leaning heavily on their technology's ability to "undo" unwanted results (Bell, 2014). They also work on sound design, editing, recording, songwriting, and mixing simultaneously, merging these previously distinct roles and processes of making music (Bell, 2014, 2018; Røshol & Sørbø, 2020; Slater, 2016; Tobias, 2013). Lastly, they activate the DAW environment as a creative tool, not merely a means of capturing existing ideas or preserving performances (Eno, 2004; Folkestad, 1996; Folkestad et al., 1998; Partti, 2012; Partti, 2014). Consequently, Brown argues that "educators need to accept contemporary musical practices (…), and teach the associated skills" (2015, p. 5), implying that it is not enough to develop educational practices where new technology is applied without adequately acknowledging the structural differences between how electronic popular musicians learn and develop their skills compared to popular musicians (Sørbø, 2020; Thompson, 2012; Thompson & Stevenson, 2017).

There are, of course, challenges related to these informal learning strategies. Since the individual can now control the whole process from idea to completed and released music, the in-person and/or collaborative aspect of the musical creative process can be bypassed. Often, these aspects are replaced by online collaborations, online forums, and social media, but as the findings in Article 4 suggest, the immediacy of being together face-to-face can be lost (see also Schedel, 2017; Siampou et al., 2014). The value of in-person collaborations was clearly appreciated by the students in the fourth article due to the social aspects, the effectiveness of these creative processes, and the way in which they became aware of their own strengths and weaknesses.

Another issue is that since no *one* person can be an expert on *every* part of the process, there will be a decrease of quality in comparison to a process where specialized experts control their respective areas. Lee Pat addresses this when discussing why his album sucks: "DAWs are just the perfect excuse not to do stuff. Not to practice an instrument, not to meet other musicians, not to put ourselves on the line, not to ask for help or advice, not to listen to anybody but ourselves (…) I'm talking about the DAW syndrome—trying to do everything on your own just because the technology allows it" (Pat, 2018). However, interviewee Paul Berg notes that "in the past when you only had one hundred people working in the field, maybe five pieces a year were interesting. Now you have ten thousand people working in the field, and out of those works between fifty and one hundred pieces are interesting" (Schedel, 2017, p. 32). Along with a lot of bad music, that is, there is more good music too.

Further, since information is accessed on a need-to-know basis, the knowledge and skills of students entering an educational program in electronic popular music are often fragmented. They might be experts in one musical area or style but novices in others, and both Articles 3 and 4 explore teaching methods that aim to tackle these diverse and fragmented knowledges and skills. The musical backgrounds of the students entering such programs are also immensely diverse, ranging from classical training on an instrument to learning to make music through PlayStation (Sørbø & Røshol, 2020). Hunter insists: "if we are to properly value both the diversity of prior experience of the music candidate and of a music curricular offer which responds to that diversity, we need to reimagine the scene not as a competition but as a festival" (Hunter, 2019). From a pedagogical perspective, designing courses and selecting content and learning activities that encapsulate such fragmented skills and diverse backgrounds is not an easy task, but the case studies of this thesis suggest some opportunities toward these ends. Particularly Article 3 aims at activating student expertise, a focus that is continued into the previously mentioned three-year *studX*-project.

A fourth challenge is related to the vast number of possibilities in the DAW environment. Brian Eno argues that the limitations of *primitive instruments,* such as electric guitars, make the user stop looking for new options and start grappling with the instrument. Digital software, on the other hand, offers a practically unlimited number of options, which makes it easy for the user to get lost in all the available possibilities (Eno, 2018). Thompson (2012) notes that electronics and laptops have a shorter history as instruments, so there are no firm traditions or structures to how to teach them. Another consequence of all these options is that the music maker can make almost any change at almost any time and never has to make irreversible decisions, which in turn makes it hard to finish the music (Røshol & Sørbø, 2020). Underpinning all these possibilities, challenges, options, and discussions is the profound mediation of the *affordances of technology*, and that will be the focus of the following sections.

Affordances of technology

The digitization of the music industry has radically changed the way musicians make (and perform) music; it has even been said to be the most fundamental change in the history of music since notation was invented in the ninth century (Taylor, 2014). Every musical instrument has its own possibilities, limitations, and traditions, and though the DAW environment is no exception, its practically infinite number of options, continuous development, and lack of traditions as an instrument can make these limitations hard to pinpoint.

When making electronic popular music, the choice of which technology to use is undoubtedly essential to how the creative process is mediated. As essential, then, is the development of an awareness of the inherent affordances and limitations of the technologies we use and of the ways in which they mediate how and what we create. As John Culkin famously declared: "We shape our tools and thereafter they shape us" (cited in Chandler, 1995). When choosing a DAW for a particular project, then, a critical awareness of all the choices included in that *one* choice is crucial for knowing how to best work within and around the affordances of these choices. Bell's (2015a) method of analyzing the DAW's impact upon our actions proves useful in this regard. Because the students discussed in this thesis boast a fairly high level of expertise, I consider *privileging* and *preventions* to be the most relevant of Bell's criteria; *provision* and *protections* should not present much of a challenge to these students, who are asked to master their preferred DAW as part of their studies and should therefore understand even its hardest-to-find functions.

Preventions are important in this case, however, because some DAWs can do things other DAWs cannot. In addition, the workflow is important, that is, which functions are *privileged* and thus easily accessible in the various DAWs. Often this is a matter of taste, but it impacts how the students make music nevertheless. Unsurprisingly, then, the question of technology becomes a question of aesthetics, as articulated by Frith and Zagorski-Thomas: "In the studio technical decisions are aesthetic, aesthetic decisions are technical, an all such decisions are musical" (Frith & Zagorski-Thomas, 2012, p. 3). For the students discussed in this thesis who are imbedded in technology, it is particularly important to address these concerns properly to avoid being "blocked" in terms of alternative ways of creating music, as technology tends to do so very effectively. They must also remember that digital technology is but one way of making music, and paying specific attention to how technology impacts creative practices might be a way to "regain" creative agency over these practices.

A recurring example from the electronic popular music program at UiA will serve to illustrate this situation. When students get stuck in their music making, they often spend hours trying to alter the sonic qualities of a sound in the hopes of improving the overall composition through various technical aspects. However, the problem might well be connected to other parameters entirely—the chord progression, perhaps, or the melody. In other words, they try to become unstuck using the parameters afforded (and *privileged*) by technology because they are familiar even though misguided. This illustrates the point that the more sophisticated technology gets, the blurrier and more complex its inherent mediations are.

This example also points to the importance of providing students with something more than simply training in the technicalities involved in making music in the DAW environment. Eirik Askerøi and André Viervoll advocate for teaching *musical listening* to bridge the gap between practical and analytical studies of popular music, that is, "the ability to listen to a recording and through that listening dissect a production into parts, both musically and technically, and at the same time maintain a focus on the aesthetics of the production as a whole" (2017, p. 232). Certainly, the abovementioned situation would have benefited from such a broadening of perspective and skillset, including "a great depth of musical knowledge and understanding—as well as other emotional and social skills" (Askerøi & Viervoll, 2017, p. 241). Other scholars also suggest a broad approach when teaching popular music and music making in higher education (see, e.g., Bennett, 2017; Hebert et al., 2017; Hooper, 2017) specifically to avoid "narrow vocationalism," that is, "teaching of skills without locating (and evaluating) those skills in the historical and working context of their evolution" (Jones, 2017, p. 350). These arguments are quite evocative of those made in Article 4, where we point to the four domains that influence the *aesthetic dialogue* in collaborative music making while indicating the need for a diverse range of skills and knowledge to function well in collaborations.

While these last arguments point to the need for both qualification and socialization in EPME, a major endeavor in this thesis involves exploring the domain of subjectification. In Article 1, I argue on similar grounds to those outlined above that students benefit from reflecting on what technology actually is and how it works in the context of electronic music; what it can do and what it cannot; and what it should do and what it should not. Such discussions and reflections hopefully help to reveal the essence of technology, so to speak, and serve as a starting point toward a free relationship to it. Students' critical examination of their use of technology might help them to more (care)fully engage with it (see also Benedict & O'Leary, 2019). Lines argues that "our learning through technology can be gentle or unobstructed in the *techne* sense of learning, in a way that supports the learner to use skills and techniques to bring about a new kind of learning experience. On the other hand technological learning can be a kind of non-learning, a 'learning' that is manipulated and imposed by dominant patterns of cultural manipulation" (Lines, 2015, pp. 62–63).

How we view technology further affects our notion of creative agency. What "counts" as creativity often depends on which aesthetic parameters we value (Rodgers, 2003; Väkevä, 2010), and if the competence required to excel within such parameters is replaced by technology, the valuation of the creative output will decrease. For example,

as a keyboard player, harmonies represent an important parameter for me. If somebody shows me a work of their own with fresh and interesting harmonies, I cannot help feeling a little disappointed if it turns out that the harmonies were simply copied from a sample pack or a MIDI chord pack from Splice[61] or a similar service. However, from another perspective, why *not* employ these options when they are available? Does this actually reflect a decrease in creativity or competence, or rather a shift regarding which parameters constitute our notions of creativity and competence? *Whose* creativity are we actually measuring—the creativity of those programming the software and making the MIDI chord packs or the students using these options? Might students be *better* music makers if they do not need to spend years learning harmonics and can explore other aspects of musical aesthetics more deeply instead? Lines addresses similar issues when he states that "music knowledge in its multiplicity of forms is now extensively archived in digital form" (2015, p. 67)" and then continues: "musicians and music educators need to find new ways to respond to the dominant and powerful renderings of technology in music culture that limit choice, agency and musical expression" (2015, p. 69). Thus, there seems to be a thin line between technologies as a mind-blowing universe of opportunities as argued before, and the constraints of technological affordances. These conditions of creation warrant deliberate attention in EPME at the levels of both how our practices are affected by the affordances of technology, as well as our thinking and assumptions about these practices.

My intention in raising these questions is not to provide any clear answers but rather to suggest that such challenges can be embraced together with students to generate perspectives on how affordances of technology and creative agency are inseparably intertwined and what the consequences of such affordances might be. In Article 1, I also argue that there are other such discussions that can be embraced together with students, particularly related to an emphasis on *unique artistic expression*, that is*,* how music makers and artists seek to find their own "voice" or "sound*,*" a process I refer to as *artistic subjectification.* The point is that students who make music in the DAW environment often seek to distinguish themselves from other music makers and artists and to create a musical identity that Biesta would describe as *uniqueness as difference*. However, Biesta has an alternative view of uniqueness as well, insisting that it can also be approached as *irreplaceability.* Uniqueness as irreplaceability has the potential to move the focus beyond the realm of the students' *artistic subjectification* and approach

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[61] Splice is an online service that provides a practically unlimited number of presets and samples. See www.splice.com.

(general)[62] subjectification. This potential is reinforced by Biesta's discussions of *expression*, which, according to him, in turn introduces the question of *quality,* that is, whether what the students express has the quality of allowing them to "exist *well, individually and collectively, in* the world and *with* the world" (Biesta, 2018, emphasis in original). Asking students to engage with such questions and revisit their notion of quality in the music they make sets up potentially interesting conversations that then facilitate subjectification.

This argument is repeated in Article 2, this time grounded in empirical material. The teacher whose practices were examined focuses exclusively on aesthetic parameters, ignoring technological challenges and leaving it up to the students to figure out solutions to those challenges elsewhere. By this exclusive focus on artistic expression rather than on the technical craft necessary to get there, this teacher found a way to get beyond least some of the constraints of technological affordances and position aesthetic parameters as the determining factors when considering how to proceed. Thus, this thesis argues for two very different ways to answer the initial question related to *how music teachers can meet new technology:* on the one hand, I argue that technology should be examined explicitly through critical discussions with the students, while on the other hand, I argue that it should be ignored altogether in creative practice.

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[62] In Article 1, I distinguish *(general) subjectivation* from *artistic subjectivation, see section "Article 1 summary," pp. 60-61.*

Concluding remarks

Teaching electronic popular music

I sum up this thesis from my perspective as a teacher, again returning to the initial questions of *how music teachers can meet new technologies* and *what constitutes good electronic popular music education,* both posed in the introduction.

The way I see it, teachers in electronic popular music education need to constantly negotiate among official educational policy and their institution's interests, their own beliefs and values, and the needs and interests of any given group of students. They need to adhere to content and learning activities that account for a diverse set of musical backgrounds and fragmented knowledge and skills while acknowledging that they are not the only expert in the classroom. They need to recognize *and* challenge the constantly developing technologies in which these students are immersed, which constantly mediate the creative practices in which they are involved and challenge our notions of what those practices are and to whom they belong. In other words, the *affordances* of the students' applied technologies must be addressed so that students can question how their creative practices are mediated by technology. Further, while giving the students what they did not want, what they did not look for, and even what they did not know they could be looking for, teachers should allow for the students themselves to *point*, and to *redirect the gaze* of the teacher (Biesta, 2020b, pp. 99–117). When trusting students with the responsibility and mandate to make decisions, however, teachers must balance the students' desires with what is desirable, to repeat Biesta's argument, and avoid the reproduction of stereotypes or new hegemonies, as argued in the PME discourse. At the same time, they must continuously (re)consider their own desires in relation to what is desirable, and this is the *dialogue*, or difficult *middle ground*, in which the teachers must try to exist. This is *middle ground teaching*.

The complexities involved in teaching electronic popular music, then, are undeniable. This field is a relative newcomer compared to most other educational fields within the arts, and the balance of educational purposes, and of teacher and student, is not as established as it is elsewhere. Through the four articles in this thesis, I have explored various ways of teaching electronic popular music, all of which emphasize to some degree the students' growth and emancipation alongside the priority of their qualification as a music maker in the DAW environment. While there is a clear emphasis on the teacher's role throughout this thesis, I nevertheless advocate student-centered approaches in education. The case studies describe various practices where the students' music making is always at the center, but the emphasis is not *exclusively* on the music

or process of making the music but also on the (existential) *educational potential facilitated by the music making*. This educational potential comes into play through practices that challenge the students' existing and expected patterns, and through situations where the students must question and reconstruct their assumptions. It comes into play through democratic processes and critical thinking, through an embrace of the diversity of the students' approaches to making music, and through including both the students' practices and their expertise in the teaching. And it comes into play through conditions in which the students must consciously and actively relate to themselves, the other, and the world in what Biesta calls a *grown-up way.*

For such educational potential to materialize, of course, the role of the teacher is absolutely crucial, and therefore I advocate for a student-centered approach to education but with a strong and clear teacher role. This is not necessarily a contradiction, because it is less about finding the balance *between* the students' autonomy and the teacher's autonomy than about how to *combine* student-centered practices with a clearly present teacher. To do so and improve their programs, teachers will have to facilitate situations where both teachers and students are put on the line, where they have to make decisions for themselves and others, and where their subjectivity is at risk. I have referred to such teachings as *middle ground teaching*, which requires from the teacher an openminded attitude that embraces uniqueness and the personal growth, emancipation, and subjectification of both the teacher and the students. Further, middle ground teachers will have to perpetually reconsider what counts *in* education and what counts *as* education, then make the necessary room in their courses to address issues that move beyond the curriculum of qualification and the paradigm of cultivation. In this thesis, I have pointed to some ways of doing so, but rather than providing prescriptions, I have tried to illuminate the ambiguity of technology, creativity, pedagogy, music making in the DAW environment, and education in general through the concept of *middle ground teaching.* Hopefully, then, this thesis will contribute to the further development of *good electronic popular music education.*

In looking to the future, I return to the argument presented in the introduction, namely that electronic popular music education must have a wider perspective than merely producing successful music makers. I envisage research that pursues the connections between electronic popular music and questions of educational purpose and value; that pursues how democratic principles, diversity, and critical thinking play out in EPME; and that pursues questions of how creative agency is mediated by technological affordances. And I am interested in the further development of the teacher's role in student-centered approaches in EPME; in which features will become

more important and which will lose their relevance; and in experiences of middle ground teaching. The way forward in all these matters is through studies that show how these questions are dealt with *in practice*, and that show how both teachers and students, as subjects, can *risk themselves in education.* By sharing experiences, both failed and successful, teachers and students in EPME can, in the words of Samuel Beckett, "try, fail, try again… and fail better" (Biesta, 2022, p. 23).

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Article 1: Balancing educational purposes within higher electronic music education

– A Biestaian perspective

Abstract: *The massive invasion of electronic dance music in the popular music scene in combination with accessible and affordable technology has created a large group of young musicians having acquired their skills and experience via online resources, often in solitude. This, in turn, creates challenges for 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, just to mention a few. In an educational system such as the Norwegian system, based on learning objectives and effectivity, some aspects of the broader educational purpose tend to get downsized. Based on the framework of Biesta's educational purposes, this article proposes that educators in higher electronic music education emphasize subjectification in addition to qualification and socialization, and the objective of this article is to address questions pertinent to how teachers and curriculum-makers in popular electronic music might create balanced programs for their students. It is argued that subjectification might be approached through the emphasis on the students' unique artistic expression, and that this opportunity is distinct in art education in general and in electronic music education in particular. Further, it is argued that electronic music students might benefit from having a conscious relationship to the technologies they are immersed in, in order to see alternative ways of making (popular) electronic music.*

Introduction

The massive invasion of electronic dance music in the popular music scene in combination with accessible, affordable technology and enhanced informal learning platforms has created a large group of young musicians using their laptops, tablets or phones as creative tools (Bell, 2018). These young musicians are often self-taught, having acquired their skills and experience via online resources from their bedroom studio, often in solitude (Bell, 2014). The rise of this group suggests that "educators need to accept contemporary musical practices (...) as valid, and teach the associated

skills," which further "involves transforming the ways in which we think about music and music education" (Brown, 2015, p. 5). In other words, while still developing "conventional" popular music in educational settings, we must also pay attention to the development of electronic music within this very field. The questions asked when engaging with these issues are important in terms of the answers they will provide, and this article aims at addressing some relevant (and potentially overlooked) questions worth considering in this matter, in light of some of the more general educational trends and challenges. In other words, the research question for this article is *"which important questions should educators within the field of higher electronic music education ask in order to further develop educationally balanced programs?"*

After an outline of the current educational context in popular music education and in education in general, I will use the framework of educational theorist Gert Biesta[1] to investigate which questions will be generated when applying this framework to higher electronic music education (HEME). More specifically, I will use Biesta's reflections on *why* and *who* we educate to generate questions related to *how* we educate in HEME. In this process I will also draw on works exploring how popular musicians learn differently to classical musicians (Folkestad, 2006; Green, 2002, 2008), to find similarities and differences in the relationship between how popular musicians and electronic musicians learn. I will emphasize the branch of electronic music that has emerged from the realm of *popular* music, not that of classical art music or jazz. This is due to how the entry of electronic music into the popular music scene in combination with affordable and accessible technology has created both interesting and challenging situations in popular music education. To further elaborate, I will also bring in some aspects of Heidegger's discussions on technology (Heidegger, 1977). Lastly, there will be a brief discussion of how to approach potential answers to the generated questions of *how* we educate in order to find a meaningful balance of educational purposes in HEME. I argue that art education in general and electronic music education in particular have a unique opportunity to address *subjectivity* through unique artistic expression which will contribute to a balanced education for our students. Though there may be some implications in the arguments made in this chapter, I wish to be clear that I am *not* discussing whether or not HEME should be separated from higher popular music education (HPME), just as HPME in many cases has been separated from western classical music education. However, I still think it is important to talk about HEME in

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[1] This framework is developed and presented in four books (Biesta, 2006, 2010, 2013, 2017b).

slightly different terms than HPME due to some quite substantial differences that will be addressed in the following sections.

Educational Context of Popular (and) Electronic Music

To clarify the context of this chapter I will give a brief outline of how the Department of Popular Music (DPM) at the University of Agder in Norway approaches higher popular music education and electronic music, before placing it in the broader context. DPM was established in 1991 and is one of two courses that the University Board defined as a signature study in 2013, meaning a course that "truly *excelled*, and that was the very *hallmark* of this university" (Tønsberg, 2014, p. 29; emphasis in original). It is a performance-based program, and many students become participants at the highest level in the Norwegian popular music scene following the completion of their Bachelor, Master or PhD program. Due to technological developments in the music industry, DPM introduced a specialization in electronic music in 2013, offering students *electronics* (most commonly laptop) *as an instrument.* One implication of this approach is that the program not only utilizes composition and production as an educational tool, as proposed by Tobias (2013) and Lebler and Weston (2015) for example, but also explores the ways in which technology enables the students to bring the studio onto the stage in live performances. The technologies in the latter approach are described as *threshold technologies* by Knowles and Hewitt (2012), who further describe how artists such as Ed Sheeran and Imogen Heap use *performance recordivity*[2] to make their music-creating transparent. Renzo and Collins (2017) elaborate on how threshold technologies contribute to transparency, and Kjus and Danielsen (2016) show how different Norwegian artists use such technologies differently to implement their works from the studio into their performances, dependent on their desired type and level of creative agency in the performance. These approaches to electronics and technologies at DPM have opened the door to the realm of art music and improvised electronic music, and the tension between the popular electronic music and electronic art music has proved to be an interesting interface for exploring musical ideas.

When looking at the field of popular music education more broadly, the research undertaken by Lucy Green has been a major influence, showing how popular musicians learn in informal settings outside formal education institutions (Green, 2002). Through her numerous studies she shows how popular musicians develop their musicianship through informal and collaborative approaches to learning, and addresses how teachers

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[2] Performance recordivity is when recording in a live performance.

tend to approach popular music in the curriculum in the same way they approach classical music, missing out on using the techniques actually used by popular musicians (Green, 2008). Based on these and similar studies (e.g. Folkestad, 2006; Söderman & Folkestad, 2004), institutions around the world have implemented aspects of these informal methods and techniques to enhance their formal programs. Queensland Conservatorium in Griffith University serves a good example (Lebler & Weston, 2015). Though these methods differ from the classical approach to music in many ways they still align nicely with other educational endeavors, for example, collaboration. Consequently, the motivation and argumentation for implementing them in the programs are quite easily recognized. This is a critical point as I now move into the realm of higher electronic music education.

Though electronic music is well established within fields like art music, hip-hop and dance music, its massive invasion into the popular music scene, in combination with enhanced online resources and accessible, affordable technology, represents a new situation in the field of education. Students often enter the educational system with radically different musical backgrounds and approaches than what is expected by the teachers, which has clear similarities to the cases Green and her likeminded researchers observed more than 15 years ago. As noted by Brown, "Information is accessed on a need-to-know basis, rather than deliberately organized or following a set curriculum," and "the experiences of such musicians resemble a pedagogy that is based more on creativity than on repertoire" (Brown, 2015, p. 20). Burnard (2007) argues similarly, urging educators to explore the potential in the relationship between creativity and technology. However, it's fairly easy to recognize the same pitfall – the tendency of institutions to simply change the content without acknowledging the fundamental structural differences in how electronic musicians acquire and develop their skills compared to popular musicians.

An important and easily overlooked aspect regarding the content is how the content itself often serves as a means to a different end. Take the content of learning notation as an example as this represents a long and ongoing discussion (Dean, 2019; Paul, 2017; Schmidt-Jones, 2018). The purpose and end of learning notation is not really learning *notation*. The purpose is to provide meaningful ways to write, analyze and talk about music. If we miss the distinction between content and end we might easily lose important aspects of what we are actually teaching, as well as meaningful methods to reach that end. For electronic musicians, notation might not be the best way to describe the music they are producing due to the importance of sound quality, timbre, effects and other parameters not covered by the current notation system (Roads, 2015, xxii). There

are numerous other ways in which electronic musicians can discuss their music which may be more accurate and meaningful. To be clear, this is not to argue against notation in electronic music curriculum. There are strong arguments that support keeping notation in the curriculum due to communication with other musicians and being a part of the broader music business. Rather, this is an attempt to show how content and ends are not necessarily the same, and that focusing on the *end* when establishing the content and pedagogical methods is crucial.

Educational Context in General

The general educational policy in Norway during the last decades, which I partly criticize in this article, has been heavily influenced by the surprisingly weak PISA results in the early 2000s (Kjærnsli et al., 2004; Roe et al., 2007). The response to these reports was a clear turn towards a *management by objectives-oriented* approach to education, mainly through National Tests[3] (Søgnen et al., 2002) and a new national curriculum, the LK06 (Søgnen et al., 2003). This focus on standardization and educational transferability was also reflected in the higher education system when Norway joined the Bologna process in 1999. Comprehensive research was (and still is) done to define and select competencies that would prepare learners to join the future workforce, a workforce that will probably be both increasingly diverse and complex, and transformed by automation (Council Recommendation of 22 May 2018, 2018; Fadel et al., 2015; Fullan & Langworthy, 2014; OECD, 2005; UNESCO, 2014). Hence, over the last decades it seems to be a tendency to put more emphasis on competencies of "personal character,"[4] the human traits that distinguish us from automation, machines and artificial intelligence. Creativity, the ability to put knowledge into use, to communicate and collaborate well across cultures and borders, and to be a confident, open-minded and engaged citizen are some of the features that are suggested will be sought after in the future in many of the abovementioned reports. The Norwegian educational policymakers are aligning with these predictions, and in 2020 there will be implemented a new, national curriculum, heavily based on the abovementioned reports (Ludvigsen et al., 2014; Ludvigsen et al., 2015), with a clearer emphasis on these personal characteristics (Department of Education and Research, 2019). However, in this new national curriculum the management by objectives-oriented structure is still

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[3] National Tests is a national system for benchmarking Norwegian schools.

[4] Commonly referred to as "soft skills".

present, which comes with a set of challenges that have been subject to profound criticism.

One of these challenges was addressed by the Norwegian philosopher Hans Skjervheim in the 70s. He argues that education is victim to the *instrumentalistic mistake*: the tendency to generalize educational principles based on research conducted in specific settings (Skjervheim, 1996, pp. 241–250). He further argues that this positivist approach to education contributes to the objectivation of things and others instead of treating them as subjects (Skjervheim, 1996, pp. 71–87). Øivind Varkøy argues similarly that technical rationality*,* which is closely related to instrumentalism and the objective-oriented structures that dominate Norwegian (music) education (Varkøy, 2013), can be regarded as a "type of totalitarian ideology, meaning that it presents itself as the one and only way of thinking about education, thereby marginalizing and suppressing other discourses" (Varkøy, 2015, p. 48). This argument can also be found in Heidegger's critique of technology (Heidegger, 1977). According to Heidegger, the instrumental view of technology has turned into something more challenging to human society, and our approach to technology seems to influence our view of humans as well. One of his points is that technology is so *effective* that we seem to lose sight of other possible ways to exist. In other words, he does not problematize the technology itself but how it blocks other ways of viewing the world. This is not merely a critique of technology but a critique of the instrumental way of viewing the world in general, and the tendency to objectivate others.[5] David Lines develops these ideas of Heidegger towards music education, and argues that "this leads to questions of subjectivity – to images, concepts and perceptions of self in music technology contexts, and to an examination of ways in which the self can project positive and creative pedagogical action within controlled technological paradigms" (Lines, 2015, p. 64). This becomes particularly pertinent in the realm of electronic music education which is often very technology oriented and, to quote Lines again, "it seems fitting to discuss some of the deeper questions of how technology shapes the ways of music teaching, in pedagogy, thinking and musicianship" (Lines, 2015, p. 63).

Gert Biesta is currently one of the major international contributors to the critique of what he calls the "Technological"[6] approach to education; that is, when making strong

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[5] The format of this chapter doesn't allow a proper development of Heidegger's intricate line of terminology and argument, but I still allow myself to make a few points with reference to his thinking.

[6] To distinguish between *Technological* as used by Biesta and technological when discussing technology, I will use a capital T when referring to Biesta's term.

connections between educational input and output, and relying heavily on measurements and standardization, in order to ensure the desired output (Biesta, 2015). Again, we see a similar argument as those made above. Further, Biesta argues that this critique has to do with normative validity, concerning the question of "whether we are measuring what we value, or whether we are just measuring what we can easily measure, thus ending up valuing what we (can) measure" (Biesta, 2010, p. 13). In the following section I will illustrate aspects of Biesta's critique by comparing his educational ideas to those of some of the abovementioned reports to show some fundamental differences. I will do so by discussing the question of *why* and *who* we educate in general and, in turn, bring some of these conclusions into the field of electronic music education.

Why Educate?

The question of why we educate, the *purpose of education*, is one of Biesta's concerns with contemporary education. The purpose of education found in many of the abovementioned reports is to produce human beings to keep the wheels running in society. In other words, education of the individual is a means to a *different end,* that is, to educate *objects* with certain qualities. Biesta, on the other hand, urges us to see education of the unique subject as *an end in itself,* and to educate *subjects* rather than objects. One example of how this is *not* the case in contemporary education can be found in the four-dimensional educational framework of Fadel et al. (2015). They present three broad purposes of character education: (1) to build a foundation for lifelong learning, (2) to support successful relationships at home, in the community, and in the workspace, and (3) to develop the personal values and virtues for sustainable participation in a globalized world (Fadel et al., 2015, p. 81). As we observe, they emphasize the development of "personal values and virtues," but as a means to achieve a *different end*, namely "sustainable participation in a globalized world," and similar arguments for character development are present in other reports as well (e.g. European Commission, 2019). However, there are other reports that seemingly take the stand for subjectification, although the terminology is a bit different. The OECD DeSeCo project[7] suggests "acting autonomously" as one of the three main categories of competency, concluding that individuals "need to develop independently an identity and to make choices, rather than just following the crowd. In doing so, they need to reflect on their values and on their actions" (OECD, 2005, p. 14). However, in light of how this OECD framework has been utilized to make educational policies, the role of measurement and

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[7] DeSeCo is the *definition and selection of key competences*-project by OECD, published in 2003.

normative validity comes into play, and the actual emphasis on acting autonomously is in most cases almost absent.

These are some of the reasons I find Biesta's thinking and educational framework to be an important and useful alternative. He introduces three main purposes of education: (1) *qualification,* that is, the acquisition of knowledge, skills and dispositions; (2) *socialization,* that is, becoming a part of existing social, cultural and political orders; and (3) *subjectification,* that is, how we exist outside the existing orders through our initiatives and responsibilities (Biesta, 2010, p. 20). One of his main critiques of contemporary education is the lack of balance between these three purposes of education: "much contemporary education seem to be significantly out of balance as a result of a strong – and in some cases – excessive emphasis on the domain of qualification, and often only on a small number of measurable 'outcomes'" (Biesta, 2015, p. 19). The absence of actual emphasis on socialization and subjectification in contemporary education is problematic, and to tackle this Biesta introduces the *educational ambition: "*arousing in another human being the desire to exist in the world in a grown-up[8] way" (Biesta, 2017a, p. 85). With this articulation he places emphasis on the subject itself rather than on the function the subject will have in the "human machine," which implies objectification of the subject. In other words, it matters *who* we educate.

Who to Educate?

Another manifestation of the Technological approach to education is, according to Biesta, the *language of learning*, which refers to how terminology from industrial processes and capitalism has been transferred to the realm of education. This has some critical implications, one of them being that learners are easily thought of as consumers and teachers as providers of goods. From this follows the assumption that "the customer is always right," placing the teachers and educational institutions in a difficult spot where they have to "deliver" an educational "product" according to the expectations of the customer: the student. The effect is the notion that students know best what they should learn and, ultimately, should determine the content of their own education. Biesta argues that if this is the case, if the content and purpose of education is individualized, it will eventually be decided by the market (Biesta, 2006, pp. 22–24). This might, in turn, reduce our students to "customers," suggesting that it doesn't really matter *who* we

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[8] When using grown-up in this setting, Biesta (2017a) refers to the ability to distinguish between what one desires and what is desirable, taking into account long-term and contextual consequences.

educate, only *that* we educate. In other words, the process-modeled educational system, amplified by the language of learning, produces interchangeable human beings or mere objects. The role they are to fill in society can ultimately be filled by anyone else.

Biesta rejects this notion and, in order to build his argument, he emphasizes human subjectivity as an *event* rather than an *essence.*[9] His understanding of subjectivity emphasizes *responsibility*[10] as a defining feature of unique, human subjectivity. In his own words, "What makes me unique, what singles me out, what singularizes me, is the fact that my responsibility is not transferable" (Biesta, 2013, p. 21). To further develop this argument, and to explain how we bring our subjectivity into the world, he turns to Hannah Arendt and her thinking concerning human beings as *active* beings. Arendt distinguishes three modes of action: labor,[11] work,[12] and action (Arendt, 1998). While labor and work are means to different ends, actions are activities that are ends in themselves, and Biesta argues that this is where our subjectivity encounters the world. To *act* is to bring something new into the world, a "new *beginning,"* to which the world of other beginnings re-acts. To exist as a human being is to *be a beginner*. Again, we observe the emphasis on the *event.* In order for this event to take place there must be a *space* to bring our beginnings into the world, and this space must necessarily consist of other beginners, bringing their own beginnings into the very same space. This ability to act in such a plural space is, according to Arendt's line of argument, the very definition of human *freedom.* Hence, without this plural space of other beginnings we cannot act and, accordingly, we cannot exist as free human beings. Further, this suggests that we cannot forcefully make others act. All we can do is to create a space where others *freely* can project their beginnings and hope for them to do so.[13]

This is clearly a radically different approach to human subjectivity than that of the interchangeable human being, and though it might seem like an insignificant nuance at first sight, it has clear implications for how we approach education. To summarize the previous line of argument, Biesta emphasizes subjectivity as a fundamental feature of

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[9] For further reading on his critiques of humanistic essentialism in defining humans, see Biesta, 2006.

[10] Responsibility in this context is understood as pre-conscious and beyond our control, an obligation prior to any commitment.

[11] Labor is what it takes to maintain the state of affairs (corresponds to the biological processes of the human body).

[12] Work is when humans actively change their environment, e.g. the production of things.

[13] In relation to music education, a similar Arendtian argument is made by Ferm Almqvist (2019), who points out that *courage* needs to be encouraged by teachers, "so that all might leave the private hiding place and show who one is in disclosing and exposing oneself."

those we are to educate. This suggests that teachers must create spaces where the students can *act*, that is, to bring their new beginnings into a space of other beginnings. It is "not about the educational production of the subject – in which the subject would be reduced to an object – but is about bringing the subject-ness of the child or young person 'into play'" (Biesta, 2020, p. 95). To achieve this, teachers should ask open and difficult questions where the answers are not given, so that plurality can emerge in a space that is unpredictable, risky and *weak*.[14] Only by doing so might teachers create a space where, hopefully, human subjectivity appears.

The previous paragraphs suggest that the way we educate is fundamentally formed by how we approach the question of *why* and *who* we educate. If it matters who we educate, we must make room for our students to encounter the world as subjects, a task that by nature is both risky and weak. It is a disruptive and challenging way of educating, where students may and will encounter resistance to their own actions. This demands a whole different role of teachers than that of predefined outcomes, and Biesta puts great emphasis on the crucial role of the teacher (Biesta, 2013, pp. 43–58, 2017b). Teachers must use situated judgments for each specific situation, a task which can never be structured into a Technological education. They must also balance the educational purposes against each other, which is not an easy task as they are closely interrelated and interdependent and might even be in direct conflict.[15] These questions concerning the purposes of education are normative questions where teachers must engage with values and preferences (Biesta, 2015, p. 15) which further explains Biesta's emphasis on the role of the teacher. Though this might be viewed as an argument to reintroduce the instructional method of teaching and leave the student-centered approach, that is not the whole picture. Rather, Biesta claims that his approach is neither child-centered nor curriculum-centered. In his own words: "Perhaps the best 'label' for it is to call it a 'world-centered' approach (...), focusing on what it means to exist as subject, in, with and in dialogue with the world, material and social" (Biesta, 2017c, p. 15). In other words, his proposal is for the teachers to help students find themselves existing in the world, among others, so that subjectification can happen.

When I now return to Higher Electronic Music Education (HEME), I will show how the previous discussions can inform the question of *how* we educate within this field. I

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[14] Weak in this sense means that there is no strongly predefined outcome or answer, in opposition to the Technological approach.

[15] The conflicting example provided by Biesta (2013) is how pressure on exams might be an effective way to achieve good qualifications but might have a bad impact in the domain of subjectification if it implies that competition is better than cooperation.

will use Biesta's three purposes of education to generate questions I think might be important to address in the further development of HEME, in order to find a meaningful balance between these educational purposes. Potential answers to these questions will only be briefly touched upon in this article, as answers will vary and differ with each institution and educational program. Sørbø and Røshol (2020) provide an example of how some of these questions might be approached in Chapter 10 in this volume, which is a case study of a one-to-one practice at the Department of Popular Music at the University of Agder.

Qualification in Higher Electronic Music Education

I concur with Biesta that to succeed as an educator is dependent on finding a meaningful balance between the three main purposes of education (Biesta, 2013, p. 147). HEME is, especially within and emerging from the realm of HPME, a relatively new field of education compared to most other educational fields within the arts. Consequently, this balance is not as established as in other fields, which puts a greater responsibility on each educational institution and teacher to ensure balanced educational programs. For HEME this is especially challenging, being crucially dependent on technology which seems to be developing at an increasing speed, resulting in teachers who don't stand a chance in mastering all the different tools available to their students. According to Heidi Partti, teachers often lean towards either pedagogical fundamentalism[16] or pedagogical populism[17] when facing this dilemma (Partti, 2017), neither of which are desirable. Further, the job market these students will enter is equally dependent on technology, adapting and changing at the same pace, hence this becomes a question contingent on defining *qualification* in HEME. Teachers must teach sufficiently generally so that students can apply what they learn regardless of what DAW or electronic devices they utilize, and so that they are able to implement their knowledge in future technologies. At the same time, they must teach sufficiently specifically about technicalities[18] so that the students understand how new knowledge may be applied in their specific

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[16] Pedagogical fundamentalism implies a skeptical attitude towards technology, where teachers to a large extent ignore new technologies and how they affect their students' lives.

[17] Pedagogical populism implies a glorification of new technologies, where technologies are put ahead of teaching, and the role of the teachers is often reduced.

[18] By *technicalities* I refer to specific functions of specific software/hardware.

environment. In addition, the affordances[19] of the DAWs have their own musical implications (Bell, 2015, 2018; Røshol & Sørbø, 2020), which might be further illuminated by the way Heidegger discusses technology. As mentioned before, he doesn't problematize the technology itself, but how it blocks other ways of seeing the world. His solution is to connect to the *essence* of technology; that is, to understand and be aware of the essence of technology because only when we see technology for what it really is can we gain a free relationship to it. Though his implications deal with fundamental ontological questions, there are some pretty obvious parallels to be drawn to the way electronic music students use technologies. For example, being aware of the differences between DAWs will enable them to make informed (and hopefully better) choices in selecting a suitable DAW for specific projects. Another more fundamental example is that if the students fail to recognize how the affordances of their DAW or instrument limit and mediate the creative process itself, and how the DAW's *design* is in fact musical choices, they won't be able to properly examine their own practices (Bell, 2015; Mantie, 2017).

Interestingly, Heidegger argues that art is one of the ways in which this connection to the essence of technology might be achieved (1977, pp. 34–35).[20] The point is that when we encounter art, we might experience other ways to exist in the world, other than that provided by technology. Though we can only speculate on how Heidegger would discuss art that is itself heavily dependent on and immersed in technology, as in the case of electronic music, such speculation could provide interesting starting points for discussions and reflections on how technologies affect our practices through their affordances and mediations. As articulated by Frith and Zagorski-Thomas, "In the studio technical decisions are aesthetic, aesthetic decisions are technical, and all such decisions are musical" (2012, p. 3).

Based on the previous discussions, I suggest that the following questions regarding qualification should be considered by teachers and program developers in HEME: what might a good balance between generality and specificity be, to make musical qualifications sufficiently general to be applied across multiple technological platforms and musical preferences, but specific enough to be practically applicable across these very same platforms? How are the students' agency and aesthetics mediated

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[19] When using the term *affordance* in this chapter, it will be in the same sense as Hutchby (2001), further developed from Gibson's usage: "affordances are functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object."

[20] According to Heidegger this is because art is related to (but not similar to) technology, an argument developed from the Greek terms *Techné* and *Poesis* as used by Aristotle.

by technological affordances, and how can they gain a conscious and reflected relationship to them? Which pedagogic approaches might contribute to achieve this? And lastly, what can art and music say about the technology it finds itself immersed in?

Socialization and Subjectification in Higher Electronic Music Education

When now turning to socialization and subjectification, I will discuss these two purposes simultaneously, as they are closely intertwined in the following line of argument. As a starting point, I will use the emphasis often found in art education on unique artistic expression,[21] which might be developed both as *artistic subjectivity* and (*general*) *subjectivity.*[22] Pertinent to this discussion is how Biesta distinguishes between uniqueness as *difference* and uniqueness as *irreplaceability* (2013, pp. 19–22). Uniqueness as *difference* can be connected to having a clear artistic identity that differs from other artists, to have *artistic subjectivity*, and has to do with the way the artists connect to the aesthetic discourse they are a part of. However, when approaching artistic subjectivity within the educational purposes of Biesta, the focus on unique artistic expression (uniqueness as difference) becomes a question of identity, which to Biesta has to do with socialization: how we become part of the existing order of things. In other words, to Biesta identity has to do with how we relate to the practices and structures of our society which concerns socialization rather than subjectification (Biesta, 2020).

Though this emphasis on unique artistic expression is obviously an important aspect of art in education, Biesta further argues that *expression in itself* is never enough; teachers need to engage in the *quality* of the expression put forward. Quality in this regard does not refer to aesthetic quality, but to whether what is being expressed has the quality of making students "exist *well*, individually and collectively, *in* the world and *with* the world" (Biesta, 2017c, p. 15; emphasis in original). I understand this to mean that teachers should engage the students in the purpose and value of their unique art and music, and illuminate the possible political implications that are inherent in all art. In this context, uniqueness as *irreplaceability* becomes meaningful; the students are irreplaceable in their relation to their art, but also in their relation to their teachers and fellow students. This concerns their (general) subjectivity, which is the "kind" of subjectivity initially discussed in this chapter. What I have tried to argue here is that the

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[21] *Unique artistic expression* can also be termed personal sound, the student's own voice, individual expression etc. I've chosen unique artistic expression due to Biesta's discussion on *uniqueness* and *expression*.

[22] When used in relation to *artistic subjectivity*, I will use (*general*) *subjectivity* to distinguish subjectivity as discussed previously in this chapter from artistic subjectivity.

two approaches to subjectivity in HEME are closely intertwined through the emphasis on unique artistic expression; the *artistic* subjectification will reflect on and be informed by (general) subjectification, and vice versa. In other words, teachers in HEME, as in arts in general, have a unique opportunity to address (general) subjectivity by using artistic subjectivity as a starting point.

Another issue that is addressed when applying Biesta's educational purposes to HEME is that of structural differences in how electronic musicians acquire their knowledge and skills. As previously mentioned, the "solution" when popular music entered the realm of classical music education (as described by Green) was for the formal institutions to adapt structural aspects from informal learning, which aligned nicely with other educational endeavors. In electronic music, however, many students that enters HEME today are self-taught, gaining their musical skills in solitude from online sources like YouTube channels and software tutorials. There are some advantages in this solitary way of working. One often recognized at DPM is how electronic musicians tend to have a deeper focus on the "whole picture" when composing or performing, as they usually are responsible for the total result. Traditional instrumentalists, on the other hand, tend to focus on their own role and performance and, at least partly, miss the context. However, if socialization and subjectification are to be increasingly important parts of the curriculum, such isolated ways of acquiring knowledge and skills might become a challenge. Here the conflict between the purposes of education becomes very practical. Electronic musicians use online communities extensively, which might be effective in regard to qualification and socialization,[23] but makes subjectification challenging. There are aspects of human interaction that cannot be fully replaced by online communication or virtual representations, at least with the current technology. One example could be the opportunity for the students to *act*, in the Arendtian sense of the word as developed by Biesta previously in this chapter. Such inter-*acting* would benefit from the students being physically together in order to grasp and understand the full range of the other students' re-*actions*. Hence, in considering educational balance in education, online communities and collaborations might be a helpful supplement, but can not replace the need for face-to-face interaction. This exemplifies how the tension between electronic and popular music faces more severe structural challenges than is the case between popular and classical music.

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[23] Here it becomes clear that socialization has less to do with being social and more to do with what has been described previously.

Based on the previous discussions, I suggest that the following questions regarding socialization and subjectification should be considered by teachers and program developers in HEME: How can we address subjectivity through the emphasis on unique artistic expression? How can we use artistic subjectivity to inform (general) subjectivity, and (general) subjectivity to inform artistic subjectivity? What does it mean in HEME to create spaces where our students can act and re-act? Which situations, topics and questions might facilitate such spaces, and what is the role of the teacher in these situations? Further, how can teachers take methods and structures from informal electronic music learning seriously while balancing other educational purposes? What will these new approaches look like in formal settings? Finally, which values and preferences comes into play in making these decisions?

Conclusions

In this chapter I have used the framework of Biesta's educational purposes to generate questions that teachers in HEME might want to consider in order to develop their curricula and programs. To my knowledge, after conversations with Biesta and searching the available online databases, this has not been done before, and I hope this chapter can contribute to the further development of HEME with some new perspectives. I have intentionally raised questions rather than provided answers, as no *one* answer will fit all the various practices. However, the questions asked, and the underlying philosophy used in addressing the questions, insinuate a certain position in educational thinking, and touch upon the question of *how* we educate. Following the arguments in this chapter, I propose for teachers in HEME to strive for educational balance in their programs, emphasizing subjectification in addition to qualification and socialization. I argue that subjectification might be approached through the emphasis on the students' unique artistic expression, emphasizing the duality of Biesta's notion of uniqueness and expression, and that this opportunity is distinct in art education. However, I have also shown how the informal structures in which electronic music students acquire their knowledge and skills create challenges to this approach. I further argue that students might benefit from having a conscious and reflective relationship to the technologies they are immersed in, in order to see alternative ways of making music.

To find educational balance requires expertise and experience, and more publications reflecting different practices in HEME that tackle this challenge are a crucial part of the further development. Teachers continuously make situated judgments in varying situations, and each experience, good or bad, can inform other teachers in their settings. Subjectification through unique artistic expression is an underdeveloped

area in research, and I would argue that case studies of good (or failing) practices will be important steps in developing these fields, in close dialogue with theory.

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Article 2: Teaching aesthetics

– A case study of one-to-one tuition in popular electronic music in higher education

Co-written with Andreas Waaler Røshol

Abstract: *Research regarding informal learning over the last few decades has shown how popular musicians acquire skills and knowledge through informal learning, suggesting new methods for formal music education compared to the structures of western classical music. Today, the realm of popular electronic music education faces some similar challenges that popular music education initially did; new ways of informal learning, and a different and diverse knowledge base for the students entering popular music programs. Related to these challenges is the question of how to teach one-to-one tuition in higher electronic music education, and this article seeks to address this challenge. We present a case-study of the practice of a teacher at the University of Agder in Norway that teaches electronics in one-to-one tuition, where the research data is based on interviewing this teacher and his students. An important aspect of the practice in question is the process of listening to and discussing the student's original recorded music. We discuss some of the challenges of one-to-one teaching in electronic music education, and argue that this particular teaching approach accommodates some of these challenges. Bringing in the educational framework of Biesta, we argue that this form of teaching practice also facilitates subjectification by addressing both uniqueness and expression. Further, we argue that this practice, which focuses on the teaching of aesthetics instead of technicalities, combined with the development of the students' unique artistic expression can open some interesting possibilities related to addressing subjectivity in higher music education. One of these is how the students need to articulate both the objectives and aims within their music, and the objectives and aims of their music, which in turn develops a terminology to talk about and beyond aesthetics.*

Introduction

Since popular music entered the educational system some decades ago, it has become increasingly prominent in both research and practice. Research regarding informal learning (Green, 2002; Söderman & Folkestad, 2004) shows how popular musicians acquire skills and knowledge through informal learning, suggesting new methods for formal music education (Green, 2008). These and similar insights have changed how popular musicians are formally educated around the world and, though many institutions are still in the process of developing their popular music courses (e.g. Beauregard, 2019), others have found ways of implementing popular music 1 content and adjusting their teaching methods and structures accordingly (e.g. Lebler & Weston, 2015).

However, electronic music has become a growing part of popular music education over the past decade. When using the term *electronic music* in this article, we refer to music composed on or performed with technology traditionally associated with the recording studio. This builds on Eno's (2004) notion about the recording studio as a compositional tool, and his historical contextualization of how music technology developed the recording studio into a creative tool. Burgess makes a similar point when he recalls that "making records with the Roland MC-8 MicroComposer in the '70s, I realized I was constructing performances not capturing them" (Burgess, 2013, p. 240). We also draw on Knowles and Hewitt's (2012) discussions on *threshold technologies* and *recordivity*. They argue that threshold technology has diminished the difference between composing and performing music live, and show how practices from the recording studio are implemented on stage through recordivity, and how these practices, in turn, are brought back into the recording studio (Knowles & Hewitt, 2012). In other words, we include both the *compositional* and *performing* aspect when we use *electronic music*. We further emphasize electronic music within the popular music scene in this article, including genres such as electronic dance music (EDM), hiphop, and disco. However, due to the nature of the particular practice in the study, we also leave the door open to less commercial music.

Although electronic music has been around for a while in musical areas like art music, disco and hip-hop, there are some fundamental differences between the current trends and those of the past. These differences are due to the massive invasion of electronic dance music on the popular music scene fronted by artist-producers or auteur-producers (Burgess, 2013, p. 9) such as Skrillex and DeadMau5 in the 2000s and early 2010s. This, combined with an extensive democratization of audio technology (Pras et al., 2013) and enhanced informal learning platforms, such as YouTube, have lowered the threshold for people to engage in making and performing the kind of music they are

surrounded by every day. Further, this has created a large group of young musicians using digital audio workstations (DAWs) as a creative tool and/or instrument (Bell, 2018), needing little or no "traditional"[1] musical knowledge. These aspiring musicians are now entering higher popular music education (HPME), creating similar challenges pinpointed by Green and likeminded researchers 15 years ago: a mismatch between the everyday musical reality and practices of the students compared to the music educational programs they attend. Folkestad (2006) shows how technology is deeply embedded in young people's musical lives, and Brown further argues that "educators need to accept contemporary musical practices (...), and teach the associated skills. There are many new opportunities available as a result of new technologies – and now education has to adapt to these new parameters" (2015, p. 5).

Not all educators find this an easy task, as admitted by Ruthmann et al. (2017) and, according to Partti (2017), educators risk falling into either pedagogical fundamentalism[2] or pedagogical populism.[3] Nevertheless, technology forces its way into music education as well as education in general, and teachers need to find their way. Burnard (2007) notes that whether seeing creativity being *in relation to* technology or creativity as *emerging through* technology, it is important to address such questions in education. Bell (2015, 2018) discusses the DAW specifically, addressing how the design of technologies mediates our creative practices. Røshol and Sørbø (2020) expand on this topic in Chapter six in this volume, and discuss the challenges of making and finishing music when using the DAW to create music. Buckingham takes a critical stance on the use of technologies in education at the time of his writing, and argues that "we need to be teaching *about* technologies, not just *with* or *through* them" (2007, p. viii, emphasis in original). A similar argument is made in Chapter eight in this volume by Sørbø (2020), who draws on Heidegger (1977) to argue that making the students reflect on their own relationship and engagement with technology will enhance their creative practices. Such critical examination of current practices relates to critical pedagogy as developed by Freire (2005), who further advocates that students and teachers may benefit from exploring together as equals.

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[1] By *traditional musical knowledge*, we refer to the knowledge associated with playing "traditional" instruments like flute, violin, drums or electric guitar. Examples could be notation, harmonic theory, ear training etc.

[2] Pedagogical fundamentalism implies a skeptical attitude towards technology, where teachers to a large extent ignore new technologies and how they affect their students' lives.

[3] Pedagogical populism implies a glorification of new technologies, where technologies are put above the teaching, and the role of the teachers is often reduced.

This study is a case study of how electronics are taught in one-to-one tuition by one of the teachers at the Department of Popular Music (DPM) at the University of Agder, to see how this practice could inform other similar practices. Our approach was initially exploratory without a predefined thesis or research question. However, it didn't take long before we recognized the potential of using Biesta's educational framework as a theoretical foundation, and we developed the following research question: *how are technology and aesthetics balanced in this particular pedagogical practice, and how can this be related to and informed by Biesta's thinking on balancing educational purposes?* Sørbø (2020) argues that teachers and program developers of electronic music education should strive to keep a meaningful balance of the educational purposes of educational theorist Gert Biesta[4] and, in our opinion, we provide an example of a practice maintaining this balance in this chapter. It is also a response to Burnard in her discussion on musical creativities, where she notes that "critically, there is a necessity for documentation (in music education) of emerging practices" (2012, p. 324).

After a short outline of the particular context at the University of Agder, we describe the framework of Gert Biesta, and then our research design and method. Then we discuss the empirical findings along with relevant theory, focusing on three main categories detected when analyzing the interviews we conducted. We conclude that careful consideration with regard to both the teaching approach (*how* to teach) and the teaching of aesthetics (how to teach *aesthetics*) might contribute to what Biesta calls a *balanced education*. We further argue that through a mentoring approach and an emphasis on what we term *unique artistic expression* it is possible to facilitate subjectification in these programs, which is central to Biesta's thinking.

Educational Context

To better understand the context from which this article emerges, this section provides a short outline of how the Department of Popular Music (DPM) at the University of Agder approaches HPME and electronic music, followed by a short outline of Biesta's educational framework. DPM was established in 1991 and is one of two courses that the University Board defined as a signature study in 2013, meaning a course that "truly *excelled*, and that was the very *hallmark* of this university" (Tønsberg, 2014, p. 29; emphasis in original). It is a performance-based program, and many students become participants at the highest level in the Norwegian popular music scene after finishing their Bachelor, Master's or PhD program. Due to technological developments in the

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[4] These purposes will be explained in the coming sections of this chapter.

music industry, DPM introduced specialization in *electronic music* in 2013, offering students *electronics* (most commonly laptop) *as an instrument.* Though it has some independent courses, the electronic music specialization is an integrated part of the performing popular music program, which further suggests a performative approach to the use of the laptop and other electronics, aligning with our usage of *electronic music* described in the former sections. This, in turn, has tended to open the door towards the realm of art music, and the tension between popular electronic music and electronic art music often creates an interesting interface for exploring musical ideas. Further, every electronic music student has one-to-one tuition with a teacher, a practice that has been a cornerstone at DPM since its beginning. We will refer to the teacher of this particular one-to-one practice as "TEM" (Teacher of Electronic Music).

Let us now turn to the educational theory of Gert Biesta[5] which we will apply to the practice that is object of this study. Biesta is a major contributor to the critique of what he calls the *Technological*[6] approach to education. By Technological, he refers to how educational policy makers tend to "make the connection between inputs and outputs as secure as possible so that education can begin to operate as a deterministic machine" (Biesta, 2015, p. 16). It further illuminates how this relates to the question of *normative validity*, that is, of "whether we are measuring what we value, or whether we are just measuring what we can easily measure, thus ending up valuing what we (can) measure" (Biesta, 2010, p. 13). The Norwegian context is, as in most western countries, heavily influenced by this Technological approach to education, also in music education (Varkøy, 2013). This is manifested in *learning by objectives* that permeates almost every aspect of educational practice. Though the importance of social competences and "life skills" has been acknowledged, both in the past and in the present/future (Council Recommendation of 22 May 2018, 2018; OECD, 2005; Department of Education and Research, 2019), both the framework and the will to properly place value on these aspects of education has failed so far. These are some of the reasons why we turn to Biesta and his educational thinking. We concur with him that the *purpose* of education is crucial, and that education is about more than merely qualifying for a job (Biesta, 2013), which we find particularly relevant in the context of art education.

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[5] This educational framework is developed through four books (Biesta, 2006, 2010, 2013, 2017b).

[6] To distinguish between *Technological* as used by Biesta and *technological* when discussing *technology*, we will use a capital T when referring to Biesta's term.

Biesta's educational framework consists of three main purposes of education, where the balance between these purposes is crucial. Firstly, there is *qualification*, that has to do with the acquisition of knowledge, skills, and dispositions. Secondly, *socialization* has to do with the ways we become part of existing traditions and ways of doing and being. Lastly, *subjectification* has to do with the interest of education in the subjectivity or "subject-ness" of those we educate. It has to do with emancipation and freedom and with the responsibility that comes with such freedom (Biesta, 2013, pp. 4–5). Such subjectification can only occur when the students are given time and space to expose themselves both as musicians, citizens, and human beings, and to achieve this they must engage in activities that by nature have an unpredictable outcome. It is "not about the educational production of the subject – in which the subject would be reduced to an object – but is about bringing the subject-ness of the child or young person 'into play'" (Biesta, 2020, p. 95). At this point it becomes clear that a purely Technological approach to education, which defines expected outcomes according to a given input and aims for effectiveness, is in conflict with this line of thought. The objective of this article is to investigate how one-to-one tuition in electronic music education can be related to these three educational purposes (with an emphasis on subjectification), and to search for alternative ways to educate than that of the Technological, hence the prominence of Biesta's framework.

Method

As this study is about the practice of *one* teacher with a limited number of students, a qualitative approach was the obvious choice. The study is designed as an *unusual single-case* study, as we argue that the teachings of TEM contain some elements that are out of the ordinary, recognizing the case as one that is "deviating from theoretical norms or even everyday occurrences" (Yin, 2018, p. 85). In the study, the case is the one-to-one practice of *one* teacher in *one* program at *one* University. Though we had some broad reflections about why we wanted to investigate this particular practice, we did not initially have a clear hypothesis or research question, making this an explorative approach. However, it did not take long before we recognized the potential of using Biesta's educational framework as a theoretical backdrop, so we have leaned towards his theories more than what is necessarily the norm in exploratory studies. In other words, we started with a clear inductive approach, but ended up with a more deductive study. Though the case study itself is rather limited in terms of the number of participants, the findings will probably be transferable to similar practices, and some of

them will hopefully be pertinent to higher electronic music education (HEME) in general.

The selection of participants was given in advance: we contacted all of the students currently having one-to-one tuition with TEM. This resulted in seven participants in the study: six students and the teacher himself.[7] All of the students were on the Master's program, and most of them had several years of experience with the teaching of TEM. We conducted semi-structured interviews (Kvale, 2007) of 40 minutes on average. Interviews were the preferred method because we wanted the students' long-term experiences and reflections regarding the teachings of TEM, making, for example, observation too comprehensive. The interviews were transcribed, and the quotes referred to in this article were translated and sometimes slightly altered for a more fluent reading experience. Further, the authors independently read and categorized the material using *content analysis* (Kvale, 2007, pp. 101–119), using the stages suggested by Norton for *thematic analysis* (2009, pp. 115–123). As these stages indicate, we first created multiple categories, then deleted the ones not relevant before merging the remaining categories into three *themes*. Then we reread the transcriptions through the lens of these themes to search for further connections in the material and, finally, we started making links between the themes, as will be presented in the results and discussion sections.

As always in qualitative research, the bias of the researchers is important to address. Both of the authors were familiar with the teachings of TEM in advance[8] which, on the one hand, is a prerequisite for doing good qualitative interviews but, on the other hand creates challenges regarding our roles as researchers (Kvale, 2007, pp. 33–50). Further, the questions asked in the interviews are grounded in the background and educational thinking outlined in previous sections. Though our intention throughout the design, interviews and analysis was to remain open-minded to the incoming data, it would be naïve to claim a neutral position. Another important aspect to illuminate is that at DPM the students often choose their one-to-one teacher themselves. This case study represents a way of teaching electronics that focuses on expanding and developing the student's musical expression regardless of how this expression relates to mainstream popular music. However, there are different approaches to teaching electronics in one-to-one tuition represented at DPM as well, some more vocational and some more popular music oriented, so this is not the only practice. Hence, the students that attend

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[7] We contacted eight students in total, but two didn't reply.

[8] Røshol was a student of TEM for 3 years until 2018, and Sørbø wrote his Master's thesis based on TEM's instrument setup.

the teachings of TEM have chosen to do so themselves and do not necessarily represent the average popular music student.

There are some ethical dilemmas to consider as well. The authors are PhD Research Fellows, investigating the practice of a teacher who is both a current colleague and a potential decision maker when we apply for work after the completion of our theses. This will arguably prevent us from being firmly critical to the practice in question. However, we chose this particular practice as an object of study because we, as mentioned, were familiar with the teaching approach, and believed it could provide interesting perspectives to teaching electronic music. Further, as one of the authors was recently a student himself and knew most of the students personally, the interviews were conducted exclusively by the other author to prevent personal attachments from influencing the answers. Lastly, the relatively small number of participants suggests that both the teacher and fellow students might recognize statements made by students in the interviews, so we had to choose quotes that were not clearly distinctive of particular students.

Results and Discussions

As we now turn to our results and discussions we will structure them according to the three themes of our analysis, as mentioned in the method section. The themes detected were: *(1) the teaching approach, (2) the teaching of aesthetics*, and *(3) music making as a means to uniqueness.* Starting with the theme "teaching approach", the first object of discussion is that of one-to-one tuition.

One-To-One Tuition in Electronic Music – The Teaching Approach

This practice is rooted in individual music instruction that was formalized with the advent of conservatories in the nineteenth century and has traditionally been about the acquisition of practical know-how through "modeling, demonstration, imitation and application" (McPhail, 2010, p. 34). It is about learning the techniques and aesthetic philosophy of the teacher, which can be traced to the zone of proximal development (Vygotsky, 1978). This approach, which might be termed instructivist, has been problematized for several reasons, some of which we will address in this chapter. The first critique has to do with how the focus on skill development can result in a "lack of emphasis on the development of ownership and independence in students" (McPhail, 2010, p. 34). The second critique concerns the vast and potentially negative influence the tutor has on the student, due to "lecturers' inflexibility, insensitivity to individual needs, unreasonable demands and dominance" (Persson, 1996, p. 303) and lack of

transparency (Burwell et al., 2019). This is especially relevant when the teacher is a renowned performer with no formal educational training, as is the case with TEM. These critiques are all raised in publications regarding the education of *classical* musicians, but the pitfalls are the same in popular music and electronic music as well. It is worth mentioning in this regard that there is no consensus as to whether or not one-to-one tuition is a practice suited to popular musicians and how they learn; there are multiple examples of popular music education programs that have both abandoned and continued this practice (Gavin et al., 2017).

When analyzing the interviews in this research we quickly detected an open-minded approach and a high level of student autonomy that seemed to solve much of the critique addressed previously. The students could shape the sessions themselves, which further enabled them to focus on areas they were interested in and wanted to develop:

> *Participant 2:* My experience is that that I've had the freedom to do what I want, and he has always said "have your focus wherever your focus is now, on what's important to you now," regardless of what that is.

This freedom will arguably amplify the students' ownership to the sessions, which is central to developing student motivation and autonomy (McPhail, 2010, 2013; Pink, 2011). Though one reason for structuring the teaching this way is that it solves some of the critique of the one-to-one practice mentioned above, it might also be looked at as a *necessary* way of structuring such sessions in electronic music. This is due to the fact that when one-to-one tuition is continued into electronic music education, not all aspects are directly transferable from the classical tradition, or even from popular music. One of these differences is that electronics/ laptops are not *one* instrument in the same sense as the violin or the electric guitar. Further, electronics and laptops have a much shorter history as played instruments and, consequently, there are no firm structures or traditions for how to teach these instruments (Thompson, 2012). In addition, the interviews showed a vast variety in the students' musical backgrounds: one participant started off as a classical violin player, one was an experienced music teacher interested in improving his technological skills, one was running a commercial studio, one initially approached music through PlayStation and had never played a "traditional"[9] instrument, and some had backgrounds from performing popular music studies. The technological

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[9] By "traditional" instruments we refer to historically established instruments like keyboards, violins, electric guitars, trumpets etc.

skill level was equally varied, stretching from one participant who had recently started using electronics to complement his instrument to a former winner of the Norwegian "Grammy" in the category of *Electronica*.[10] Naturally, this leads to an open-minded teaching practice individually adapted to each student, as such different backgrounds and artistic goals can hardly be captured within one specific method or framework.[11] Such aspects might contribute to explaining why many teachers, among them TEM, tend to take the role of a *mentor* in these forms of sessions:

> *Participant 3*: We basically never work on particular stuff in lessons, it's only a conversation. Imagine two producers having a coffee and I show one of my productions and he (TEM) goes "cool, I liked this, and I didn't like that, maybe you should work on this and maybe you should work with that. And listen to this music, maybe you can find some inspiration." (...). I feel very equal, and it's very open (...) It feels very little like a school-thing, more like a mentoring-thing.

A mentor is traditionally described as a person with absolute authority and wisdom, an "all-knowing guru who the mentee looks up to unconditionally" (Keinänen & Gardner, 2004, p. 169). However, in their study on choreography mentoring, Keinänen and Gardner provide an alternative way of mentoring to this authoritarian approach, "emphasizing instead individual exploration of creativity and artistry" (2004, p. 182). Though their work concerns dancers and choreographers, we find many similarities to the teachings of TEM: "to cultivate a sense of individual responsibility, the choreographers allow their mentees a high degree of freedom in their exploration" (Keinänen & Gardner, 2004, p. 184). This instantly resonates with how TEM reflects on his own practice:

> *TEM*: I very much believe in freedom, both in educational and professional settings. That one opens up by giving freedom. Then, based on the result, one might start to shape things; to peel off the things the students, or the professionals, don't necessarily need.

The two ways of mentoring described in the study of Keinänen and Gardner represent two opposites that have clear similarities to Biesta's discussion on the role of the teacher:

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[10] The Norwegian equivalent of a Grammy is called *Spellemannprisen*.

[11] Though similar approaches are common in the tuition of other instruments as well, we find the degree of diversity in electronic music to be unique.

on the one hand, you have progressive education focusing on the freedom of the students where teachers are moved to the back of the classroom and reduced to fellow-learners. On the other hand, if teachers want to stay in front of the classroom because "they believe that that is their proper place and the position from which they can make sense of their unique responsibility" (Biesta, 2017b, p. 97), they are "out of date." Biesta argues for a third approach where the teacher has an essential role to play in an education that still emphasizes the freedom of the students: where the students are viewed as *subjects,* not objects. The teaching style of TEM seems to contain aspects of what Biesta is searching for, as students describe him both as a peer and as a highly-respected professor and musician. When TEM, from the position of both an authority and a peer, contributes with his opinions and aesthetic judgments to the music presented by the student, he does so from a *unique* position. We will return to some possible implications of this uniqueness shortly, in light of how Biesta approaches the term.

Teaching of Aesthetics – Not Technology

The second issue we find interesting from the analysis is the almost total lack of focus on technicalities:

> *Participant 1:* TEM doesn't care about the technical aspects, it's like fuck that, you'll figure it out, let's not spend time resolving that now, right? Which is great, really, but it requires the people you allow to enter the program to know what the hell they're doing. (...) But there are also many great aspects in the way he puts that technical part aside; if the students are motivated, they'll go home and figure it out.

This clearly differs from educational programs in electronic music offering the students training in specific software and technologies. Further, in literature concerning electronic music education there is a clear emphasis on how the affordances[12] of technologies used in the making of music mediate both creative processes and the music that is being made (e.g. Brown, 2015; Eno, 2004). Musical choices are built into the very design of the DAWs, and if students don't develop a conscious relationship to the technologies they are using, they might miss important aspects of their own agency and practices (Bell, 2015; Sørbø, 2020). TEM partly addresses these challenges by not

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[12] When using the term *affordances* in this chapter, it will be as done by Hutchby (2001), developed from Gibson: "affordances are functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object."

addressing them at all; he raises the discussion from being about technicalities to being about aesthetics. The benefit of this approach is that he, to a lesser extent, allows the affordances of the technology to set the premises for how the music is being discussed, which might be an issue if, for example, the music is discussed with the DAW session open.[13] It further makes sense when teaching electronic music to leave technical obstacles to be solved by the student, as they are usually familiar with using online resources (like forums or YouTube) for such purposes (Bell, 2014). However, this presupposes that the students already have a certain technical and musical understanding so that they know how to find solutions effectively, and that they are motivated. This might not always be the case, and several students mentioned this lack of technical focus as partly frustrating:

> *Participant 2:* I think it was very frustrating throughout the whole program that we had such few guidelines, it was tough to figure out yourself all the time. (..) My big problem was that I never quite got going (with playing live electronics), because I never quite finished setting up and making my instrument do what I wanted (...). With TEM we never got down to the tool-stuff, that's one of the things I missed a bit.

Further, the question concerning the students' conscious relationship to the technologies isn't necessarily addressed. Though it would be possible in such practices to discuss and reflect on how technologies mediate both the music, the creative processes and our thinking about music, this does not seem to be on the agenda of TEM. It could, of course, be discussed whether such reflections are more suitable for courses dealing with groups of students, and some of the students mentioned this to be the case. However, we still argue that at least parts of such reflections might be more properly addressed in a one-to-one setting when discussing original recorded music created by the student. This further addresses another issue recognized at DPM that is due to how students sometimes search for technical solutions to problems that are of a musical and aesthetic nature. For example, a student that struggles with a song could sit for hours searching for the perfect synth sound to "solve" the problem, while the problem might be a poor melody or chord structure. In other words, when technologies become such an integrated part of the creative practice, it is hard to distinguish technological decisions from aesthetic decisions. It might even be impossible at times to make this distinction, as articulated by Frith and Zagorski-Thomas: "In the studio technical decisions are

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[13] Which was not the case in the sessions of TEM, who preferred .wav or .mp3-files.

aesthetic, aesthetic decisions are technical, and all such decisions are musical" (2012, p. 3). Hence, we argue that a conscious relationship to the technologies and the way its affordances mediate our creative processes can contribute to making accurate and meaningful distinctions, and that such distinctions will be valuable:

> *Participant 2*: To many of us (*electronic music students*), me being one of
> them, it's very easy to dig into the technical stuff and get a little lost, and
> that's when it's smart of TEM to get our focus back to what's more important.

This quote sums up much of the above while also taking us back to the aesthetic focus and how these conversations about the music itself are at heart of TEM's teaching. One objective in these conversations seems to be the development of the students' ability to express themselves verbally, and be clear and accurate when explaining their aesthetic choices. Due to the lack of formal training many of these students have, in combination with the fact that "a comprehensive formal theory of electronic music seems far away," (Roads, 2015, p. 6), this was quite a challenge to many:

> *TEM*: The minute we talk about tools they have a clear language for it, as in
> how long the predelay is on the reverb, what kind of processing you're using,
> or what synth is being used (...). But regarding the musical language, it's often
> quite poor. It starts with good or bad, this was nice, or this was not.

However, it is clear through the interviews that the aim of these conversations was not only to discuss the aesthetics of *any* music, but that it mattered *which* and *whose* aesthetics were discussed. This brings us to the last theme.

Music Making as a Means for Uniqueness
The third discussion we want to raise is that of using *music making*, that is, making *original* music, as a means to develop *unique artistic expression*. The usage *music making* as an educational tool in popular music education is fairly common (e.g. Lebler & Weston, 2015; Moir & Medbøe, 2015; Tobias, 2013), though it is usually referred to as composing or recording.[14] We recognize this approach in the teachings of TEM, who is clearly conscious about making the students present original material. This, in turn, enables reflections on patterns and connections within their music, helping the students

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[14] We prefer music making, since electronic musicians often don't associate themselves with the term composer.

to become aware of similarities in their own aesthetics and eventually start to articulate their unique artistic expression:

> *TEM*: They present material they don't perceive as connected in any way, they just make music, right? And then maybe I can point out that there *is* a connection between these things, that they are not that far apart. And when they realize this themselves, it happens. Then things *really* start to happen.

By making students present recorded versions of their original material he puts them in a position where they must expose their aesthetic values and judgments, which enables discussion regarding the presented material. The interviews suggest that this makes the students reflect upon their own practices in new ways which, in turn, opens up for new approaches and new practices. It also helps the students develop and articulate their unique artistic expression as these reflections concern their own creative works:

> *Participant 2*: He [TEM] was very good at making me think outside my box, to view things differently. The most important was maybe the attitude, the attitude that it's not that big of a deal, don't be afraid. (...). Many of our conversations have been what has shaped me; the philosophy around making music and what we're doing.

To further explore the implications of this, we once more turn to Biesta to show how his notion of "*unique*" and "*expression*" opens up possibilities to approach the students as *subjects*. He distinguishes two ways to understand the term unique: uniqueness as *difference* and uniqueness as *irreplaceability* (Biesta, 2013, pp. 19–22). Uniqueness as difference is the way uniqueness is usually understood, that is, what makes one student different to another student, or one artist different to another artist. When we claim that TEM uses music making as a means to develop the *unique artistic expression* of the student, this is the kind of uniqueness we refer to:

> *Participant 4:* In TEM's teaching, that was the main focus; the distinctiveness, what are your practices (...), and what do these practices look like in their purest, most extreme form? (...) Another clear difference from other teaching I've had, is that this distinctiveness or your personality, and your musical expression, are two sides of the same coin to a much larger degree, and that this distinctiveness and personality gets more space in the teaching.

This quote takes us from the understanding of uniqueness as difference to an alternative notion of uniqueness. Biesta invites us to see uniqueness as *irreplaceability,* which has to do with the unique relationship we have with every other person, and the inherent *responsibility*[15] within this unique relationship. The way this responsibility inevitably is a part of every relationship is key to Biesta's notion of *subjectivity*. Further, this might be a useful way to illuminate what was mentioned earlier about the *unique* position from which TEM could make suggestions and statements about the music presented by the student. Our argument is that the search for and development of unique artistic expression that we recognize in his teaching approach contains a double potential. Not only does it search for and develop uniqueness as difference, that is, unique artistic expression, but it can also facilitate uniqueness as irreplaceability, which has to do with subjectification. When discussing the uniqueness of the student, though it is initially and intentionally about music and aesthetics, such discussions might contribute in addressing the student *as a subject.*

One last angle from which we want to look at unique artistic expression is that concerning *expression.* Biesta criticizes what he refers to as *educational expressivism,* which has to do with the emphasis in arts education to make students *express* themselves (Biesta, 2017a, pp. 55–59). Although this is obviously an important aspect of art in education, and most certainly in the teachings of TEM and in the argument of this chapter, Biesta argues that *expression in itself* is never enough; teachers need to engage in the *quality* of the expression put forward. Quality in this regard does not refer to *aesthetic* quality, but to whether what is being expressed has the quality of making students "exist *well*, individually and collectively, *in* the world and *with* the world" (Biesta, 2018, p. 15; emphasis in original). This might suggest that teachers should engage the students in the purpose and value of their art and music and illuminate its possible moral and political implications. Again, such discussions would reach beyond music and aesthetics, and represent yet another opportunity to facilitate subjectification. In other words, we find the same potential for encountering subjectivity when engaging with expression as when dealing with uniqueness.

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[15] Responsibility here refers to an *ethical* responsibility, not one consciously chosen. In other words, we can't choose our responsibilities, we can only choose how we respond to them. For further elaboration on Biesta's usage of this term, see Biesta (2006, pp. 50–52).

Conclusion

In this chapter we have examined the practice of a teacher in HEME teaching one-to-one. We have illuminated some common challenges in electronic music education, and also addressed some common critiques to the use of one-to-one teaching in this field of education. We find that the teaching approach of TEM negates many of the critiques of one-to- one teaching. By putting the student at the center of the practice and building the course around the student's uniqueness, the students are empowered and encouraged to shape their own learning environment in the classes. Further, by focusing on the teaching of aesthetics instead of technology (where lectures, flipped-classroom approaches or informal learning platforms often are sufficient), the time can be spent focusing on developing the student's unique artistic expression. TEM's focus on the student's music making is one strategy that facilitates aesthetic discussions concerning this unique artistic expression. When focusing on the student's music making in the one-to-one setting, it gives the student and teacher artistic objects for discussion which, in relation to Biesta`s educational framework, can be related particularly to subjectification. This is especially true since TEM's teaching focuses on original material.

When further relating this practice to the educational framework of Biesta we have argued that teaching of aesthetics combined with the development of unique artistic expression can open up for some interesting possibilities. The way students have to articulate both the objectives and aims *within* their music and the objectives and aims *of* their music contributes to developing a terminology to talk about aesthetics, but also opens up for discussions reaching beyond aesthetics. Following this, we have applied the thinking of Biesta to develop a dual understanding of both uniqueness and expression, and we argue that these understandings can be helpful in addressing subjectification in HEME. By doing so we hope to contribute to a meaningful balance between Biesta's three educational purposes in HEME: qualification, socialization and subjectification.

Balance is central to our argument, and we do not argue that this necessarily should be the only way to teach electronics. Obviously there are prerequisites, assumptions and pitfalls in this way of teaching that makes it unsuitable to be the only approach in every setting, and the students of TEM also gave examples of other methods that were used in his teaching. However, we argue that this approach might work in virtually every setting as an important and valuable *variation* on ways of teaching, and that most students of electronic music will benefit from having at least one semester with similar approaches.

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List of appendices

Appendix 1: NSD approval "Teaching aesthetics" and "Toxic Project"

NSD NORSK SENTER FOR FORSKNINGSDATA

Vurdering

Referansenummer

715524

Prosjekttittel

How might electronic pop-music be studied in higher education?

Behandlingsansvarlig institusjon

Universitetet i Agder / Fakultet for kunstfag / Institutt for rytmisk musikk

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Eirik Sørbø, eirik.sorbo@uia.no, tlf: 91334239

Type prosjekt

Forskerprosjekt

Prosjektperiode

15.10.2018 - 01.03.2022

Vurdering (3)

28.09.2021 - Vurdert

NSD har vurdert endringen registrert 24.09.2021.

Vi har nå registrert 01.03.2022 som ny sluttdato for behandling av personopplysninger.

NSD vil følge opp ved ny planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til videre med prosjektet!

28.05.2019 - Vurdert

Vi viser til endring registrert 28.5.2019. Vi kan ikke se at det er gjort noen oppdateringer i meldeskjemaet

eller vedlegg som har innvirkning på NSD sin vurdering av hvordan personopplysninger behandles i prosjektet.

Les mer om hvilke endringer som skal registreres hos NSD før endringer meldes inn i fremtiden: nsd.uib.no/personvernombud/meld_prosjekt/meld_endringer.html

OPPFØLGING AV PROSJEKTET
NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til videre med prosjektet!

Kontaktperson hos NSD: Lisa Lie Bjordal

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

05.03.2019 - Vurdert

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den dagens 5.3.2019, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

MELD VESENTLIGE ENDRINGER
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:

https://nsd.no/personvernombud/meld_prosjekt/meld_endringer.html

Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 1.9.2021. De registrerte vil også navngis i studien. NSD legger til grunn at de registrerte som kan identifiseres i oppgave/publikasjon mottar tydelig informasjon om dette før de samtykker til deltakelse.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER
NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

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- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER
Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).
NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER
NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

One Drive er databehandler i prosjektet. NSD legger til grunn at behandlingen oppfyller kravene til bruk av databehandler, jf. art 28 og 29.

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET
NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Kontaktperson hos NSD: Lisa Lie Bjordal
Tlf. Personverntjenester: 55 58 21 17 (tast 1)

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Appendix 2: NSD approval "What do you mean?"

NSD NORSK SENTER FOR FORSKNINGSDATA

Vurdering

Referansenummer

991193

Prosjekttittel

Samarbeid i elektronisk musikkutdanning

Behandlingsansvarlig institusjon

Universitetet i Agder / Fakultet for kunstfag / Institutt for rytmisk musikk

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Eirik Sørbø, eirik.sorbo@uia.no, tlf: 91334239

Type prosjekt

Forskerprosjekt

Prosjektperiode

15.11.2020 - 15.11.2021

Vurdering (1)

04.12.2020 - Vurdert

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 04.12.20, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

DEL PROSJEKTET MED PROSJEKTANSVARLIG
Det er obligatorisk for studenter å dele meldeskjemaet med prosjektansvarlig (veileder). Det gjøres ved å trykke på "Del prosjekt" i meldeskjemaet.

MELD VESENTLIGE ENDRINGER
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:

https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-

meldeskjema

Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 15.11.21.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering
er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig,
spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke
tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf.
personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER
NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i
personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om
og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte
og berettigede formål, og ikke behandles til nye, uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og
nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å
oppfylle formålet

DE REGISTRERTES RETTIGHETER
Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12),
informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18),
underretning (art. 19), dataportabilitet (art. 20).

NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til
form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon
plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER
NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1
d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

Microsoft OneDrive er databehandler i prosjektet. NSD legger til grunn at behandlingen oppfyller kravene
til bruk av databehandler, jf. art 28 og 29.

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med
behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET
NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er

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avsluttet.

Lykke til med prosjektet!

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

Appendix 3: Information letter "Teaching aesthetics" – teacher

Musikkteori for musikkstudenter innen elektronisk musikk

Dette er en formell forespørsel om deltakelse i PhD-prosjektet «undervisning for musikkstudenter innen elektronisk populærmusikk,» finansiert av Universitetet i Agder (UiA). Formålet med denne studien er å kartlegge hvordan elektronisk musikk undervises, og hvordan den forbedres. Du har blitt spurt om å delta fordi du underviser i et relevant fag på din institusjon, som vil være interessant å kartlegge i denne sammenheng. Din institusjon har blitt valgt fordi den har relevante studier, der studentene kan fokusere på elektronisk musikk. Deltakelsen består av et intervju, og varigheten på intervjuet vil antakelig være ca. 45 minutter, men vil avhenge av hvordan samtalen utarter seg. Det vil gjøres lydopptak av intervjuet, og dette vil transkriberes i etterkant.

Siden du vil navngis i studien har du krav på følgende:
- innsyn i hvilke personopplysninger som er registrert om deg
- å få rettet personopplysninger om deg
- få slettet personopplysninger om deg
- få utlevert en kopi av dine personopplysninger (dataportabilitet)
- å sende klage til personvernombudet på UiA (Ina Danielsen, ina.danielsen@uia.no) eller Datatilsynet om behandlingen av dine personopplysninger.
- trekke deg fra prosjektet når som helst og uten å oppgi grunn

Behandling av personopplysninger, lydopptak og intervjutranskripsjon vil bli gjort i henhold til gjeldende normer og i samarbeid med NSD (Norsk Senter for forskningData: nsd@nsd.no). I praksis er det ikke flere enn meg som vil ha tilgang til intervjuene i sin helhet, mens mine veiledere vil få tilgang til deler av transkripsjonene. Jeg behandler dine personopplysninger basert på ditt samtykke. Opptakene blir lagret på UiA's OneDrive under transkripsjonen, og når de er transkribert slettes de, og transkripsjonene vil bli anonymisert. Prosjektet avsluttes høsten 2021, og innen den tid vil alle opptak være slettet.

Med vennlig hilsen
Eirik Sørbø, stipendiat ved Universitetet i Agder.
Tlf: 91334239, E-post: eirik.sorbo@uia.no

Samtykkeerklæring
Jeg har mottatt og forstått informasjon om prosjektet *Musikkteori for musikkstudenter innen elektronisk musikk*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

☐ å delta i intervju

Jeg samtykker til at innhentet data kan benyttes i henhold til denne samtykkeerklæringen.

Underskrift prosjektdeltaker, dato.

Appendix 4: Information letter "Teaching aesthetics" – students

Musikkteori for musikkstudenter innen elektronisk musikk

Dette er en formell forespørsel om deltakelse i PhD-prosjektet «musikkteori for musikkstudenter innen elektronisk populærmusikk,» finansiert av Universitetet i Agder (UiA). Formålet med denne studien er å kartlegge hvordan musikkteori formidles til musikkstudenter innen elektronisk musikk. Du har blitt spurt om å delta fordi du har/har hatt dette faget nylig. Deltakelsen består av et intervju, og varigheten på intervjuet vil antakelig være ca. 30 minutter, men vil avhenge av hvordan samtalen utarter seg. Det vil gjøres lydopptak av intervjuet, og dette vil transkriberes i etterkant.

Siden du kan kunne identifiseres i studien har du krav på følgende:
- innsyn i hvilke personopplysninger som er registrert om deg
- å få rettet personopplysninger om deg
- få slettet personopplysninger om deg
- få utlevert en kopi av dine personopplysninger (dataportabilitet)
- å sende klage til personvernombudet på UiA (Ina Danielsen, ina.danielsen@uia.no) eller Datatilsynet om behandlingen av dine personopplysninger.
- trekke deg fra prosjektet når som helst og uten å oppgi grunn

Behandling av personopplysninger, lydopptak og intervjutranskripsjon vil bli gjort i henhold til gjeldende normer og i samarbeid med NSD (Norsk Senter for forskningData: nsd@nsd.no). I praksis er det ikke flere enn meg som vil ha tilgang til intervjuene i sin helhet, mens mine veiledere vil få tilgang til deler av transkripsjonene. Jeg behandler dine personopplysninger basert på ditt samtykke. Opptakene blir lagret på OneDrive under transkripsjonen, og når de er transkribert slettes de, og transkripsjonene vil bli anonymisert. Prosjektet avsluttes høsten 2021, og innen den tid vil alle opptak være slettet.

Med vennlig hilsen
Eirik Sørbø, stipendiat ved Universitetet i Agder.
Tlf: 91334239, E-post: eirik.sorbo@uia.no

Samtykkeerklæring
Jeg har mottatt og forstått informasjon om prosjektet *Musikkteori for musikkstudenter innen elektronisk musikk*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

☐ å delta i intervju

Jeg samtykker til at innhentet data kan benyttes i henhold til denne samtykkeerklæringen.

Underskrift prosjektdeltaker, dato.

Appendix 5: Information letter "Toxic Project"

Musikkteori i elektronisk musikkutdanning

Dette er en formell forespørsel om deltakelse i PhD-prosjektet «musikkteori i elektronisk musikkutdanning» finansiert av Universitetet i Agder (UiA). Formålet med denne studien er å kartlegge hvordan musikkteori kan formidles til elektroniske musikkstudenter på måter som motiverer studentene. Du har blitt spurt om å delta fordi du anses å kunne bidra med relevant informasjon. Deltakelsen består av å skrive låter under gitte forutsetninger i et team på 3, der det vil bli gjort intervju i løpet av prosessen. Intervjuet vil vare 15-30 minutter, avhengig av hvordan samtalen utarter seg. Det vil gjøres lydopptak av intervjuet, og dette vil transkriberes i etterkant.

Siden du kan kunne identifiseres gjennom stemmen på lydopptak av intervjuer og i produsert musikk, har du krav på følgende:
- innsyn i hvilke personopplysninger som er registrert om deg
- å få rettet personopplysninger om deg
- få slettet personopplysninger om deg
- få utlevert en kopi av dine personopplysninger (dataportabilitet)
- å sende klage til personvernombudet på UiA (Ina Danielsen, ina.danielsen@uia.no) eller Datatilsynet om behandlingen av dine personopplysninger.
- trekke deg fra prosjektet når som helst og uten å oppgi grunn, uten at det får noen negative konsekvenser for deg.

Behandling av personopplysninger, lydopptak, produsert musikk og intervjutranskripsjon vil bli gjort i henhold til gjeldende normer og i samarbeid med NSD (Norsk Senter for forskningData: nsd@nsd.no). I praksis er det ikke flere enn meg som vil ha tilgang til intervjuene. Jeg behandler dine personopplysninger basert på ditt samtykke, og deltakelse i prosjektet er frivillig. Intervjuopptakene blir lagret på UiA's OneDrive under transkripsjonen, og når intervjuene er transkribert, slettes de, og transkripsjonene vil bli anonymisert. Prosjektet avsluttes senest våren 2022, og innen den tid vil alle lydopptak være slettet.

Med vennlig hilsen
Eirik Sørbø, stipendiat ved Universitetet i Agder.
Tlf: 91334239, E-post: eirik.sorbo@uia.no

Samtykkeerklæring
Jeg har mottatt og forstått informasjon om prosjektet *Musikkteori for studenter i elektronisk musikk*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

☐ å delta i intervju

Jeg samtykker til at innhentet data kan benyttes i henhold til denne samtykkeerklæringen.

Underskrift prosjektdeltaker, dato.

Appendix 6: Information letter "What do you mean?"

Ulike samarbeidsformer i låtskriving

Dette er en formell forespørsel om deltakelse i PhD-prosjektet «ulike samarbeidsformer i låtskriving,» finansiert av Universitetet i Agder (UiA). Formålet med denne studien er å kartlegge hvordan samarbeid i ulike former for låtskriving oppleves av dem som deltar. Du har blitt spurt om å delta fordi du deltar i det aktuelle studieprogrammet. Deltakelsen består av fire dagers låtskriving etterfulgt av et intervju. Intervjuet vil vare 20-40 minutter, avhengig av hvordan samtalen utarter seg. Det vil gjøres lydopptak av intervjuet, og dette vil transkriberes i etterkant.

Siden du kan kunne identifiseres gjennom stemmen på lydopptak av intervjuer og potensielt i produsert musikk, har du krav på følgende:
- innsyn i hvilke personopplysninger som er registrert om deg
- å få rettet personopplysninger om deg
- få slettet personopplysninger om deg
- få utlevert en kopi av dine personopplysninger (dataportabilitet)
- å sende klage til personvernombudet på UiA (Ina Danielsen, ina.danielsen@uia.no) eller Datatilsynet om behandlingen av dine personopplysninger.
- trekke deg fra prosjektet når som helst og uten å oppgi grunn, uten at det får noen negative konsekvenser for deg.

Behandling av personopplysninger, lydopptak, produsert musikk og intervjutranskripsjon vil bli gjort i henhold til gjeldende normer og i samarbeid med NSD (Norsk Senter for forskningData: nsd@nsd.no). I praksis er det ikke flere enn meg og Andreas Waaler Røshol (medansvarlig for prosjektet) som vil ha tilgang til intervjuene. Produsert musikk beholdes inntil prosjektet avvikles for bruk i videre forskning. Jeg behandler dine personopplysninger basert på ditt samtykke, og deltakelse i prosjektet er frivillig. Intervjuopptakene og den produserte musikken blir lagret på UiA's OneDrive under transkripsjonen, og når intervjuene er transkribert, slettes de, og transkripsjonene vil bli anonymisert. Prosjektet avsluttes høsten 2021, og innen den tid vil all audio være slettet.

Med vennlig hilsen
Eirik Sørbø, stipendiat ved Universitetet i Agder.
Tlf: 91334239, E-post: eirik.sorbo@uia.no

Samtykkeerklæring
Jeg har mottatt og forstått informasjon om prosjektet *Musikkteori for musikkstudenter innen elektronisk musikk*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i intervju
- ☐ at produsert musikk kan beholdes til prosjektet avsluttes, til bruk i videre forskning

Jeg samtykker til at innhentet data kan benyttes i henhold til denne samtykkeerklæringen.

Underskrift prosjektdeltaker, dato.

Appendix 7(a): Interview guide "Teaching aesthetics" – teacher

Interview guide TEM

- How is your background as a teacher?
  - Education
  - Previous teaching experience
- What parameters do you focus on in your teaching, what is important output?
  - What are typical goals and sub-goals between your students' lessons?
  - What kind of tasks do they get?
  - What is the overall goal?
- Do you let the student set the terms for the teaching, or do you have a relatively fixed plan that you implement?
  - Do you experience the students as having clear ambitions and goals when they come to you, or are they more open and curious, "blank sheets?"
- Do you work with an overall focus, with specific projects, or a combination of both?
  - If both; Do you see any differences in the way you work?
- Why do you get more students into the classes, what do you consider to be the advantage of doing this?
  - When do you involve more students in your main instrument lessons, and when do you leave?
- Are you often specific about technicalities?
  - Software, gadgets etc.
  - Craft vs. self expression
- I perceive it as you are concerned with creativity, how do you focus on this in teaching?
  - What do you put in the concept of creativity?
- Electronic musicians, especially laptoppers, are sometimes considered to be somewhat lone wolves. Is this something you actively work to avoid, or address through teaching?
  - How?
- Do you mostly get students who are into art music, or do you have pop musicians as well?
  - How do you set up for pop musicians, is it different?
- Do you consciously address the possibilities / limitations that lie in technology, or is this more implicit in the teaching?
- How do you think in relation to the students' future careers when you teach, is this something you are talking about?
  - What kind of advice do you give in relation to career / job opportunities?
- You are highly regarded by many people. Do you do anything to prevent students from becoming too "attached" to you as a person, or to your ways of doing things?
- Do you have formal pedagogical competence, or do you base your teaching on expertise and experience?
- Have you experienced students who are dissatisfied with the way you teach, and if so, what are they pointing out?
- Have you had people observe, or have you filmed your lessons?
- Something you think I should have asked that I have not asked?

Appendix 7(b): Interview guide "Teaching aesthetics" – students

Interview Guide Teaching Aesthetics – Students

- What was your background before you started at UiA?
    - Played an instrument before?
    - Had formal education?
    - Played with people?
- Do you have a genre or group that you think represents you as a musician?
- Do you play live, or is it mostly studio production you work with?
- Which DAW's / plug-ins / electronics do you use the most?
- How much of the teaching was 1-1 and how much was 1-to-2?
    - Was this a good balance?
- What do you want to highlight as the strengths of the 1-to-2 teaching as TEM implements it?
    - Can you compare this teaching with other forms of instrument teaching?
        - 1-to-1 or interaction can be examples ...
        - Had other teachers? Does TEM add anything different?
- What does TEM add to the main instrument that others do not?
    - What kind of feedback do you get the most?
        - Creativity, technical things, effects etc.
    - Is this better considering how does the industry work?
    - Do you become more independent? Producer and songwriter at the same time ...
- Has this helped you collaborate more with other musicians? Do you experience the teaching as vertical or horizontal?
- Has this teaching method developed creativity?
    - In what way?
    - Overwhelming or inspiring?
- To what extent did you yourself help to shape the teaching?
    - Live sampling is a pretty narrow thing. Were there other alternatives, or were there talk about another teacher?
- Did you ever discuss technology as a phenomenon, what guidelines lie within it, and how it affects creative choices?
    - Is this something you have reflected a lot on yourself?
    - How can this transfer to others who do not engage in electronic music or art music?
- Do you see elements that can be used in traditional instrument teaching, eg to be several people together?
- A challenge that is highlighted in literature about 1-1 is that the teacher has too much influence and affects the students too much. What are your thoughts on this?
    - Have you been aware of this issue throughout the teaching?
    - Have you been aware of exposing yourself to other impulses outside of TEM's hours?
- Do you see any weaknesses in this scheme?
- If you had the desire to make such teaching even better, what could it be?
- Have you learned explicitly about:
    - Creativity
    - Collaboration
    - Technology

Appendix 8: Interview guide "Middle ground teaching

Interview Guide – Middle ground teaching

- Talk to me through your examples
    - Have you ever used the theory consciously to "pull" the idea further, or have you only used conscious theory to analyze what you did afterwards?
- Did you learn anything new?
- What about reflecting like this on one's own process can be useful, if anything?
- All in all, why does it have value, if it has?
- Was it difficult to distinguish descriptive / normative?

Appendix 9: Interview guide "What do you mean?"

Interview guide: what do you mean?

- What was your role?
- How do you usually work?
- Do you usually collaborate a lot with others?
- Was the number (2) a challenge? Would it have been better with more?
- Did the person sitting at the PC feel work pressure?
- Did the one who did not sit by it feel outside?
- Did it have much to say which step the person you were working on went on?
- 1st round of music making (same question for all rounds)
  - What was it like to get started with this form?
  - How did the social work in this form?
  - How was the process experienced in this form?
  - What was it like writing a song without using a laptop?
  - How do you think the result was in this form?
- Were the strict framework for the way songs were made inspiring or annoying or both?
- Did you discover new approaches that you will bring further?
- Were any of the methods you experienced that you were allowed to influence more than others?
  - Did it do anything with the motivation?
  - Do you think this had most to do with the method, or with the one you worked with?
  - Was it easier or harder to clarify your own musical voice?
    - More difficult because you have to "share" the expression
    - Easier because it becomes clearer what is actually "mine" versus the other.
- Was the communication effective?
- Was the communication honest?
- Did you find words or ways texpress your ideas that the other person understood?
  - And vice versa.
- Did you feel that your ideas were heard when you collaborated?
- Were there situations where it did not work?
  - Do you think it was due to. the person you worked with, the way you worked, or musical differences?
- Have you worked in one or more of these ways before?
- Did you experience new pages with your capabilities or properties?
- What type of work method worked best for you?
  - Was there a form of work that made it easier for you texpress what you feel as your expression?
  - Best for the music, best for yourself or best for the group?
- What role or function did you get in the various forms of collaboration?
  - Did this vary?
- Were there any methods you found easier than others?
- Was there a form of collaboration where you think the result was better?
- How was it experienced to work physically together versus working digitally?
- How is it experienced to work synchronously / a-synchronously?
- Which song (by which method) do you think was the best?

University of Agder

Faculty of Fine Arts

With reference to Regulations for the degree of Philosophiae Doctor (PhD) at the University of Agder, dated 20 June 2012 *Section 15.4 Correction of formal errors in the thesis,* I apply for permission to correct the following formal errors listed below.

Date ___7. feb 23___ Signature ___*Eirik Sørbø*___

Errata list for formal errors the thesis by _____ (name), _____ (year)

Page	Line	Current text	New text
v	10	Ethical Considerations	Ethical considerations
v	28	Reference List	Reference list
1	30	while I look close	while I look closely
2	4	7-24	7–24
3	17	theory–related	theory-related
3	22	p. 43	page 43
5	3	music-making in the DAW	music-making in the DAW environment
5	19	Shucker	Shuker
5	35	25-26	25–26
6	footnote 3	9-11	9–11
8	14	breath	breadth
14	4	that follows	that follow
14	4	I will I	I will
26	footnote 26	baby become	baby becomes
27	2	form	forms
30	20	15-16	15–16
40	7	34-36	34–36
40	13	26-28	26–28
44	footnote 40	60-61	60–61
46	14	60-67	60–67
46	15	116-209	116–209
46	32	85-86	85–86
53	23	Ethical Considerations	Ethical considerations
53	footnote 47	187-188	187–188
54	13	180-182	180–182
57	footnote 55	point	points
58	18	51-53	51–53
60	14	71-87	71–87
62	14	3-4	3–4
62	16	85-86	85–86
62	18	115-123	115–123

62	19	101-119	101–119
62	20	pursuit	pursue
64	24	3-4	3–4
65	7	115-123	115–123
65	8	101-119	101–119
66	footnote 58	once	once.
67	3	responds the	responds to the
81	footnote 62	60-61	60–61
85	1	Reference List	Reference list
140	9	music 1 content	music content
162	17	main purposes of	main purpose of
162	28	3-4	3–4
164	5	9-11	9–11
165	9	9-11	9–11
166	29	25-40	25–40
169	11	3-4	3–4
170	20	the my research	my research
170	23	1000-1007	1000–1007
170	35	115-123	115–123
170	36	101-119	101–119
173	26	invites	invite
190	2	3-4	3–4
190	5	86-86	85–86

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