

Jürgen Oelkers

Education and Music: An Old Couple^{*)}

1. *An old couple*

Is music part of education? Looking at history, this question seems to be rather silly and can easily be answered. Of course music is part of education, and a very important one, indispensable and irreplaceable. Music was a central part of human culture and received its high rank in the hierarchy of education at an early stage. In this sense, it is an “old couple”, and a very paradoxical one, because it has not aged in centuries. Music and education were always considered to be young, because the education of youth was always involved.

Since Plato’s *Politeia* at the latest, thus since 380 BC, music is an important subject in education, also in theory. Gymnastics and musical education together form the soul of man (Politeia 410a, 412a). The musical education begins prior to gymnastics and also includes poetry (Politeia 376e). But only good things should be learned and mastered (Politeia 394c/d). Plato therefore identified exactly which keys and which instruments appear to be educational. Harps, cymbals and flutes were forbidden (Politeia 397c-400c). However, the history of musical education did not follow Plato; if today’s children start to learn an instrument in school, it will be the flute.

After Plato’s *Politeia* music obtained its place among the *artes liberales*, the liberal arts,¹ which were already considered by Sophist Isokrates as precursor of philosophy. Philosophy, does it really want to be the “teaching of wisdom”, is not possible without music, music has always been a solid component of education and, originating from the sacral culture, it has always possessed a formative power.

The seven liberal arts, which in the late antiquity lead to education, are grammar, dialectics, rhetoric, geometry, arithmetic, astronomy and music. The four last arts received the name *Quadrivium* by the Roman Philosopher Boethius, and since the 9th century, the first three were called *Trivium*.

In the historic canon of education, music thus has always been a supreme art, which was able to distinguish itself from elementary arts such as grammar, but also from practical arts² such as handicrafts and furthermore the art of healing. Considering this tradition, it can only be said: Nobody can evade the power of music, which has been a cultural heritage since advanced civilisation, in an essential aspect culture is *musical* culture and it is easy to show that there were never any good schools *without* music.

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¹ *De nuptiis philologiae et Mercurii* (between 401 and 429 n. Chr.).

² *artes mechanicae* (Hugo von St. Viktor: Didascalicon, around 1130).

And this is true for sacral as well as for secular cultures: Education without music is not education. The reason for this has been very well known since the Greek, it is the music, which defines the inner harmony of man and thus holds together the intellectual powers of man.

Correspondingly, Plato saw the centre of education in music.³ Pythagoras of Samos went even further and assumed that the world itself was a musical harmony of spheres.⁴ Since then “harmony” also serves as a social expectation. Music, I will say, was not only an indispensable part of education, but also of knowledge. In principle this is no different today.

However, the topic of my presentation is not the philosophical connection of music, education and knowledge, but the much more profane question if, and if yes, for what purpose public education and with it state-run schools require music. This question cannot be answered with reference to the ancient world, but presupposes the modern living environment, where music is arguably dominant as a medium of experience, but the connection with general education appears to have been lost or at least severely reduced.

This theory may surprise this audience, because is it not true that more children and young people than ever are musically active and many of those as successful autodidacts? There are many modes of education outside schools and by ways of learning by doing. And is it not a wise maxim of education that the kids should try out what interests them and not what school lessons demands?

My question is to be understood in terms of educational policy: What is the purpose of a school subject like music, if the effect is minor and the musical competence of today’s children and young people is formed predominantly outside the state-run school? As is generally known, apart from specialised schools music is only a marginal subject in today’s curriculum.

In the earlier times of school education, music appeared to be a scholarly basic of the educational canon and timelessly teachable (Liedtke 2000). No other subject could take its place or its loss would have been noticed immediately. This security is gone, also as new questions arise, issues relating to the effectiveness of years of school lessons, which could not be evaded, also not by the subject of music.

As far as I can see, at least in the German speaking world, there are hardly any studies of the long-term memories of music lessons at school, those memories that remain unforgettable for the good or the worse. This might be my own problem, because I remember nothing apart from dull singing and the piano playing teacher who interacts only with the gifted and let the others be uneducated. Maybe Pink Floyd had a similar experience when singing “leave the kids alone”.

³ The most important part in education is virtue and it is based on music, “because time and harmony exquisitely permeate the inner soul and engrave themselves with power, by bringing with them decency and thus also make things decent” (Platon: Politeia 401d). The opposite also applies.

⁴The teachings of Pythagoras has been handed down in Acousmata, thus in short aphorisms. The essence of things consists of numbers, there is a comprehensive mathematical order, which captures the doctrine of the harmony of the spheres. With its speed, all celestial bodies cause noise of indescribable power, depending on speed and distance between them, individual sounds form and with the circular flow, there is finally a harmonious original sound. Man does not hear this sound, because he is exposed to the melody of the planets since his birth. He therefore also does not know what complete silence is.

But how singular are memories like these? Indeed, one can find studies on the connection between music and the cultural mind in general (as in Niper/Schmitz 2016), but hardly on the long-term personal experiences with a marginal subject in today's curriculum. This includes the question of how successful or effective on a sustainable basis, music lessons actually were in view of the whole body of students.

There are some data that reveal some insight how music lessons in school are assessed by students. In a survey in 2016, 70 percent of the interviewees stated "that they have particularly positive memories of the collective singing or playing music"⁵ thus neither theory nor the history of music.

If one would go deeper with the questioning and ask grown-ups in a longer distance to their school experience, one would expect that many of the interviewees can only cite some of the fragmented lines of the songs that were sung, most of them no longer play an instrument and music has become a passive listening habit.

Some students will think of the marginal hours of the school day, of the effort, to show interest, or of those fellow students who were always able to do it better than oneself. If the expression "fine-tuning your hearing" meant anything to them, the interviewees would probably be inclined to refer to the outside, to the supermarket, the radio or the music channels on Youtube.

On the other hand, studies which are asking what is considered to be *good* music lessons show that more is aspired than just listening to music. "Good music lessons" is expected by teachers and students primarily the teaching of musical *competence*, associated with joy and working together. What is not expected is to fulfil the demands of the curriculum (Brunner o. J.).

2. *Music and Education*

So how are music and education connected? "Education" in the German sense of "Bildung" is the increase of a certain competence in areas of knowledge without the opportunity of an utmost degree. Learning can only go on and learners can only try to do better than before.

The process of education cannot be really be understood as that what is being lost, but it must be understood on the basis of what improves quality. At the same time, there is no overall amount, say of knowledge or ability, which would conclude education, if indeed you had reached it.

Generally speaking, you do not reach a definitive goal, but you gain experiences and progress in your own development. What is differentiated and honed with education is the understanding of problems, tasks and circumstances and therefore personal ability. Especially in music, nobody is conclusively educated. Every virtuoso can enhance his performance and the art does keep on setting new challenges.

⁵ <https://de.statista.com/statistik/daten/studie/712589/umfrage/umfrage-zu-erinnerungen-an-den-eigenen-musikunterricht-in-der-schule/>

Music is thus an open and creative medium of artistic expression, if one had learned to master its basic elements. There is another connection with education: Music as an ambitious language and form of expression, in this sense as a differentiated culture, must be newly conveyed to each generation, without a natural guarantee to be able to retain the level once achieved. However, the *opportunity* for this must be given and especially for this reason, music is a part of the curriculum in the state-run school.

Music is an abstract and at the same time descriptive world of symbols, similar to mathematics. Music does, however, require a sensory medium and is not only an abstraction. You can play music and music has the task to educate a special organ, namely the ear and its habits. But again similar to mathematics, musical understanding is a process to refine perception and competence.

Only sufficiently high differentiation of the musical perception permits individual enjoyment, which conquers the stereotypes of hearing. This is not different in mathematics, when looking at shapes and equations. The challenging difficulties are only recognised when one has sufficient ability to differentiate. In day-to-day life, this is not required, only if one engages oneself in the art and wants to learn it, will the challenges be presented.

Musical education is special in another aspect; being free from external purposes, it can only relate to *itself*. The connection is *music* and nothing else; the utilisation does not arise from what is today called “transfer” to other teaching fields, but only ever from music. Of course, music can be deployed as social illustration, but then you need a repertoire and not further understanding.

Why, however, does musical understanding enrich the general education and is indispensable for this reason? There are several answers: When you are proficient on an instrument, you will have a lifelong companion, and the musical ability is a biographical competence, which influences all perceptions. If you reproduce a piece of music by playing yourself and reinterpret it, you have an ability, which cannot be replaced by anything. Finally, if you are able to live and think in musical perspectives, you are moving in a unique world of symbols, which proceeds with precision, because it is difficult to understand in its depth.

I do not know anyone who is musically educated and who would be unhappy about this, thus he would like to reveal his abilities and his skills. Vice versa, one is faced with a painful loss when it becomes clear that one has started too late to take a serious interest in musical education. “Serious” means you change yourself or even more: to let in your own person and take on the efforts which, in most cases, do *not* require a musical genius but on ly educated talent.

Also in this respect, music and mathematics have similarities, one can hear or see, where the creation of the talent was *broken off*. Crucial for the process of musical education are the cultivation of the interests, the constant challenge of learning and understanding as well as the use of variety. Nobody really likes to reveal musical skills which are average but still joyful, and only the amateur does not know what he is missing.

On the other hand, musical education is no longer to be understood as a normative hierarchy. Whoever frequently visits the Zurich Opera House does not have a “higher education” but only more costs than others, however great the quality standard of this house may be. Musical education is a passionate confrontation with the object, whereby the flat and

the high, the surfaces and the depths are not determined by education experts, but experienced and lived through personally.

In musical education simply lexical informations are not very useful, the didactic is often not more than makeshift, only the *experience* creates the real relationship with music. Sometimes they are intolerant, but only because variety had not at all been tried. The social utilisation of music constricts the experience and fixes the liking to the formats of target groups, however, education, can only be understood comprehensively from the *whole* field of experience, which wants to be *curiously* experienced.

Thus, when looking at music, only an emphatic concept of education is of help, one that knows of passion and soul, and for this reason alone does not appear to fit so well with the experience of today's education that is often not really demanding and sometimes distant to the student's interests.

However, again - music is an end in itself. If there is *no* pleasure and knowledge, then there are no equivalents, and this alone is good reason to keep music in school as subject of its own. And then there is another reason, namely the promotion of creativity and thus of personal expression through the arts.

3. Creativity

It is often said that children *discover* the world. To be precise, one should say that they expand their world with their questions. For the adult, to observe the questions of children are cognitive adventures.⁶ And if you allow me a personal remark: this can only be emphasized by a passionate grandfather.

To encourage children means to let them ask questions and allow them to find their expression. This applies to the creative use of language as well as for thinking and the artistic expression, i.e. the perception of their environment. And as for promoting the talents, we have the rule of Piaget: Children must be taken seriously.

In 1920, Jean Piaget was working with Théodore Simon in the laboratory of Alfred Binet in Paris. Simon and Binet had developed a standard test for the assessment of intelligence. Now the aim was to create a similar test for children and Piaget was involved with that task. But he had doubts: The tests related to specific age groups and measured children according to their answers to the predefined questions. The intelligence was to increase or decrease with the error rate. Errors were deviations of correct answers.

Young Piaget noticed that the way the children should learn to work with the test is described from the perspective of grown-up psychologists, whereas totally different processes must be assumed for the learning and development of the children themselves.

If children do not answer correctly to the questions of the adults, the question begs why they are actually answering in the way they are answering. In other words, Piaget was interested in the logic of the incorrect, namely that what adults would easily laugh about, if

⁶In the novel *Zuckersand*, Jochen Schmidt (2017) describes walks with his two-year old son.

they compared the expressions of children with that what is deemed as correct in your own world view.

In the intelligence test at that time, incorrect answers were retardations, however, for Piaget, the child's world view was revealed from what the children *are saying* and not, what they are *supposed to say*. For Piaget it is about how children recognise and use "mistakes", if in their own thinking they believe that they are correct after all. They are creative without being aware of it.

But what is "creative"? In the literature on creativity theory, reference is often made to the fact that the English social psychologist Graham Wallas⁷ had developed the basic model for creativity. In 1926, Wallas published the study *The Art of Thought* (Wallas 1926). There it was not about psychometrics and tests but in fact about the art of thinking.

In *The Art of Thought*, Wallas distinguished four stages of a creative thinking process namely

- preparation,
- incubation,
- illumination
- verification.

These stages work as follows: It is necessary to attune to a problem and to examine it from all sides, then the problem must unconsciously mature, often for a long time, before the brainwave on how to solve it arrives, whereby the actual verification requires discipline, attention, will and thus conscious work. The crucial step, the illumination, is not available,⁸ it either comes or it doesn't come.

Creativity is, however, simply not the same as having an illumination or following one's unconscious feelings. Talent alone is also not crucial, but knowledge and skills are, which has to be learnt. You can only be creative in a special area of knowledge, and only if the levels to be mastered have been designated. So there is no "creativity as such".

The intuition of the solution of a problem might often be surprising for the learner, however, this also depends on practice in having to solve problems and to improve one's own skill. Intuition is central for any artist but if there no skills and knowledge there will be no solution and thus no progress.

Otherwise, there could not be any creative musicians, nor creative mathematicians, nor creative educators. And despite the wave of achievement tests, we still have creative educators, and not only in Switzerland.

The main task of educators is to identify and promote talent which excludes routines of assessment and would not be possible without a special creativity in education. Talent is not found in listings. And as we all know from musical education the first teacher is the crucial one, the one all further steps depend on. But what can be said of promoting talents in today's schools?

⁷After his studies in Oxford, Graham Wallas (1858-1932) was at first a teacher and then worked in University adult education. In 1895, Wallas was co-founder of the London School of Economics and there he received a professorship for political science.

⁸ It either goes back to Henry Poincarés' „illumination soudaine“ (*Science et méthode*, 1908).

4. *Education and Talent*

Children start school with rudimentary numeracy, their math skills in the end will largely depend on what they learned in school (of course this is also true of what they are *not* able to do). When school children in Switzerland use English words and sentences, this indicates that sequences of the foreign language are used in their areas of experience, mostly in the media, although without connection and in the form of fragmented speech patterns, which require teaching to develop into a real competence.

Reading can also be learned independent of the school, but reading which learns from reading books and continues in this way, requires stimulation at school in many cases. Nowadays, the book format is no longer used culturally as a matter of course on a day-to-day basis. Only the school can ensure access to the book across the spectrum of students.

Music, on the other hand, is an effective life experience from the beginning, an intuitive, pre-linguistic everyday experience for all children, which directly intervenes in the forming of the habits of hearing without any school-teaching. Music in everyday life determines the taste of music but on a very low level.

Music is in a literal sense “omnipresent”, not only because people are singing and playing music everywhere, but also because the media knows how to control attention and subconscious moods primarily by means of music. It will prove difficult to spend even only one day without musical impertinence, and what this means for children would be an interesting topic to research.

This thesis applies similarly to visual arts. Characters and symbols are omnipresent, similar also colours and shapes. In their day-to-day world, children learn innuendos or quotations from visual arts, from Dürer’s praying hands via Picasso’s peace dove to Andy Warhol’s outstretched tongue of the Rolling Stones. Thus children have an imperceptible or spontaneous view of the field, even if they do not have any structured knowledge.

In this sense there is already taste, as in the case of music, and also power of judgement. But if this is so, the question arises, what can be learnt at school and what else it should or can do, to improve the development of taste away from everyday experience, when the habits of hearing and viewing in particular are very stable and also form the basis of perception for a long time.

The expectation of the parents is often inclined towards promoting the personality of their children. This expectation is justified, but this applies to all school subjects and is not a special feature of music lessons. Sport, mathematics or history can also promote the personality of the students, provided that the learning interests are linked to these subjects on a long-term basis. In other words, one has to be successful in one or more areas of study and develop a consciousness of the skill, if the personality is really to develop.

This also applies to music. The potentials of musical learning can only be developed if competences emerge and the security to be able to play and judge is developed. In the process of learning, differences in talents are always emerging which however do not define any normative gap at school, but simply require different learning spaces for certain talents.

Music must be able to relate to the educational process of all children and young people and at the same time, do justice to the specifics of the talents. It must also be ensured that a suitable offer is available, with which such objectives can be achieved. But this is not guaranteed.

It is difficult to maintain learning continuity for many children in today's music classes, the requirements of the subject are not self-evident, even less so, when educational standards are aspired to; the musical environment outside schools are not particularly favourable, to put it euphemistically; and the efforts of the teaching staff in proportion to the performance of the pupils must also be assessed.

On the other hand many things can be done. The objectives of the music lessons should be formulated clearly and transparently, so that with the indication of resources they appear achievable. This is only easy in a very abstract model of teaching, because musical experience is a sensitive and headstrong amount, which can easily elude a well-intended "target control".

However, teaching can help the students in trying out alternatives, to develop own skills, to form a concept of width and depth of music, to train the sense of harmony and discord, to tune the hearing to plural soundscapes and to maintain one's own ability to learn music.

A lot would be achieved if musical education was a lifelong challenge which the school does not determine but which it *opens*. Classes serve musical learning which should be stimulated in long-terms. For this purpose, a suitable organisation needs to be found, which no longer permanently refers to a "marginal subject" in the curriculum.

It is astounding that the educational value of "music" is not disputed by anyone, without ever having associated with the assessment *development* of schools and curricula. Actually, in terms of time and lessons, the teaching of music is still oriented towards the requirements of the singing schools of the 19th century. If this is supposed to change, new directions must be taken.

5. *New avenues of cooperation*

Can marginal schools subjects produce high quality? Yes, but only under certain conditions. They either use external profits, if time is limited, or they have high internal quality, in particular regarding the teaching staff, or they are able to bring to account an incidental use of learning potential.

If constant high quality is sought, then an individual effort or taking a one-off opportunity is not sufficient on its own. The school organisation must be set up for quality development, and this is not possible with the scattergun approach.

Once again, this applies to all subjects, not just to music. In this respect, there is a certain form of competition between the subjects. On the other hand, it is evident that the rank

of the subject cannot be improved *solely* with the description of its achievements. Or to put it different: Only a Pisa-Test for music can form a fair challenge.

Apart from this, music is something that one must *want* and the educational value needs to be considered. It should be clear what is missed if music is not a central experience in education. And this should be a topic of public debate.

Music education conveys unique experiences in a highly stirred and at the same time close environment full of noise and irritation of the ears. This opportunity must be opened up to all students without at the same time raising the expectations to suggest that everyone would equally achieve success. Achievement can only be different.

The *offering* should, however, be there, not only at the beginning of school life, but so that there are equal opportunities given throughout, which is not to be understood voluntaristic.

Opportunities to learn are not easily available and are taken or they may not be taken. They must be explained and presented on a continuous basis. Music lessons in particular are dependent on a high level of support. But we have known this since the first Pisa-Test: The most important factor to influence the performances of students are resources.

Which potentials for musical learning are available locally, cannot be determined in abstract terms. For this reason, flexibility regarding the organisation and the offering of a school are essential. Schools should set their time budget in accordance with the learning potential of their students, not vice versa, and if that appears to be somewhat utopian, other solutions need to be found.

A new possibility is the opening of the local school for cooperation with external providers, which already exist in some communities, but nowhere near everywhere. New forms of cooperation would be understood as opportunity for the development of the entire educational infrastructure, thus they would go beyond individual contacts. It would be necessary to formulate communal targets, which can be followed by both sides.

What is the purpose of this? Perhaps in the foreseeable future we will see a graduation from school where literally all students can play an instrument, and this in skilful way and with personal empathy. I wonder how the media would react. But is this only another utopian thought of an educator?

Music lessons in Swiss primary schools is clearly underfunded. An ambitious educational objective, that no child should leave school without being able to play an instrument, can only be realised in cooperation with the local music schools who are already provide the support for the musical education to a great extent. So what could be more obvious than their participation at the curriculum of the school?

The timetable of the state school will hardly have much scope for amendment, however, it would be possible to bundle the forces. Why not dedicate whole afternoons or weekends at the school purely to music? And why should not all children be able to profit from this? This is not a rhetorical question: The price would be the increase of the musical illiteracy, which may be the worst educational gap possible.

There are also external impulses on how the artistic education in schools can be improved. Naturally, this includes the project MUS-E. The basic idea is that artists from all kinds of sectors and directions operate in schools and work together with the teaching staff. The project is providing participating schools an additional two lessons per week, which are used for musical and artistic learning. The success can be seen at this conference.

Another example for cooperation are Swiss *picture schools*, which follows a similar idea and offer courses to learn artistic expression. They are open for children and young people from four to sixteen years. Apart from semester offerings, for example the K'Werk in the city of Zurich also provides holiday courses, which are understood to be a supplement to the offering at the primary school. The course guides themselves are all artists.⁹

The form of collaboration with the schools should have to be developed in such a way that the learning performances and achievements in one area are recognised and offset in the other area. This is the only way to have more than a gathering without commitment. And this is the only way to achieve the aim of the OECD, namely in accordance with the motto: „No child left behind“. Behind this is the idea that all talents are supported and none get lost.

Learning music is one of the few ways for sustainable education in the course of a life. So it is no longer tolerable that time is wasted and talent is squandered. On this Mark Twain should have the last word:

“I have learned that there lies dormant in the souls of all men a penchant for some particular musical instrument, and an unsuspected yearning to learn to play on it, that are bound to wake up and demand attention some day.”¹⁰

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¹⁰ A Touching Story of George Washington's Boyhood (1864).