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Towards a sustainable music education. What contribution should music education make to the crises and urgent questions of our time to innovate for the future? An essay

Summary

As a school subject, music education has a duty to address current and future societal, social and political issues. The crises of the last few years and the discontent of the young people who take to our streets to demand responsible treatment of our planet are unmistakable. The present article first examines two educational concepts that can be helpful here: the so-called future skills (Ehlers, 2019) and the Sustainable Development Goals (UNESCO, 2016). Next, some future-oriented developments in the field of music are presented and the impact of technical innovations (artificial intelligence, immersive media and the internet) on developments in music becomes clear. This is taken as the basis for formulating methodological and conceptual considerations. A methodology that makes students fit for the future must teach them to innovate, reflect ethically, cooperate and analyze. Still, the subject of music finds itself faced with several irreconcilabilities. These irreconcilabilities are: digitization versus embodiment; cultural diversity versus regionality; classroom music education versus collaboration with cultural players; innovation versus (cultural) heritage; functional music versus the freedom from purpose of music. These areas of conflict are identified and discussed in the essay, with the aim of making our school subject sustainable and giving it a responsible role in current social developments.

Keywords: future skills, sustainability, music education, innovation, music teacher education

Introduction

Are we at a turning point? Do we – in the light of the current political, social and ecological crises – more than ever need innovative strength and a clear focus on sustainability to prevent our world from taking a negative turn? Is it more important than ever to shape our own future consciously and prudently? And what exactly is required to shape our future? What are the “future skills” (Ehlers, 2019; Ehlers, 2020) that we will need? Which skills should we pass on to the young generation in educational institutions in order to deal with crises and unexpected situations in the future? Finally, what role can the arts and arts education play in all this?

Most of the following text was part of a keynote that I held in Belgrade in May 2022 at the pedagogical symposium for the Balkan countries, a symposium connected with the international Conference *Music and Meaning* of the European Association for Music in Schools (EAS). In May 2022, the Covid-19 crisis had finally receded to a tolerable level for the first time in two years. A new war had broken out in Europe, in Ukraine. And for some years young people had already been demonstrating more vehemently than ever on the streets of Europe for more climate protection and the sustainable preservation of their planet (Jordans, 2022). In many places this transnational movement even had the term “future” in its name, e.g. *Fridays for Future*.¹ So in May 2022 we were, so to speak, feeling the effects of a crisis that had just been overcome, a crisis that had just broken out, and a long-term crisis with as yet unforeseeable consequences.

What is the role of music education in such a world? Does the value of the arts speak for itself and need no socially based justification? Will music education become a nice-to-have given the much more pressing issues? Or should we strive to create a meaningful position for music education amid these forces that affect people acutely and threaten them? It would be a meaningful and significant music education in schools as well as music teacher education, then, that takes current changes into account and looks to offer helpful contributions.

In the following chapter I will seek some answers to these questions. Drawing on the educational concept of *future skills* (Ehlers, 2019) and on the obligation to address the 17 *Sustainable Development Goals*, the *SDGs* (UNESCO, 2016) in all educational contexts and, finally, by looking at current and “next” trends in the music business and technology, I will discuss implications for a sustainable music education in schools as well as for music teacher training that can support learners towards future viability.

Crises as triggers for innovating education. An examination of two concepts

At all times, preparing young people for an uncertain future has been a demanding task for education to face. Currently, at least two additional aspects are challenging our education system more than ever. First, there is a methodical-strategic level that requires us to learn new skills to deal with the world: We are heading towards the post-knowledge era. Artificial intelligence and the multitude of information sources on the internet make it more difficult than ever to reliably assess knowledge in terms of its viability. It is the information crisis that we need to learn to deal with. The post-knowledge era is replacing the information era. Second, there is a content level: It has become vital to acquire reliable knowledge about how we can live sustainably in order to prevent the ecological crisis.

¹ <https://fridaysforfuture.de/> [31.7.2023]

Future Skills to tackle unknown conditions in a post-knowledge era

Regarding the methodical-strategic level, the questions how we can learn to deal the changing world, the future skills concept represents a promising approach. In 2019, Ulf-Daniel Ehlers presented the results of a large-scale international Delphi study,² expounding the so-called *future skills* for university students (or *next skills*, a term that is often used as a synonym) (Ehlers, 2019). Figure 1 shows these 17 skills. They are divided into nine skills referring to the learner (subject development-related skills), four skills referring to objects (object-related skills) and four skills referring to the world (organisation-related skills).

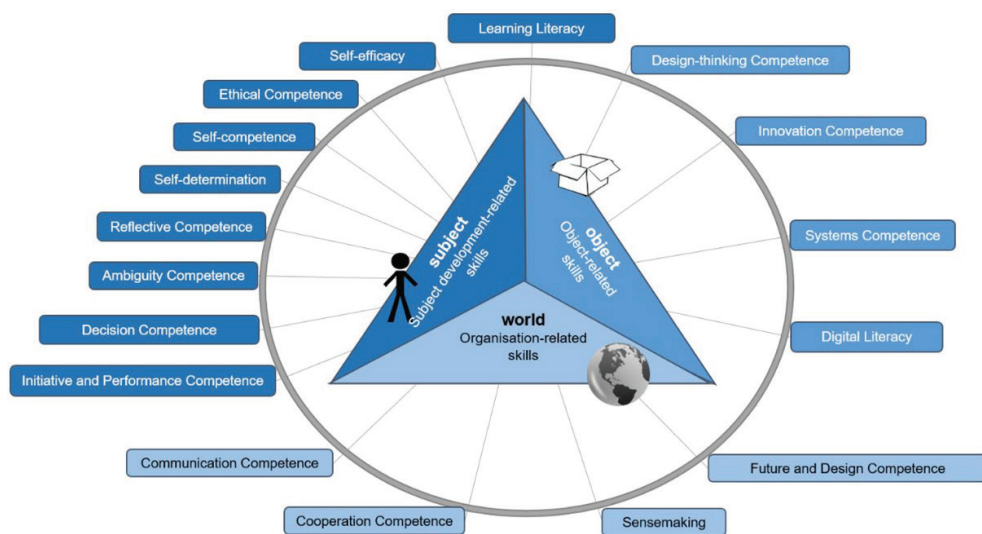


Figure 1. Typology of Future Skills (Ehlers, 2019: 27).

It is worth taking a closer look. What approach is chosen here to deal with the future? It is noticeable how little reference is made to content, “the what” of learning (most likely still contained in *digital literacy* or *systems competence*). Almost all the skills refer to “the how” of learning, the methodical-strategic area of competence. In this large area we can find skills to tackle the new and the unforeseen (*learning literacy*, *sense-making*, *ambiguity competence*, *decision competence* or *reflective competence*). We also find skills we need to innovate (*design-thinking*, *future and design competence*, *initiative and performance competence* or *innovation competence*). And there is a conspicuously dense group of competences that pro-

² As part of the Delphi study, almost 50 international experts from universities and business were asked for their assessment of student “future skills” in higher education. The focus of the survey was not only on the degree of relevance of future skills, but also on the time frame for their acquisition and resulting future scenarios for higher education (Ehlers, 2019).

mote the beneficial development of the self, a self that acts in reliable communication with the ever-changing world and whose decisions need to be responsible and based on values and democracy (*self-determination, self-efficacy, self-competence, communication and cooperation competence, ethical competence*). The content, the knowledge needed, the specific tasks and objects of our future are highly uncertain, as Ehlers puts it: “These are skills which refer to acting creatively, agilely, analytically and with a high level of system understanding in relation to certain objects, topics and tasks and to acting successfully even under highly uncertain unknown conditions.” (ibid., 45). It is three shifts that Ehlers posits, three shifts that are not all new to us. The shifts aim to increase the flexibility of the self, the way we learn and finally the systems: from standardization to self-organization, from knowledge to competence and from hierarchical to networked organizations (Ehlers, 2020: 45ff.).

At first glance, the arts and music, followed by music education, might find some strong points of contact with some aspects of this model: Innovation, sense-making, ambiguity or design competences are core aspects in our field. However, if we take a closer look, especially at music, we find vast areas that are not creative at all, nor innovative (e.g. large parts of the classical music business). And in music education we often describe ourselves as representing a creative school subject, but creativity, innovation or designing are often lacking in the music classroom or during instrumental tuition in the music teacher education programs (which in some places focuses chiefly on technique and interpretation, and less on creating). In many European countries music education in schools is a strongly knowledge-oriented subject following a strong Eurocentric canon and tends to be teacher-led (Bisschop-Boele, 2013) in keeping with its strong choir and orchestra tradition (meNet – music education Network, 2009).

So giving music pedagogy a large role in the information crisis and anchoring areas of competence such as future skills more firmly in music pedagogical action would require a comprehensive discussion of our curricula, our educational aims and the methods used in music teacher education as well as in the music classroom (cf. Chapter 3).

The Sustainable Development Goals as a blueprint to save our planet and to face social challenges

How about knowledge of the ongoing ecological crisis and social challenges, then? What are the main features we need to focus on for a sustainable development of our planet? On a general level, sustainable development can be characterized by the following four elements (Kopfmüller et al., 2001; Ott et al., 2011):

- *Justice*: Sustainable development strives for intragenerational justice (distributive justice between North and South, rich and poor) and intergenerational justice (present and future generations).

- *Ecological limits*: Ecological carrying capacity describes the limits of our economic activities and our social development.
- *Global orientation*: The analysis of unsustainability problems and their solution requires a global orientation.
- *Participation*: Sustainable development is a social process of learning, understanding and transformation that can only be filled with ideas and visions and driven forward if as many people as possible participate.

As a clear political signal, the UN member states adopted Agenda 2030 (UNESCO, 2016) in 2016, in which it formulated 17 Sustainable Development Goals (SDGs). As the next step, the member states called for these to be translated into the education systems of countries around the world (UNESCO, 2017). The 17 SDGs (see Table 1) cover many very different subject areas: they are a comprehensive concept, yet their translation and implementation into education systems, in particular into music education (Clausen et al., 2017), has only just begun (Malmberg & Gall, 2023).

Table 1. The 17 Sustainable Development Goals (UNESCO, 2016).

Goal	Main Focus
1	No Poverty
2	Zero Hunger
3	Good Health and Well-being
4	Quality Education
5	Gender Equality
6	Clean Water and Sanitation
7	Affordable and Clean Energy
8	Decent Work and Economic Growth
9	Industry, Innovation and Infrastructure
10	Reduced Inequality
11	Sustainable Cities and Communities
12	Responsible Consumption and Production
13	Climate Action
14	Life Below Water
15	Life on Land
16	Peace and Justice and Strong Institutions
17	Partnerships to Achieve the Goals

Here, too, no close relationship between the topics and art or music is immediately apparent. In relation to school subjects, the task of securing knowledge about the SDGs would be far more likely to be assigned to subjects such as biology,

political education or social studies. In music education the discussion has only just started (Buchborn et al., 2022; Center for Music Ecosystems, 2023; Østergaard, 2019).

In summer 2022, I led the music part at the international summer school *Teaching the SDGs* at the University of Potsdam, Germany (Gall & Malmberg, 2023) together with a group of music educators from The Netherlands, Belgium, Austria, the United Kingdom and Germany. We took the opportunity, together with students from various European countries, to delve deeper into the question of the relevance of the SDGs to music and to find out more about the students' prior knowledge of the SDGs and their attitudes towards them.

During our work it became clear to us that there are already areas in music education that refer closely to the SDGs today. Music pedagogy therefore has the potential to contribute important points to achieving the goals. During our summer school, the following thematic areas from the current music educational discourse were identified as related to the SDGs (Table 2) (ibid.)

Table 2. Current Music Educational Discourses relating to certain SDGs.

Thematic Areas in Music Education Related to SDGs	SDGs
Diversity / Inclusion / Social Justice	1, 2, 5, 10, 11, 16
Innovation / Ability to Innovate	4 & 9
Creativity	4 & 9
Wellbeing: Musical Tastes / Emotions / Confidence in Performing or Singing	3 & 4
Technologies / Digitization	4 & 9
Music and the Environment including Responsible Production	6, 7, 11, 12, 13
Individualization of Work / Being Flexible	11 & 16
From Teacher-led to Student-led Work	4, 10, 16

We also took the opportunity to collect data among the students in order to seek answers to the following questions: What are trainee music teachers' perceptions of the SDGs in relation to music education, and how do music teachers best develop student teachers' awareness of the SDGs in relation to music education? Our main findings beyond the trainee music teachers (Malmberg & Gall, 2023) were: Sustainability was seen as important but teacher trainees have few ideas of how to work for the music classroom; Music education concepts incorporating key aspects of the SDGs exist (see Table 2) but are not recognized as such by trainee music teachers; Participants request concrete and mainly musicking practices for working with SDGs; The international view of music education and sus-

tainability is seen as reassuring; More knowledge about SDGs was empowering to the trainee teachers. As one student commented:

„I am already teaching and I think that the summer school has given me the confidence as a not-so-experienced teacher to address many topics related to the SDGs in my school. It is hard for me, because I don't think all colleagues are as open to discuss improving our school life towards those goals and there will be a lot of discussion (which I don't really love). Having had the experiences in Potsdam helps me be confident [...] learning about the SDGs has given me a framework.”

To sum up, it became evident that in the music teacher training programs in a number of European countries there may be knowledge and teaching methods relating to sustainability education, but the prospective teachers find it difficult to make the conceptual connection between existing methods of music teaching and their potential for sustainability education. Hence, the trainee teachers express their strong interest and need for it, stressing the musicking part of possible methods as well as transnational collaboration.

Future of Music: Next media and global cultural citizenship

Let us now take a close look at the subject of music and some aspects that point to the possible future of music. The recent changes in how we experience music and making music are attributable to a large extent to technological developments. Here, I present three developments that will be important in the future and that might have a particularly large impact. However, there are social limitations that apply to all three: Only those who can participate in the technological progress, those and only those who can afford it, those who have access to the internet and the necessary machines, and only those who are digitally competent can be part of these developments. Basically, these are developments for privileged people.

- 1) *Artificial Intelligence becomes a player in art.* AI paints like Rembrandt, composes like Bach, writes novels and poems. If the digital corporations have their way, this is just the beginning. Artificial creativity is the new key objective: Machines should become artists, as autonomous and ingenious as humans. The issues of copyright or ownership become obsolete (Franceschelli & Musolesi, 2022). In his essay *Die Kunst der Zukunft* (Art of the future), Hanno Rauterberg describes the emphasis with which this art of the future is being developed (Rauterberg, 2021). He asks about the consequences of the forthcoming epochal change: How will people's self-image change next to AI? And what does it say about a society if it expects not only logic from computers, but also art, metaphysics, truth and transcendence? Will the algorithm become the new creator god – and will

politics therefore become superfluous? In his book he doubts that this can and will succeed down to the last detail. Still, for the music business as well as for the question of canon in music education the changes will be significant.

- 2) *Immersive media add the element of space to our perception of music.* After the digital change comes a shift towards immersive media. Triggered by the gaming industry (Feneberg, 2019), people are immersing themselves more than before in music as a three-dimensional experience using virtual reality or augmented reality technologies. This happens, for example, when part of the action and the stage in opera productions can only be experienced through AR glasses as happened at the Wagner Festival in Bayreuth in 2023 (Schultejans, 2023) or if concert-goers can (re-) experience the concert digitally in such a way that they can go back and forth between the musicians – the listening experience is expanded by creating a virtual environment. We can think ahead and use these achievements for music education: VR environments enable young music learners to compose music in the VR space (although they lack the skills on individual classical instruments, for example) or people with physical disabilities can produce music more easily than before. Many of the applications require extended embodiment. And music opens up the bodily experience more than before – a new (or a revived!) notion of space and embodiment while making and experiencing music.
- 3) *The Promise of Global Musical Citizenship in Diversity* is progressing. Finally, accessing music on a global scale (by streaming, by using music platforms, by musicking digitally over distances) has never been easier. Concerts, music, instruments, styles in all their diversity can be experienced and used anywhere (which is, by the way, also a way to cut pollution caused by travel, Fan et al., 2021, Shevlock & Bates, 2019). While regional music styles continue to exist, music styles are also mixed and hybridized, compiling all sorts of fusion music. We can call these changes the path to global musical citizenship. In this positive scenario, diversity is an asset (Jünger, 2003; Bates et al., 2021) and not an aspect that creates dynamics of demarcation.

Considerations for a sustainable music education

In view of what has been said so far – in view of future skills, of sustainable development goals as well as the expected future of music as an art form and its social meaning – what concrete steps can we propose for music education and music teacher education? In order to serve as a model for young learners we need

to demonstrate how we structure our institutions and use our resources in the spirit of sustainability not only in music education but in all school subjects and other educational settings (Kagan & Kirchberg, 2016; Coles et al., 2017). Furthermore, we need to strengthen methods that foster future skills (Rieckmann, 2018; UNESCO, 2017). These are methods for:

- Innovating: all kinds of new content creation, future workshops (Eifler, et al., 2021), scenario work, design-thinking or forecasting;
- Analyzing and evaluating from an ethical point of view: modeling, participatory research, case studies, interrogations, simulation games;
- Reflective thinking: role discussions, learning diaries;
- Project-based learning: projects in real-life settings, campaigns, internships.

Furthermore, our work in the music classroom will possibly be characterized by areas of conflict, the weights of which we have to learn to balance. We will have to balance between:

- 1) *Digitization AND embodiment*: Digitization in music is a sign of our times. It opens up new ways of embodiment (VR, AR), playing on computer keyboards as non-traditional instruments. This new type of embodiment should form a good balance with traditional forms of music-making and its physicality (singing, dancing, playing instruments, conducting, etc.) as well as its sensitivity (Gallafassi et al., 2018) and slowness (Varkoy & Rinholm, 2020).
- 2) *Cultural diversity AND regionality*: The effects of a global musical citizenship should be embraced whilst valuing regional musics.
- 3) *Classroom music education AND collaborating with cultural players*: Building musical skills needs practice and regularity. In contrast, the music room is always open to selective projects with “the real world”. Here, questions of the sustainability of the music business or smaller field research are pursued, in cooperation with concert providers, for example (Braun-Wanke & Wagner, 2020).
- 4) *Innovation AND (cultural) heritage*: Music is based on valuable traditions that are closely intertwined with our human history. To know the meaning of cultural heritage and to innovate on this basis for the future, it is also important to find a harmonious balance. There is also a second aspect to this area of conflict: Innovating music means improvising and inventing music that has not existed before. Assessing the cultural heritage of music means learning along the lines of “musical works” in their historical context. Future-oriented music lessons need both poles.
- 5) *Functional music AND the freedom from purpose of music*: Music is a good amplifier for political messages.³ Using music strategically to pursue goals such

³ A well-known example is the YouTube clip by Greenpeace in which Einaudi plays the contemplative piece *Elegy for the Arctic* sitting on an ice floe at his grand piano while, in the background, the ice melts and crashes into the sea with a loud roar (YouTube, 2017).

as sustainability goals, learning about the effects of music as “functional music”, using it oneself in a campaign, for instance, and experiencing its impact is an important learning goal (Bentz, 2019; Publicover et al., 2018). At the same time, music and art also live from their freedom from purpose. This aspect should also be reflected and lived in music lessons as well.

In order to enable such educational processes in the interests of sustainability education, an action-oriented, transformative pedagogy is required. The teachers themselves must be qualified to work with these concepts. A future viable music teacher training is therefore an essential prerequisite for their structural implementation in the entire education system.

Conclusion

In June 2023 we started the wide-ranging network and development project TEAM which is co-funded by the EU. By 2026 *TEAM, the Teacher Education Academy Music. Future-Making, Mobility and Networking in Europe* aims to reshape initial and ongoing music teacher training and school music education in Europe according to the current needs of music teacher professionalization, digitization, intercultural learning, future viability, sustainability, and social coherence.⁴ In TEAM we hope to be able to make an effective contribution to the further development of the topics dealt with in this chapter by joining forces, with a transnational perspective, and a digital dissemination strategy.

We continue to hope that music and the arts, as powerful promoters of innovation, will find their place in the struggle for a sustainable future, and continue to contribute to the future well-being of our world through all crises. As Phillip Blom puts it:

“Something new only becomes conceivable when it takes shape, when it becomes visible and audible, when it touches people emotionally. This is the central work of artists and thinkers, of stages of a dramatic inner life that communicates via various media, establishes a connection with its audience and thus makes change possible at all” (Blom, 2020).

Art creates something new. Art can track down the new like a seismograph and make it visible. It is concerned with what is not yet, but can be. Not as a utopian web, but as a concrete idea of another, possibly better life. It is thus an experience-based, sensually constituted “concrete utopia”. This can make art a promoter for change, a promoter for shaping our future.

⁴ www.teacher-academy-music.eu

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КА ОДРЖИВОМ МУЗИЧКОМ ОБРАЗОВАЊУ. КАКАВ ДОПРИНОС МУЗИЧКО ОБРАЗОВАЊЕ ТРЕБА ДА ИМА У КРИЗАМА И ПРОБЛЕМИМА ДАНАШЊИЦЕ ЗА БУДУЋЕ ПРОМЕНЕ? ЕСЕЈ.

У раду се поставља питање будуће одрживости музичког образовања у школама: са којим се задацима суочава субјект у односу на друштвену, политичку и еколошку кризу нашег времена? У раду су постављена два корисна модела: тзв. модел будућих вештина и нацрт за одрживи развој држава Уједињених нација, тзв. Агенда 2030 са својим циљевима одрживог развоја (Sustainable Development Goals). У светлу актуелних трендова у музичком свету, поставља се и питање које конкретне закључке морамо да изведемо за наставу музике у школама, као и за осмишљавање наставних планова и програма курсева за усавршавање наставника музике? Тиме бисмо дали садржајан допринос актуелним темама које се односе на одрживу будућност.

Кључне речи: будуће вештине, одрживост, музичко образовање, усавршавање, образовање наставника музике