Composing on iPad as Middle Ground Education

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Abstract: In this article, I apply Biesta's philosophical term "middle ground" as a theoretical basis for investigating music teaching where the students' creative productions are part of their learning activities. The middle ground term illuminates how arts education depends on both incorporating the student's desires and, at the same time, leading the student into encounters of responsibility with the material and socially-constructed world. I analyze how an educational design where secondary school students composed music with GarageBand on iPads can be characterized as middle ground education. The analysis is based on material from a microethnographic study in secondary school music lessons. From this, I discuss how middle ground education can be designed and propose the importance of students being given promotional challenges.

Keywords: middle ground education, composing, iPad, stop moments, secondary school, inhibitory and promotional challenges

In this article, I investigate the research question: How can a teaching program where students composed with GarageBand on iPads be considered as *middle ground education*? The concept of middle ground education means that students are encouraged to exist in the middle ground between their own desires and their responsibilities towards the world (Biesta, 2018). In this article composing is seen as the process of making a music product with the chosen technology. In the analysis, performative inquiry focusing on stop moments (Fels & Belliveau, 2008) works as a key to grasping the students' negotiation of their own desires and

responsibilities to the world. Furthermore, I explore how music educational practice with iPad and GarageBand can be designed to meet the intentions of a middle ground education.

First, I will discuss how this can be a relevant perspective in music education. Second, I will explore the article's main theory, Biesta's concept of middle ground, and how this can be operationalized as a lens for analyzing the empiric material. Third, I will analyze the materials and present the research results. Finally, I will discuss the results and propose the joint concepts of *inhibitory* and *promotional challenges* as a guide for educational task development.

Music Education Between Traditional Knowledge and Genuine Expression

In the field of music education there is a diversity of different music educational practices. In traditional music education it has been common to emphasize the continuation of musical cultural conventions, like traditional Western music theory, musical craftsmanship techniques and canonized musical instruments. From such an educational starting point, the content of music education will first and foremost be about challenging students to internalize concepts, symbols, craft techniques and style ideals—concepts that exist in the culture regardless of the individual student's expressive urges. The contradiction to such an educational strategy would be to set aside all cultural conventions and to challenge students to express their innermost ideas and feelings in any way they might find—regardless of the outside world or its reactions. Bresler (1998) and Espeland (2007) mention "school music" as a music practice that differs from other music in the culture. "School music" points to a continuum with possible approaches in music education which stress different aspects more or less. In a Swedish context, Olsson (2014) points out that musical expertise has been neglected in didactic work that involves composing in such a way that knowledge-based perceptions are reduced to a question of personal musical expressions (p. 100–101). In this article I investigate how different parts of such a continuum could be emphasized simultaneously in educational practice by allowing students to explore and reshape culturally-shaped

musical resources, and thus also culturally-shaped musical knowledge which is embedded in technology, on the basis of their own musical desires.

In this context Biesta's concept of *middle ground* is relevant. He writes about "the potential disappearance of the arts from art education" and "the potential disappearance of education from art education" (Biesta, 2018, p. 12). His main point is that art education is about the student's desires and the material and socially-constructed world meeting in the student's actions. Based on this, the consequence of a possible lack of art *or* education is that the student's desires *or* responsibilities towards the outside world, respectively, are removed from education. Both are equally unfortunate, according to Biesta, who proposes an art education that promotes the responsibility of the subject by asking it to seek a middle ground between its own desires and its responsibilities to the world. Biesta's (2018) concept of middle ground is based on his wider philosophy of how education should promote emancipated and responsible subjects prepared for social participation fostering democracy (Biesta, 2014; Abup, 2015).

What Biesta does not answer is *how* such education can be carried out in practice and certainly not how it can be done in a music educational practice. There is a need for developing practical educational strategies based on Biesta's philosophy, and this is a main purpose for this article. However, there are some research contributions that are not developed on the basis of Biesta's philosophy that can, nevertheless, be related to similar proposals of music pedagogical practice. At the same time, these research contributions are brought together by their focus on digital technology in music education. In the following I mention some of these research contributions, starting with the two recent handbooks of technology and music education from Oxford University Press (Ruthmann & Mantie, 2017) and Routledge (King et al., 2017).

Researchers argue that digital technology as part of music educational practices contributes to democratization of music culture (King et al., 2017, p. xiii) and smoothing out of power structures in learning contexts (Webster & Williams, 2017, p. xiii), and to reconceptualizing music classrooms into hybrid spaces where what have traditionally been different musical subjects are joined into renewed, vitalized music pedagogical practices (Tobias, 2012; Crawford, 2014; Kardos, 2017; Humberstone, 2017).

Digital technology is also considered as contributing to a change from instructive to constructive practices, from teacher-guided to student-centered practices, towards more complex tasks and more different resources (Wise et al., 2011). In the growing research base on music pedagogical use of iPad, several contributions argue that the iPad technology can be utilized to promote learning activities that enhance students' agency (Brown et al., 2014; Juntunen, 2017; Bandlien & Selander, 2019).

The impact of task formulation on students' involvement in composing activities is another relevant theme in research literature (Nilsson, 2002; Breeze, 2009, 2012), which in my opinion has a lot to do with what kind of learning the task prepares for. Nilsson (2002) views the tasks as invitations to play with the music with the musical technologies they have available and based on images used as inspirational prompts. Breeze (2009, 2012) suggests that the tasks do not contain *prescriptions*—recipes, but rather *proscriptions*—prohibitions and omissions. His goal is to create assignments where students are free to develop their musical expression without getting lost in the plethora of opportunities.

Biesta's Art Pedagogical Philosophy and Methodological Perspectives

Biesta (2014, p. 45–46, 2018, p. 14–15) argues that education should contribute to the development of responsible subjects. He writes:

> To exist as subject does not mean to simply escape from any external determination, but to ponder the question of … when, how and to what extent we should limit and transform our own desires in face of the desires of others … To exist as subject thus means to exist *in dialogue* with the world; it means being 'in the world without occupying the center of the world'. (Biesta, 2018, p. 14–15)

According to Biesta, the task of education is to turn the student's face towards the world so that the world is shown to the student and the student is shown to the world. The students are allowed to bring their own wishes and desires into the education process. Their encounters with both the material and the socially-constructed world are manifest in the experience of resistance. This resistance can lead to an increased effort

and growth, but it can just as well lead to a weakening or destruction of oneself or the world. Biesta's point is that the responsible subject seeks the middle ground (Biesta, 2018, p. 16) between the destruction of oneself and the destruction of the world. Here, the subject can be active and responsible in the world without annihilating itself and without itself being the center of the world. To support the student on the road to this middle ground, education does not use force; rather it contributes with ethical authoritative questions: "The key educational question, therefore, is whether what I desire is what I should desire, whether it is desirable for my own life, my life with others" (Biesta, 2018, p. 18). Education should be a humanizing process that reinforces students' desires to be in the world (Abup, 2015, 30:10). Such a reinforcement cannot occur through socially-established truths and ready-made understandings imposed on the student from the outside. Also trying to force a person to exist as subject would have the opposite impact by making them an object.

Based on Biesta's thinking, students' experiences of and dealing with their own desires are an important part of education, and the art subjects play an important role in achieving this, because the students' desires can be expressed, formed and transformed into art. The hope of such an education may be that the student, as a subject in the encounter with other people and the culturally-shaped world, creates expressions that they want to take responsibility for while aiming to touch people and their surroundings. Then the students' own art expressions are of decisive importance for their education and *Bildung*.[1] In such a context, by comparison, a teaching design aimed at reproducing and counting pre-produced knowledge content has little to contribute.

The analysis in this article seeks to examine encounters between the student's desires and the world – and also the student's actions in these encounters. In researcher narratives about students' composing processes, performative inquiry is included to analyze the encounters, such as stop moments (Fels & Belliveau, 2008). Stop moments are moments that call for attention – the participant's attention as well as the researcher's attention. Stop moments are permeated with affect. They influence,

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1   The german traditional term for the personal, social and subject-related development and formation that education entails.

touch and engage the participants and/or the researcher. A stop moment can be an in-between space, a turning point, a strange event or a discovery. In this way, this analysis examines how Biesta's concepts of *desire, world, resistance, subject* and *responsibility* can be observed as concrete materiality, construction, challenge, choice, solution and action in learning activities. In this way, stop moments are not limited to what is spoken, but can rely on material embodiments that the researcher picks up, points to, and sometimes is able to interpret and contextualize.

In this analysis, there is a need for an articulated language to explain observations. Both a traditional music theoretical analysis and popular musical analysis (Gracyk, 1996; Yadata et al., 2014) are included as supplemental lenses as they tend to mutually support each other. The popular musical analytic lens especially enables focus on students' abilities and knowledge, without judging it by traditional Western music conventions and the normative standards that follow, as it is developed from a post-structuralistic point of view and emphasizes receptive understanding of music (Moore, 2003).

This analysis is based on the students' partial and final music products as well as my field notes and interviews from a microethnographic field study, where 80 eighth graders divided into four groups of 20 students each composed music using GarageBand on iPads during their music lessons—90 minutes each week for over two months (Bandlien, 2019). The research participants and their parents were well-informed about all parts of the research project, which also is approved by NSD.[2] In the field work I was a participant observer (Hammersley & Atkinson, 2007; Fetterman, 2010). As a participant my presence may have impacted on the material. However, my role in the classroom as an assistant teacher provided me with an opportunity to get close to the students and the learning activity as an observer without impacting greatly on the students' work in a normative manner. Most of the contact with the participants was initiated by the students themselves, who wanted to show me their work. In this way I got to observe most of the students, but I had better contact with some of them. I collected and analyzed the musical products

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2   Norwegian Center for Research Data, data protection services.

of all the students after each lesson. This gave me a good overview of how the material emerged. After all lessons I conducted semi-structured interviews with all the students. Strong aspects of the study could be that the results are based on a large microethnographic study with 80 participants which opened for exploring unforeseen aspects. Limits of the study could be about the use of one particular technology and the choice of one particular song, *Stay With Me*. Limits could also be about the researcher's ability to observe, document and analyze the material.

The students were given two assignments. The first assignment was intended as a training task to practice using the technology and the theoretical concepts of music contained in the software. Some of these concepts, *musical form, rhythmic measures and bars, chords* and *tempo,* were verbally explained, visualized and demonstrated musically by the teacher before the students started working. In this assignment students were to reproduce a recognizable version of Sam Smith's (2014) song *Stay With Me* with a minimum of four instrumental tracks including a vocal track. In spite of the teacher's explanation and demonstration, the students encountered a number of challenges when attempting to do the task. In the second assignment, the students were to create their own piece of music using the resources embedded in the provided technology. The assignment asked them to use more than one instrument, to sing, rap or record other sounds with the microphone, and to form a coherent piece of music with a tension curve. The students attempted performative actions in their efforts to shape their own musical expressions.

I have chosen two composing processes that provide good examples of encounters between the students' desires and the material and socially-constructed world. The two examples can be regarded as illustrative and representative examples from the total material because they represent examples from both the two different tasks given and testify to how most of the participants made efforts to utilize their musical desires and personal musical experiences from informal learning arenas in their composing. In addition to being representative in this way, the two examples excel at providing concrete material that can easily be connected to the receptive music understandings that are so important in popular music analysis and, thus, also for recognizing musical elements desired by the

students. The two compositional processes are unique in different ways, and they are suitable for providing perspectives on and concrete examples of key elements of Biesta's philosophy. Both stories contain concrete examples of the concepts of desire, world, resistance, subject and responsibility.

In the following, I will tell the story about how Jan and Ola made their own version of *Stay With Me* (task 1), and how Marius and Po composed their own pieces of music (task 2). I will analyze the material carefully through the use of the mentioned lenses and present the research results. In this section, QR codes provide the sound and visual examples of the students' compositions.[3]

Jan and Ola

In the first session, Jan and Ola recorded six beats with an automatic accompaniment (autocomp) of electric guitar, drums, bass and strings. They were missing every fourth beat compared to the original form of *Stay With Me*. The order of the chords, thus, corresponded to the original form of the song, while Jan and Ola's recording lacked four beats for every three chords. Jan and Ola also switched chords a beat earlier or later than the song's form indicated in some places (Figure 1).

Figure 1: Jan and Ola's Version of *Stay With Me* After the First Session. https://youtu.be/XOE5SLQ6x7o

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3   A QR reader for any mobile device can be downloaded for free from your appstore.

Jan and Ola had their stop moment number 1 in the middle of the second session. Jan and Ola now became aware that the form they had been using so far differed from the form of *Stay With Me*. They discovered that the form had four bars, even though it contained only three chords. By trying to sing along with the accompaniment they also understood that the form of the accompaniment was important for the design of the melody. After this, they started all over again—this time adapting to the prescribed form diagram's four-bar pattern.

Jan and Ola's stop moment number 1 is about how they meet and align with the social reality of cultural conventions. At this stop moment, there does not seem to be a clear conflict or contradiction between the students' desires and the world in which they operate but rather a discrepancy in understanding. In other words, the students' desires alone are not sufficient to carry the intentional meaning within the musical world in which they operate. At the stop moment, the students' desires are supported and refined through actions which lead to encountering and accepting socially-constructed conventions. Thus, the students' desires are also conveyed in a meaningful way in a social context. In this way, the subjects, Jan and Ola, accept the responsibility imposed upon them in their encounter with the world.

However, they still repeatedly changed chords one stroke later than the shape chart indicated. They recorded six to eight tracks (Figure 2) with very distinct and differing autocomp patterns. The combination of the various distinctive autocomps meant that many different musical motifs and harmonic constellations were played simultaneously. From a conventional understanding of music, this can be described as competing patterns of conflict with one another or even as an overload—a problem that continues and grows in the next stop moment. The following QR coded video shows both of the compiled versions as the students left them. It also includes the researcher's investigation into how different tracks interact by adjusting their volumes up and down (Figure 2). Through this exploration it becomes clearer how distinct these interplaying tracks are.

Figure 2: Jan and Ola's Representation of *Stay With Me* After Their Stop Moment Number 1. https://youtu.be/tg7GEj4M52o

In the third session, Ola was not present. However, Jan still had his stop moment number 2. In a conversation with me, Jan expressed that he and his partner had not fully agreed on the style choices. He wanted an even more rockier style. It seemed that he now saw the opportunity to get it more the way he wanted. With a furious energy, he made a new version with a total of 29 tracks, of which five or six tracks played together at any one time. Even if Jan and Ola had previously made overloaded music, Jan now went further in the same direction. In this version, Jan included, among other things, small musical spaces—extra break bars—with drum breaks in several places and an electric guitar solo. In other words, Jan went on to explore both the software's audio supply, auto-accompaniment variations and the kind of possibilities which exist in relation to the music's form and structure. Jan's production matches Bell's (2015) meta-phor about the inexperienced baker's tendency to mix all of the ingredi-ents together that he has available without thinking about how they will taste. For example, the chords D major, G minor and Fsus2 sound simul-taneously, while the electric guitar plays a low *E* on the fourth beat at the first bar. Such overloading can be characterized as problematic from a traditional music theoretical understanding of music. Jan also contin-ued with the late chord changes for most of the instruments, except for the bass– it kept the form exactly. This, too, contributes to harmonic and

formal ambiguity, which might be judged as a problem from a traditional point of view and in the context of this reproducing task.

Investigating their composing through a popular music analytic lens, however, it becomes essential to consider this saturated soundscape as an intended musical expression, where the tightly packed and energetic musical texture is most essential for Jan. This musical texture conveys a particular musical expression, with a high tempo and powerful, rocky sound sources and an intensified sound complex, which stands in stark contrast to Sam Smith's original musical expression. Gracyk (1996) writes about ontological thickness in rock music versus the thinness found in note-based music and argues that opinion formation is stronger in what he calls the performative domain. In this context, performative domain may have to do with interpretation, instrumentation and performance rather than traditional analysis categories such as melody, harmony, form and rhythm. Although Jan adheres to the prescribed form, his version of *Stay With Me* takes on a new and radically different musical expression as a result of performative choices of musical elements and markers that, together, provide the fast, tightly packed and powerful musical expression of his desires.

It is worth noting that what from a traditional music theoretical point of view may appear as expressive ambiguity or professional challenges may convey other forms of musical expression from a popular music analytical perspective. The music can also convey other musical desires than those that can be accommodated by traditional categories, such as harmony, tone and style ideal.

At this stop moment, Jan's musical desires are evident. His musical energy and intensity are displayed not only in the musical expression, but also in the overwhelming volume of production, as well as in the chaotic, compressed texture and fragmented structure of the production. It is as if Jan himself did not perceive any resistance from cultural conventions. Perhaps it is correct to say that Jan, here, is pushing so hard that he tends to destroy something in the musical world he encounters. A milder interpretation, however, is that he transforms the materials based on his own desires. I would suggest that Jan's work could have been refined into a clearer art expression through further reflections and authoritative

questions (Biesta, 2018), which empathically direct Jan's attention to both how his expression appears and how he wants it to appear.

Jan's third stop moment could easily be overlooked, as the final product showed no change other than the creation of an audio track without song recording. But it is precisely this that draws attention—"what is hidden" (Fels & Belliveau, 2008, p. 36). After showing an intense energy production in three sessions, it seems like nothing happened in the last session. What happened, however, was that Jan, in Ola's continued absence, was facing the task of singing alone. He was not idle at all, but spent the whole session trying to find a way to accomplish this insurmountable task. He made technical preparations and planned for the vocal recording, but ended up using the vocal track only to insert a short soundtrack of a drum break and a guitar/bass chord as the finish at the very last beat (Figure 3).
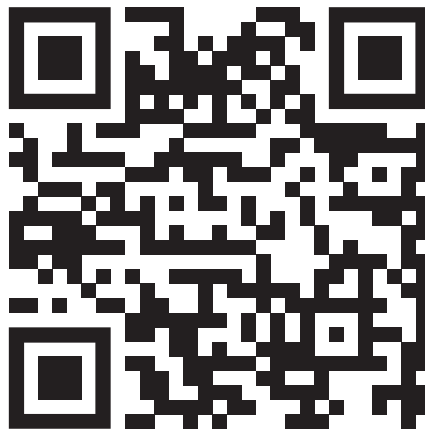

Figure 3: Jan's (and Ola's) Last Version of Stay With Me.
https://youtu.be/Ry4ODMxFWYg

In this third stop moment, it is evident that the resistance that Jan experiences becomes too strong and leads him to a withdrawal. From a Biesta (2018) perspective, this can be viewed as the destruction of his (Jan's) existence as a subject in the world.

Jan moved within an area between the claim of the assignment to treat what Gracyk (1996) calls ontological thinness and his own musical desires (Biesta, 2018), which involved the performative treatment of a wider ontological thickness (Gracyk, 1996). The way I see it, Jan's

potential for development points towards further negotiation between his own musical desires and socially-constructed and material communicative resources. The insurmountable task of singing and making the expected vocal track is part of the didactic design, indicating that this design can be advantageously changed.

Marius and Po

Marius and Po worked together. Marius said he liked listening to techno music, especially Pegboard Nerds. In elementary school he liked the subject music because, as he said, "it was better than sitting with a book." He also said that when he makes music at school, he makes "nonsense" music for fun. Po said that he had been learning saxophone a few years ago but had quit because it was too expensive. Nowadays he just listened to pop music. He expressed that he liked composing on the iPad.

Marius and Po composed their composition piece by piece for each teaching session. Each of the four pieces had its own distinctive character, and what they did in one session did not change afterwards. In this way, each of the work sessions constitutes its own stop moment (Fels & Belliveau, 2008).

Already in the first session, Marius and Po's desire for synthetic sound became clear. In this session, they completed bars 1 through to 20. They let a perfectly smooth 4/4 drum beat run like a solid foundation throughout the entire piece. On top of this, they composed an ABBAA form where the two different parts were constituted through two different automatic synthesizer patterns. Part A uses tones exclusively from a pentatonic scale, which contributes to a fluid and conflict-free harmonic landscape (Figure 4).

Figure 4: Part A, Marius and Po.

The B section is somewhat more complex. This is recorded by activating and keeping the chord Bb major in the visual interface. The autocomp then plays a gradually decreasing bass line in the upper bass range, *Bb – Ab – G – Gb*, which is repeated for each beat. However, the students chose a different chord for the bass. This caused the bass tones to shift arbitrarily in relation to the rest of the music for each beat, causing the lower bass to be dissonant with the rest (Figure 5). This bass choice may seem odd based on a traditional music theoretical understanding, but it contributes to a strange, perhaps even weird, and exciting harmonic landscape.

Figure 5: Part B, Marius and Po.

In this first session they also used GarageBand's sampler. They recorded the sound of a voice shouting a long-running "yeeah!" (author's translation) with a slowly falling glissando. This sampling is played four times in succession and adapted to the eight bars from five to 12.

In the next teaching session, they completed bars 21 through to 41. In this section, there are no drum sounds. However, several new variants of synthesizer voices were added, while the harmonic conflict-free automatic accompaniment from part A was continued and processed through a synth sound variation. The new synthesizer voices were two different bass voices that I will call C and D. Also, these were auto-generated autocomps; they were activated by pressing a chord symbol in the visual interface. The bass voice C uses the tones *B, A, E* and *Bb*, thus contrasting with the A part (Figure 6).

Figure 6: Bass Voice C, Marius and Po.

The bass voice D uses tones from the chord F7 (# 9), but only with one tone at a time. This results in a typical blues-like harmony, and it introduces a new contrast with the previous one (Figure 7).

Figure 7: Bass Voice D, Marius and Po.

A stop moment that happened in this second session was when they found their own way of making melodic vocal recordings. They made their own vocal re-presentation of how they heard the bass voice D playing. Marius sang this representation in the sampler, not in a regular audio track. Then they recorded this into a new MIDI track by holding down a key on the sampler. This meant that Marius could not listen to the bass voice D while the representation was being sampled; he sang freely from memory and his own choices. This has led to a representation that differs from the bass voice D in many ways but that is, nevertheless, recognizable. At this stop moment, the task is met with humor and ingenuity. They deal with the resistance they experience in the requirement to record sound – preferably their voices according to the task – by relying on the technology's resources and capabilities and their own ability to transform these resources into meaningful expressions. When they mimic the "suggestions" of the technology, it also sounds like they're making fun of the technology. Marius and Po had a lot of fun during these recordings. Their desire to have fun became a constructive force in their encounter with the demands of reality. It could be suggested that the challenge of singing was solved when they saw that this could be done with humor—and perhaps even at the expense of the technology.

In the third teaching session, they completed bars 42 to 62. In this session, Marius and Po had stop moment number 2. They felt that the various parts were very different, almost like independent pieces of music. It was hard for them to see that the parts could belong together. Marius said afterwards that it had been challenging to see how they could join the parts together as one piece of music. They found that they could do this by inserting small and short independent parts as in-between transitions

between the different pieces. Bar 42 is one such transition where they use the sampler to render a rhythmic and vocal shout: "bala-palapa-lapa!". The transition works in much the same way as a drum break between different parts. Instead of smoothing out the differences between different parts, Marius and Po highlighted the differences in this way. A stop moment can be a betweenness or a hinge that moves both ways without belonging to either one or the other (Fels & Belliveau, 2008, p. 36). Marius and Po emphasized the betweenness and re-presented the stop moment musically—with its short transitional part. This technique was also repeated later in their composing process. Thus, notable contrasts became an important part of their musical expression. In relation to Biesta's (2018) philosophy, this stop moment contributes to a balance between Marius and Po's musical desires and the task's demands for a coherent piece of music with structure and tension. The stop moment, thus, constitutes the choices of action as those of the responsible subject (Biesta, 2014, 2018).

In the fourth teaching session, Marius and Po completed bars 63 to 87. This part also starts with a transition bar with vocal-rhythmic sampling. Now that this technique was established, they did not hesitate to introduce even more brand-new musical substances. Thus, they added the synthesizer voice that I call E (Figure 8); this was also automatically generated in the same way as the other voices.

Figure 8: Synthesizer Voice E, Marius and Po.

Marius and Po also made their own vocal representation of the synthesizer voice E. They recorded this in the sampler in the same way as before. After repeating this three times, the entire composition concludes with a new five-bar long vocal-rhythmic transition before a final long-drawn and crazy "yeeah!" (author's translation) (figure 9). In this last transitional part they build up the tension by increasing the frequency of repeating the syllable "now" (author's translation), which is repeated more than 30 times, while gradually increasing the pitch. In this way, they illuminate a tension structure similar to a build, like just before a

drop[4] (Yadata et al., 2014, p. 143), through vocal re-presentations of the synthetic instruments. By comparison, similar builds are frequently used by Marius' favorite musicians Pegboard Nerds, for example, in the song *Disconnected* (Figure 10). In this context, it is easy to see that Marius' musical desire is part of the musical expression they created.

Figure 9: Marius' and Po's Completed Composition.
https://youtu.be/UIGHpxqbBXI

Figure 10: *Disconnected* by Pegboard Nerds (Monstercat: Uncaged, 2012).
https://youtu.be/MwSkC85TDgY

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4   Within the Electronic Dance Music (EDM) community, a *drop* is described as a moment of emotional release, where people start to dance "like crazy". There is no precise recipe for creating a drop when composing EDM; rather, a drop occurs after a *build*, a building of tension, and is followed by the re-introduction of the full bassline (Yadata et al., 2014, p. 143).

Marius and Po behaved like many others when they explored many possibilities and produced several musical ideas. Marius said that they discovered many effects and opportunities along the way and that the exploring of the resources was really an almost endless work. A rhythmically-varied and distinctive synthetic sound, along with strange and humorous vocal contributions, attests to the kind of musical desires they brought into the composition.

Marius and Po's composition has a humorous and ironic character. The vocal tracks contain only a few words which, in turn, are used many times: "yeah" and "now". They drove the process through humorous and ironic interpretations and a transformation of resources. This says something about how they saw themselves in relation to the musical work as humor and irony became part of the substantial meaning content of the music. There is some musical humor in the total empirical material in this research project. It may seem that musical humor has a particular connection to a technological focus. In the case of Marius and Po humor seems to have been a genuinely creative force where their *desires* and resistance from the material and socially-constructed world were brought together in actions that they were willing to take responsibility for as subjects (Biesta, 2014, 2018).

Marius and Po both stated that it had been very difficult to overcome harmonic challenges in the first task, *Stay With Me*. In Task 2, they seemingly wished to avoid harmonic challenges by largely choosing to play one instrument at a time—sometimes in addition to vocals and drums. The composition, nevertheless, appears to be full of harmony, because they selected automatic accompaniments that are themselves complex and full of many notes and tones, both as harmonics and melodic movements. In this way, Marius and Po made multiple choices in their work. Their choices show traces of trying to safeguard both their own desires and their subjective responsibility towards *what is other* (Biesta, 2018) – what is other than themselves, and to what they are responsible.

Composition with GarageBand on iPad as Middle Ground Education

Through the composing processes of Jan and Ola, and Marius and Po, Biesta's (2018) concepts of desire, world and resistance are actualized.

Whether the students have approached a middle ground where they could exist as responsible subjects has to do with how their learning activity led to encounters between their desires and what is other (Biesta, 2018) and how these encounters evolved.

When the goal is the development of the responsible subject, this implies a teaching program where there is room for the student himself to step towards the goal because the student himself wants to go. Otherwise, the student becomes an object. That the student brings their own desires into the teaching, then, becomes a necessary precondition. Based on this article's analyses, such desires may be related to stylistic preferences, how one appears as a musical person or the desire to touch other people musically. In the encounters between the student's desires and the world the student's sensitivities to the material and socially-constructed world of music is exerted so that the student, as a responsible subject, can find a middle ground where their musical expression is shaped in dialogue with the world. This may require a lot of time for trial and reflection.

In such a learning activity the music that the students produce aims to give genuine meaning to themselves and other people. Instrumental learning, where the aim is to show knowledge unrelated to actions or tasks that are perceived as significant and real in the subject's relation to the world, does not occur in such teaching. The teacher's task is to support the relation of learning to reality and to promote reflection on responsibility. The teacher does not invoke power over the learning, but instead conveys ethically-justified authoritative views related to responsibility. The teacher may question the student's choice and ask the student to turn to the world, but does not impose their own understandings on the student. This is what Biesta (2014, p. 45) calls an empty pedagogy that entails a risk of what the subjectivity event leads to. The way I see this, in relation to the analysis in this article and to limited time and large groups in secondary school music lessons, many of these teacher tasks can be handled through the use of digital music technology, where material and socially-constructed musical resources are embedded in the technology, accompanied by well-considered task formulations.

Inhibitory and Promotional Challenges

The encounters between student desires and the world usually contain some form of friction, and these can often be characterized as challenges. Challenges themselves are a positive necessity in the student's development as a responsible subject. However, it is crucial that these challenges are affordable for students. If the challenge gives too much resistance, it can lead to either withdrawal—destroying the student's existence as a responsible subject—or causing the student to press on with their own desires in such a way that the resisting world will be harmed. Challenges involving moderate resistance promote the student's existence as a responsible subject, while challenges that result in excessive resistance inhibit the student's existence as a responsible subject. In this way, I argue that the difference between inhibitory and promotional challenges is crucial for middle ground education.

The promotional challenges are characterized by involving invitations to action, but without containing specific requirements about what actions to take and, to a lesser extent, about how any actions should be performed. In this way, promotional challenges seem to be invitations to make an effort by their own will towards intrinsically-motivated goals. Thus, affective energies are released in encountering the challenges.

Inhibitory challenges, on the other hand, are characterized by containing precise requirements about specific actions to be performed and how they should be performed. In this research project it seems that inhibitory challenges, in most cases, can be identified as requirements that students should apply intuitive, physical and affective music knowledge based on certain academic standards, regardless of whether they have practiced such skills and knowledge.

In this article the difference between inhibitory and promotional challenges can be seen in the difference between the two tasks given to the students. Task 1 to a greater extent was inhibitory and led to "the destruction of the subject" (Biesta, 2018), while task 2 to a greater extent promoted the responsible subject.

I suggest that teachers focus on the initial task formulation as a crucial point in the educational design, where they signal openness towards the

risk that the students may want to follow paths that the teacher could not foresee. Similar to Nilsson (2002) and Breeze (2009, 2012), I suggest giving compositional tasks formulated as invitations without any prescriptions, while prohibitions or restrictions could be included as frames for the task. Furthermore, it is important that the task leads the students to engage in the composing process with their desires in meaningful ways connected to the material and socially-constructed world of their interest. With such open but engaging assignments, an emphasis is placed on students' abilities to engage in the aesthetic aspects of music and to take on challenging actions of their own choice. Through such promotional challenges students can be encouraged to exist as subjects in the world (Biesta, 2014, 2018).

The content knowledge for such teaching is closely shaped by the subject's involvement and action, thus reflecting the need for a knowledge subject. This implies a perspective where the socially-constructed musical conventions are not disqualified or abandoned, but where they can only be treated didactically in the face of the subject. The socially-constructed musical conventions are present fully or partially within the student and in the surrounding world, including in the technology. In this way such knowledge is brought into the learning situation. It is by bringing the student into the encounter with the materials and conventions of the world in this way—through promotional challenges— that the student can develop into a responsible subject. In such an educational practice, creative, communicative and informal aspects of musical learning are reinforced. As a result, the diversity of the musical resources' affordances—their multitudes of abilities to carry meaning— can come into play and enable a music education where there is room for the students' own musical desires and where the subject is made responsible. On the basis of this, such music educational practice would be suitable for promoting democratic principles, students' agency, equality in teacher—student power structures, as well as music pedagogical development against a more complex and interleaved content knowledge, relevant for today's heterogenous and diverse music classrooms.

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