

## Internal understanding of music in children's education. Discussion and (re)interpretation of this issue

Wewnętrzne rozumienie muzyki w edukacji dziecka. Próba (re)interpretacji problemu w ujęciu polemicznym

### Introduction

A popular modern writer, Eric-Emmanuel Schmitt (2011), begins one of his works with a quote from Victor Hugo: "Music is the art of thinking with sounds". He also adds that music is "noise that makes us think" (Schmitt 2011, p. 4). These words are useful to express mental shortages that elucidate a particular field of research on music and the related phenomena. Although in his work *Kiki van Beethoven*, which is the source of this quotation, musical thinking is never mentioned, one can sense a reflection on deeper and actually emotional perception of sound. So much for fiction. In science, however, experiencing music (and its meanings) and importance of this process in children's education is empirically analysed. Particularly valuable are the reports that result from Edwin E. Gordon's theory of musical learning. This theory emphasises the importance of interior understanding of music in the context of developing musical thinking in children as a measure of effective musical education. This is not about the "sound" in itself (or the technicalities of correct sound production), but about the cognitive meaning of a child's musical activities, which result from the sequential development of the "musical mind"<sup>1</sup>. Edwin E. Gordon (1999, p. 24) adds that sound alone is not essential, because it does not constitute music. It can become music with the use of audiation, when it is translated into particular meanings, which can be interpreted by the receiver. This is the purpose of "audiation" or "musical thinking" as defined by Gordon (Walters 1992, pp. 540-541).

<sup>1</sup> The category of "musical mind" was operationalised by J. Sloboda in his theoretical study (2002).

## Methods of audiation: from the initial picture to the content of this term

The category of “audiation” as a category of analysing and describing the inner understanding of music is applied by Ewa A. Zwolińska in her paper “Ways of Audiation. About Musical Thinking” (2014) (*Sposoby audiacji. O myśleniu muzycznym*). E.A. Zwolińska focuses on the phenomena that explain the core of the audiation development in a child, inspires a discussion on the meaning of a scientific dispute<sup>2</sup> inspired by advances in cognitive linguistics, cognitive psychology and neuroscience. These issues definitely include searching for interdisciplinary and integrative explanations of the meaning of the researched phenomena, which the author herself collectively refers to as audiation gaze (Zwolińska 2011, p. 158). Among many aspects connected with analysing her ideas, I would like to pay particular attention to those that allow, in the context of the previous audiation studies, to focus attention on selected scientific reports in the present day dispute.

The problem is that the yet unsolved methodological difficulties need to be overcome, so that the content, transposed by the term “audiation”, becomes indeed an empirical “term” for future researchers. Scientific conceptualisation of the term “term” is defined according to Herbert Blumer (1931). A “term” is (1) a method of picturing a certain phenomenon and (2) means of filling this picture with specific content (Blumer 1931, pp. 515-533). Furthermore, only by referring to one of these two aspects of the term “audiation” is it possible to discover its functions in the analysis of the internal understanding of music (in the context of a specific theory). A discussion of a situation, when some specific idea of the content of the term “audiation” becomes a term that can as a matter of fact be (re)interpreted, and why this is possible, needs to take into account the opinion of H. Blumer that apart from the means of forming a picture of the phenomenon of musical thinking and filling this picture with content, this term and this content need to become the subject of further and continuous research and tests to establish the nature of this term and this context more accurately (Blumer 1931, pp. 514-534).

When researching audiation, one should stress the importance of experimental research in analysing the understanding of music and the role of targeted thinking, rationality and intuition, which are often associated with cognitive errors. E.A. Zwolińska suggested paying attention to this aspect of researching the issue of experiencing audiation in early child development, which supports

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<sup>2</sup> Discussion as a focused dispute (Kopaliński 1997, p. 396).

my conviction that such experimental research would make it possible to recognise absolutely new qualities in the theory of musical education with significant power to prove the obtained knowledge<sup>3</sup>. Analysing musical activities of children included in experiments should take into consideration what Daniel Kahneman and Amos Tversky defined as “heuristics of availability” (Kahneman 2012). Indeed, also in the Gordonian analysis of the understanding of music the key importance is assigned to the so called musical glossaries<sup>4</sup> (one needs to pay attention to the metaphorical nomenclature of the scope of a child's musical experiences). This becomes the basis of the research assumptions, in that the analysed musical activity (vocal or motor) and perception of early school children on the stage of differentiating and drawing conclusions is based on the potential of experience gathered much earlier, during preliminary audiation (at home or during preschool education). This supports my conviction that it is meaningful to study both potentials of musical decisiveness in children, namely the aspect of rational thinking (which is underdeveloped in small children) and intuitive-emotional aspect (which is mostly based on studying preferences). Emphasising this thread explains the apparent accuracy of an easy and quick description of children's actions basing only on this simplified rule of drawing conclusions about music and the previously mentioned heuristics of availability. Because to analyse audiation as rational musical thinking requires a reference to the child's experience by memory recollection, and at the same time keeping in mind the abilities and operative musical knowledge of a child (as targeted achievements in rational music learning) (Zwolińska 2011, pp. 10-11).

This is relatively complex reference, particularly because adults often make simplifications in their common approach to musical education, which suggest only emotional, ludic (or even popular) and quasi-developmental aspect of the contact children have with music at school. This approach to the meaning of musical education in children (understood as developing rational thinking, which is critical for music), also shows the difficulties in educational studies in this field (Zwolińska 2013; Kołodziejcki 2012). Although such studies require precision and patience, the results can be fascinating (Zwolińska 2014, p. 10). It is impor-

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<sup>3</sup> I wrote about “audiation” as an “experimental category” in another paper, stressing the need to take a qualitative (including narrative) approach to analysing phenomena associated with interpreting meaning in music in common methodology adopted by teachers (Trzos 2012, pp. 144-163).

<sup>4</sup> E.E. Gordon writes about “musical glossaries” as fundamental capital of the collected and stocked musical experiences, necessary for the ability to audiate music on the level of differentiation and conclusion drawing (1999, pp. 163-166).

tant that the adopted strategy of studying audiation development clearly and from the very start took into consideration the theory of music learning and its scientific-empirical background. Such verification studies in this field of education for children definitely increase the chances that the experimental studies would lead to expanding (by means of reinterpretation) the theoretical background of the audiation theory (as a model of theoretical terms and theorems adapted in Poland). Such reinterpretation should take into consideration this aspect of the binary model of musical thinking and the separate roles of the rational and intuitive aspects of the internal understanding of music in the sphere of early education as the domain of natural interactions between the influences of the environment, culture and language (Whorf 2002, pp. 195-196)<sup>5</sup>. Following the suggestion of E.A. Zwolińska it may be concluded that this is required due to the need to prepare an integrated description of the examined phenomena associated with audiation as the internal understanding of music. However, one can ask, whether irrespective of the dominant model of intuitive thinking in children which results from their everyday knowledge obtained during music-making at home or at school (Kaufmann 2004, pp. 252-257), this approach to examining children's audiation can indeed lead to the development of the theory about the role, which similarities and differences play in making musical prognoses, which need to be tested and improved in many experiments (Zwolińska 2014, p. 10)?

### What about children's audiation of the "musical language"? Towards controversial questions

Searching for the answer we can note that the need for experimental research projects in the field of child audiation has already been expressed in previous studies. A research program has been carried out on the social role of musical influence of the teacher in the development of musical imagination in children on the stage of early musical education. On the basis of an experiment carried out in the years 1992-1995 it was proven that "thinking" and "audiation", being separate processes, remain interconnected and the musical language and

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<sup>5</sup> The desired balance in the influence of the experienced musical idioms in the family circle creates a harmonious whole, where intuitive and rational use of tonal-rhythmical patterns is related with the linguistic competences of the family (in terms of musical syntax and lexics). These observations are inspired by the ideas of Noam Chomsky and B.L. Whorf, who pointed to cognitive patterns and "language skills" in culture and language as a whole (Sloboda 2002, pp. 13-79; Whorf 2002, pp. 195-196).

its awareness constitute correlates of the social practice of music-teaching and biological equipment (Zwolińska 1997, p. 255). Studies on the development of musical thinking emphasise this social aspect of learning the musical language, therefore we can assume that in the sphere of transmitting the language code (such as the musical language according to the audiation theory), the meaning of such a transmission, following the ideas of Lev S. Vygotsky (1980) and Jeromy Bruner (1983), is provided by the native cultural community<sup>6</sup>. Therefore the importance of analysing the development of the musical language in the context of social musical learning, as stressed by the author, is the result of careful consideration and allows us to operationalise this feature in future studies on musical thinking (Trzos 2012, pp. 20-44).

It transpires that the so called audiation category of internal experiencing and understanding music is analysed in reference with experiencing the quasi-language structures of this category in musical activities and choices of children (i.e. lexicon, syntax, and semantics of musical utterances). The importance of syntax and semantics in the analysis of understanding music has already been reported by J.S. Sloboda and E.E. Gordon. Can E.A. Zwolińska's reflections be understood as a suggestion to approach the reinterpretation of the problem of analysis of thinking in the musical language as a study of the rational (although not deprived of the influence of intuition) acquisition and internal understanding of the "linguistic knowledge" in music? If so, another question arises about the importance of the relationship between the components of such knowledge: phonology, syntax, semantics, mind and pragmatics (Kurcz 2000, pp. 76-87). These are the components that enable the child to process and understand particular musical meanings. Reports by E.E. Gordon, J. Piaget, M. Halliday, J. Vygotsky, and B. Bokus stress the influence of egocentrism on processing external communication by children. The following questions arise:

- What are the regularities of developing rational knowledge about the musical language (terms, syntax of the tonality and rhythm, meaning and application of forms of language utility) regardless of the strong (biological, social and cultural) influence of intuition in the everyday contact of a child with music?
- What is the relationship between understanding syntax of the tonality and rhythm by the child (at least in short musical motifs) and developing rational knowledge about the musical language, since, as reported by D. Slobin, some operations are more cognitive than purely linguistic in their nature?

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<sup>6</sup> Also to be found in the studies by E.E. Gordon (2000), T. Kruger, M. Tomasello (1996), B.L. Whorf (2002).

- What is the educational usefulness of the relationships pointed out by I. Kurcz, S. Pinker or L. Gleitman between targeting the balance between acquisition and understanding of the musical language (with emphasis on developing the musical syntax), and understanding the meaning of particular sounds or musical motifs by the child? Can the phenomenon known as syntactic bootstrapping and semantic bootstrapping, present in the development of language in a child, indeed be related to the issue of developing the “musical language”?

Possibly, the solution lies in the core of the development of audiation in children (already on the stage of overcoming egocentrism and breaking the musical code). However the reflection of E.A. Zwolińska (2014, p. 128) suggests reinterpretation of the problem of audiation analysis. Even though, as noted by this author, human thought has two levels, there is always a point of personal, rational-emotional reference to the situation, when musical choices are to be made. This point of reference should be audiation, which is the aim of musical education of a child. This is often associated with questioning musical intuition, but developing constructive criticism in the meaning of critical thinking in music (Zwolińska 2011, pp. 206-211) is not possible without the development of the musical language, which requires difficult and targeted audiation exercises (2014, pp. 172-173). Then identifying cognitive errors in musical performance of children should be included in the scope of musical diagnostics and requires precise musical vocabulary in terms of understanding tonality and metre, which will be helpful in pointing out these cognitive errors and preventing them (2014, p. 172). In my opinion this observation must be taken into consideration, not only during audiation studies, but also during everyday practice of teaching music to children.

I would like to discuss one more thread related with the issue of analysing the interior understanding of music, which is the colour and register of musical instruments. The discussion is triggered by the idea of E.A. Zwolińska, who also mentions this aspect in her description of methods of audiation, which suggests a new interpretation of the results of previous studies in another context (2011, pp. 248; Trzos 2011, pp. 231-230). E.E. Gordon introduced the theory of developing audiation of the so called internal instrument (1984, pp. 14-22; 1999, pp. 369-380)<sup>7</sup>, which became the basis of quasi-experimental studies on social

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<sup>7</sup> E.E. Gordon noted that the development of audiating the sound of a musical instrument starts with absorption and everyday learning about music, by the natural immersion of a child in the world of sounds (of a specific sound, colour and register) of the

and educational importance of the problem of pupils' preferences regarding the sound of different musical instruments when teaching them to play an instrument. Even though the descriptions of the general issues related with perceptive taste for the sound of a given instrument and achievements have already been mentioned by such researchers as J.A. Sloboda (1999, pp. 36-39) or H. Gardner (2002, pp. 38-40), E.E. Gordon – on the basis of the audiation theory of musical development – was the first to prove this correlation (1984, pp. 20-35). Coming back to the main conclusions drawn from studies (Trzos 2009, pp. 186-190; Bonna 2013, pp. 81-83) we would like to suggest that the researched preferences of children are clearly correlated with their engagement and motivation to overcome the difficulties when learning to play a musical instrument (Trzos 2011, pp. 221-231). Initially the assumption in the studies was that the social context is the main factor that shapes musical preferences of children and the decisions they make (the choice of musical instrument to learn). One interesting aspect, however, was not included in the scope of the research, namely the extent to which the preferences for the sound of different instruments could be analysed in the context of rational thinking (Gordon 1984, pp. 13-27; Zwolińska 2014, pp. 14-160)? This is because preferences, as suggested by E.A. Zwolińska, are intuitive and it is impossible to point out or explicate changes in musical rationality (2014, p. 128) otherwise than in the context of selecting particular sounds and their frequencies on the basis of specific experiences they evoke<sup>8</sup>, which still remain subjective. This observation inspires a discussion on the results and new research projects in the subject of interior understanding of the sound of the preferred “internal instrument”. However, it turns out that there are still no

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musical culture native for the members of the child's family. At this point, basing on the initial audiation, the auditory imagination of the child develops, including the sound dispositions. It is also at that time, according to E. Zwolińska, that “tuning” of the musical brain takes place. E. Zwolińska states that this is the main internal musical instrument, which has to be mastered before it is possible to start learning any other musical instrument. E.E. Gordon, basing on American studies, had similar conclusions. He stated that it is a priority to develop audiation in children, also in this aspect, especially in the context of everyday influences of a musical family or musical communities. This is a reliable measure in the process of developing the superior skill of the internal understanding for instrumental music, which is an important disposition in a child, or, using J. Sloboda's term, developing the child's “musical mind” (Sloboda 2002).

<sup>8</sup> Nobody denies that the analysis of musical preferences can include the feeling of aversion to a certain type (or attribute) of music. I carried out such studies, in the context of E.E. Gordon's arguments, with regards to the sound of instruments, which evoked highly negative emotions in pupils and, eventually, unwillingness to learn.

convincing answers to the question about possible common (i.e. pertaining to audiation) grounds for development and analysis of musical aptitudes and preferences for a particular colour of sound. It probably requires referring (also in this case) to the development of the “musical knowledge” in a child and the two levels of thinking in a particular “musical language”, in order to explain the possible circumstances the influence both levels (intuitive and rational) during the decision making process in a child.

### Questions and conclusions

A dispute can result in observations and often leads to new questions that result from the aroused interest. Thoughts of E.A. Zwolińska definitely inspire this type of scientific interest. Among the previously mentioned threads, which particularly inspire problematic sensitivity, there are also such that are often discussed among parents of pupils and teachers of music. This is for example the issue of asymmetry in the educational reality between renunciation and negligence in the early musical education (2014, p. 145). Daniel Kahneman (2012, pp. 462-463) points to a certain regularity that is present in the relationship between the negligence in musical education and a strong feeling of disappointment in children. This leads to questions about the nature of agency in such fails, the target “default actions” of families and schools, as well as the irregularities. Such questions are particularly important in the context of the common problem of children interrupting prematurely their education in a musical school. Does this problem of dropping out of music schools result from the D. Kahneman’s asymmetry (Kahneman 2012, pp. 460-470; Zwolińska 2014, pp. 144-147)? I am positive, also in the context of Bennet Reimer’s reflections, that this aspect of musical education in children, which includes multidimensional (also social) context of analysing the experience of meaning in music requires further attention (Reimer 1989, pp. 152-153), also when analysing the direction and dynamics of reforms in the Polish system of musical education.

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## SUMMARY

This paper includes an analysis of the term “audiation”, which, according to the Edwina E. Gordon’s theory, describes the method of imagining the phenomenon of internal understanding of music and the method of filling this picture with a particular content. It transpires that such conceptualisation of the term “audiation” in studies on musical education of children can be inspired by interdisciplinary reflections of such researchers as: D. Kahneman, A. Tversky, B. Reimer or H. Blumer. The reason to apply this new, interdisciplinary view on the field of describing “audiation” as the main conceptual category of Gordon’s Theory of Music Learning and supporting a dispute on the need and current problems in Polish educational studies on experiencing music by children were selected theoretical conclusions by E.A. Zwolińska.

**KEY WORDS:** audiation, early music education, educational studies, internal understanding of music, musical language, Gordon’s Theory of Music Learning.

## STRESZCZENIE

Artykuł dotyczy analizy pojęcia „audiacji”, która w myśl teoretycznych założeń E.E. Gordona określa w sobie sposób wyobrażenia fenomenu wewnętrznego rozumienia muzyki i sposób wypełniania tych wyobrażeń konkretną treścią. Okazuje się, że taka konceptualizacja pojęcia „audiowania” w badaniach nad edukacją muzyczną dziecka może być inspirowana interdyscyplinarną refleksją takich badaczy jak: D. Kahneman, A. Tversky, B. Reimer czy H. Blumer. Powodem do ponownego i interdyscyplinarnego spojrzenia na pole opisu „audiacji” jako głównej kategorii pojęciowej teorii

uczenia się muzyki E.E. Gordona i wspierania dysputy o potrzebie i aktualnej problematyce polskich badań edukacyjnych w zakresie dziecięcego doświadczania muzyki stały się wybrane konkluzje teoretyczne E.A. Zwolińskiej.

**SŁOWA KLUCZOWE:** audiacja, wczesna edukacja muzyczna, badania edukacyjne, wewnętrzne rozumienie muzyki, język muzyczny, teoria uczenia się muzyki E.E. Gordona.

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