



Maciej Kołodziejski

orcid.org/0000-0001-7904-7474

e-mail: m.kolodziejski@mazowiecka.edu.pl

The Mazovian University in Płock

Developing Students' Readiness for Musical Improvisation in the Context of Selected Assumptions of Edwin E. Gordon's Music Learning Theory

Kształtowanie gotowości uczniów do improwizacji muzycznej w kontekście wybranych założeń teorii uczenia się muzyki Edwina E. Gordona

KEYWORDS ABSTRACT

music education, improvisation, audiation, music learning theory, tonal and rhythm patterns, musical skills

The article is an attempt to highlight selected assumptions of Edwin E. Gordon's music learning theory in the context of developing readiness for music improvisation at school and outside school. Improvisation is, in this case, understood as one of the instruments of interpersonal communication, which can be developed through musical dialogue using tonal and rhythm patterns. The article is also a subjective presentation of the values inherent in the theory of music learning in the context of developing the above-mentioned readiness for music improvisation in students of different ages. Developing readiness for musical improvisation involves assimilating tonal and rhythm patterns into the students' musical vocabulary so that they can participate in musical dialogue with others. This happens thanks to students' active experience of music in an individual and social context. In developing readiness for musical improvisation, the student begins by actively listening, repeating and assimilating musical motifs, which, in music, are the starting point for complex mental operations related to musical audiation, which, to a musician, is what thinking is to language. The effect of applying the concept of improvisation suggested in the theory of music learning will be to increase

the creative, expressive and improvisational activity of students in the process of music education and to develop the tonal, rhythm and melodic vocabulary necessary to independently undertake creative and improvisational activity with full awareness, taking into account the processes of musical audiation.

SŁOWA KLUCZE ABSTRAKT

edukacja muzyczna,
improvizacja,
audiacja, teoria
uczenia się muzyki,
motywy tonalne
i rytmiczne,
zdolności muzyczne

Artykuł jest próbą zasygnalizowania wybranych założeń teorii uczenia się muzyki Edwina E. Gordona w kontekście rozwijania gotowości do improwizowania muzyki w warunkach szkolnych i pozaszkolnych, rozumianej jako jeden z instrumentów międzyludzkiej komunikacji, którą można rozwijać poprzez dialog muzyczny z użyciem motywów tonalnych i rytmicznych. Artykuł jest także subiektywną odsłoną wartości płynących w teorii uczenia się muzyki w kontekście rozwijania gotowości do improwizacji muzycznej uczniów w różnym wieku. Rozwijanie gotowości do improwizacji muzycznej polega na asymilacji motywów tonalnych i rytmicznych do słownika muzycznego uczniów po to, aby mogli wchodzić w dialog muzyczny z innymi. Dzieje się tak dzięki aktywnemu doświadczaniu muzyki przez uczniów w kontekście jednostkowym i społecznym. W rozwijaniu gotowości do improwizacji muzycznej uczeń wychodzi od aktywnego słuchania, powtarzania i asymilowania motywów muzycznych stanowiących punkt wyjścia do złożonych operacji myślowych związanych z audiacją muzyczną, która jest dla muzyki, tym czym myślenie dla języka. Efektem zastosowania koncepcji improwizacji zaproponowanej w teorii uczenia się muzyki będzie w procesie edukacji muzycznej zwiększenie aktywności twórczo-ekspresyjno-improwizacyjnych uczniów oraz rozwijanie słownictwa tonalnego, rytmicznego i melodycznego, niezbędnego do samodzielnego podejmowania aktywności twórczej i improwizacyjnej z pełną świadomością, biorąc pod uwagę procesy audiacji muzycznej.

Introductory Remarks and General Terminology

The article is an attempt to signal selected assumptions of Edwin E. Gordon's music learning theory in the context of developing the readiness to improvise music among **pupils of the first stage of education** at school and in other places. Musical improvisation is understood as one of the tools of interpersonal communication (Gordon, 1999b; Kołodziejski, 2022), which can be developed through musical dialogue using tonal and rhythm patterns. In the context of Dewey's pragmatic egalitarianism

(see Krasny, 2020, pp. 149–169)¹ and the so-called universality of education emphasised by Wojciech Jankowski (2010), there is a consistent misunderstanding of the thesis that music is for everyone and not just for the gifted (see more: Majzner, 2017). Hence, the subject of this article, following in the footsteps of the conceptualisation of the research subject of music pedagogy (see Gnitecki, 2008, pp. 16–17), is the issue of developing musical improvisation readiness in younger schoolchildren, understood as an appropriate way of teaching and learning music², consisting in providing pupils with the appropriate musical content present in tonal and rhythm patterns, which are the building blocks for improvisation, which is present in the conceptual assumptions of Edwin E. Gordon's music learning theory (Gordon 1999a, 1999b, 2016; cf. Gutek, 2003; Schön, 1992; Pérez-Ibáñez, 2018). The cognitive, emotional and social attributes of musical improvisation play a dynamic role in the development of the child (as a learning and cognitive being), especially in the context of fostering musical creativity. The background to the discussion is provided by elements of music learning theory, a holistic concept of human musical development, which includes a description and explanation of phenomena related to the broadly understood processes of music learning, its conditions and stages. Optimisation of these processes, according to Maciej Kołodziejski and Barbara Pazur (2020), requires “a systematic evolution of the school culture – from the so-called transmissive (theoretical, offering solutions, verbalist) to deliberative-inclusive and dialogical-interactive, with the dominance of social learning and experiencing a broad spectrum of musical phenomena” (p. 196), including the development of musical improvisation readiness and improvisation itself. Developing readiness for improvisation, in short, involves providing the child with and developing the tonal, rhythmic and melodic vocabulary necessary to undertake creative and improvisational activity with full awareness, which, in my opinion, locates E. E. Gordon's contemporary theory in a mixed model of music education philosophy – namely, a praxial-aesthetic one, rooted in empirical ideas (see McCarthy & Goble, 2002, p. 19). This means that, on the one hand, the theoretical-philosophical layer of music learning theory is dominated by two distinct approaches (Kołodziejski & Pazur, 2022, p. 27): the first, Bennett Reimer's (1991, 2022) aesthetic vision of music education, and the second, David J. Elliot (1995) and Marissa Silverman's praxial education. In the aesthetic approach, listening to music is the starting point for understanding music, but it is expression (singing, playing instruments, movement with music and

1 The 'praxial', in other words practical (action-oriented or active) approach, derives from the philosophical system known as pragmatism, which emerged in the 20th century in the United States through the intellectual work of the aforementioned John Dewey.

2 Through active action in the context of the individual and social experience of music in accordance with the progressivist concept of education.

creating with improvising music) that becomes the determinant for the active development of children's musical intelligence (Gordon 1999b; see also Gardner, 2002).

Music learning theory explains how we learn when we learn music (Gordon, 1997, 1999a, 1999b, 2001, 2008, 2012, 2016), providing a comprehensive account of **developing audiation**, a term, according to E. E. Gordon (1997, 1999a, 1999b, 2001, 2008, 2012, 2016) that best describes the **ability to think musically in terms of understanding**. The main feature of Gordon's theory is its **universality**, as it applies from early childhood to late adulthood. The primary aim of the theory is to **develop pupils' tonal and rhythmic audiation**. Through audiation, pupils can **understand the meaning of the music they listen to, perform, improvise and compose** (Gordon, 1997, 1999a, 1999b, 2001, 2008, 2012, 2016). The music learning theory – empirically designed, named, researched, developed and disseminated in many countries (e.g. in Portugal, Italy), has, for decades, been located on the periphery of formal music education in the world – as reported already in the 1990s by Harold F. Abeles, Charles R. Hoffer, Robert H. Klotman (1994), while, at the same time, it is the only **comprehensive theoretical account**, supported by psychological research, that fully takes into account the development of musical skills from early childhood to maturity. That is why, it is referred to by some scholars (see Alfred, 2021, p. 156) as a **paradigm** that continues to evolve, through ever newer research and practical experiences of teachers (Shuler, 2021, p. 56; Grashel, 1991; Hanson, 2019). There is also empirical scientific evidence in Poland in the form of data obtained by (*quasi*-)experimental means that supports the effectiveness of this music learning theory (Bonna, 2005, 2016; Trzos, 2009, 2018; Kołodziejcki, 2011; Przybylska-Zielińska, 2023). Music learning theory is entirely devoted to **child development, musical responsiveness and understanding of music**, which is its primary goal (Gordon, 2008, pp. 65–66; Shuler, 2021, p. 45). Central to this is **musical aptitude** (tonal, rhythmic, harmonic, etc.), which is “a measure of a student's potential to learn music” (Gordon, 2001, p. 4) and musical achievement is “a measure of what a student has already achieved in music” (Gordon, 2001, p. 4). The concept of musical aptitude presented by Edwin E. Gordon is **egalitarian in nature**, as every human being possesses some level of musical skills and is therefore **musical to some extent** (see Kierzkowski, 2010, p. 16), and can **learn to listen to and perform music with some success** (Gordon, 2001), with musicality being treated as a phenomenon that is a conjunction of nature, culture and identity (Toropova et al., 2016). Although children are born with a certain level of musical skills, this level changes with the quality of the musical environment. This process continues until the age of nine. After about nine years, children's levels of musical aptitude stabilise (*stabilised musical aptitude*) and will not change for the rest of their lives (Gordon, 1997, 1999a, 1999b, 2001, 2016; Miner, 2007), indicating the **processual nature of musical aptitude development** and the possibility

of **fluctuating** levels of ability during the first nine years of a person's life. Edwin E. Gordon (1997, 2016) emphasises the need to provide children with high-quality informal music direction and formal music education at the developmental stage of musical aptitude because, according to his theory, it can improve and, therefore, have a direct impact on musical achievement levels (Gordon, 1997, 1999a, 1999b, 2001, 2016). According to Wendy Valerio (n.d.), through audiation, which "is to music what thought is to language" (Gordon, 1999b), we discover that learning music is a never-ending, ever-deepening process of musical expression and enjoyment.

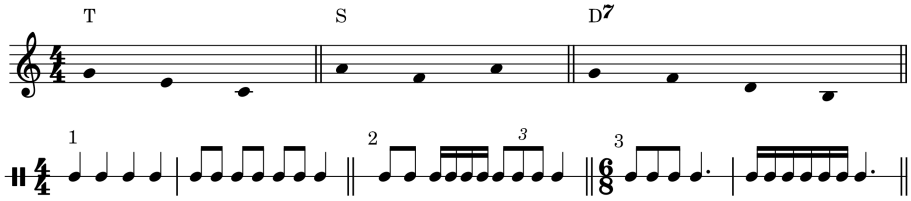
In Edwin E. Gordon's theory, the focus is on the individual and the social group at the same time, and the roles they play, i. e. music listener and music performer. The listener in music learning theory is subjected to so-called musical enculturation, which plays a significant role in the development of conscious musical thinking, i.e. musical audiation³, first initial audiation through informal musical direction and then proper audiation through educational influences, and provides the foundation for a readiness to undertake improvisation. According to John Sloboda (1999),

[...] when listening to music, one discovers that one element is more important than the other, or that one element is strongly related to some element, while its relationship to another element is weaker. Concepts such as tonality, metre and rhythm, which musicians use, exist in our mind and we use them to make sense of music. The possibility of communication exists because various processes involved in the composition, performance and perception of music relate to the same representations (p. 41).

The music performer reaches for audiation (see Liperote, 2006, pp. 46–52) as a kind of intellectual-perceptual-imaginative background in order to fully create and improvise music. The praxial (practical) approach refers to experiencing music through practising it, as this is what significantly influences the dynamisation of the child's musical development leading to the acceleration of basic musical skills (tonal and rhythm), the enrichment of the musical vocabulary of tonal and rhythm patterns. Below there are examples of such tonal and rhythm patterns as a component of music⁴.

3 Audiation is not the primary concept here, but it plays a relevant role in understanding the processes of acquiring readiness for musical improvisation. Audiation is, using an analogy with the terminological findings of N. Chomsky (quoted in Sloboda, 2002), the unconscious knowledge of music, or, directly, as defined by Edwin E. Gordon (1999b), "audiation is to music what thought is to language".

4 In the case of tonal patterns, the first is a tonic pattern (T), consisting of g-e-c notes, the second is a subdominant motif (S), consisting of a-f-a notes, and the third is a dominant with a minor seventh (D7), consisting of g-f-d-h notes. As for the rhythm patterns, the first is a pattern in binary metre ($\frac{4}{4}$) of two bars consisting of quarter notes and eighth notes, and the second is also in binary metre ($\frac{4}{4}$) of one bar consisting of quarter notes, eighth notes, sixteenth notes and an irregular group of eighth-note triplets. For the first two, quarter notes will be the pulse (macrobeat). In the third pattern, we have triple meter ($\frac{6}{8}$) and

Figure 1. *Examples of Tonal and Rhythm Patterns*

The acquisition of tonal and rhythm patterns leads to an intensification of the processes of activating and deepening audiation due to the fact that the highest form of procedural audiation, i.e. the practical understanding and performance of music, is, according to Edwin E. Gordon (1991, 1999a, 1999b, pp. 385–407), creating and improvising music (see also Azzara, 1993, 1999; Kołodziejcki, 2022, p. 279), especially vocally, rhythmically and melodically⁵ – the traditions of singing known from the theory and practice of Polish education are then combined with a creative (and improvisational) component. According to Michele Biasutti (2017), improvisation is always a multidimensional, creative activity when there is a conjunction of musical and intellectual skills, present in sensory and perceptual encoding, storage and recall from memory, motor control and quality monitoring. Thus, when improvising, we use metacognitive strategies (Hart, 2014). The educational environment should take into account the diversity of musical practices and materialise the opportunity for students to develop musical creativity through improvisational activities as rational (based, after all, on empirical evidence, see Gordon, 1999b; Bonna, 2016; Trzos, 2018) daily tasks or challenges that emphasise multiple developmental benefits and shape pupils' emotional well-being (Navarro Ramón & Chacón-López, 2021). The foundation for developing pupils' improvisational skills is their basic musical aptitude – tonal, rhythmic and harmonic (Gordon, 1999b). To what extent is musical ability innate and to what extent is it environmentally conditioned? This problem, at first sight, belongs to the domains of academic discussion. However, when we analyse the significance of this duality more closely, we conclude that, regardless of the counter-arguments, there is a huge responsibility on teachers to develop these musical skills – in the perspective of musical direction (Gordon, 1997) and informed, focused and valuable music education⁶

it consists of eighths, sixteenths and dotted quarter notes. For the final pattern, two dotted quarter notes will be the pulse (macrobeat).

5 Why vocal improvisation? This is because the voice is the closest and most important musical instrument for humans (Gordon 1999b; Burczyk, 2016).

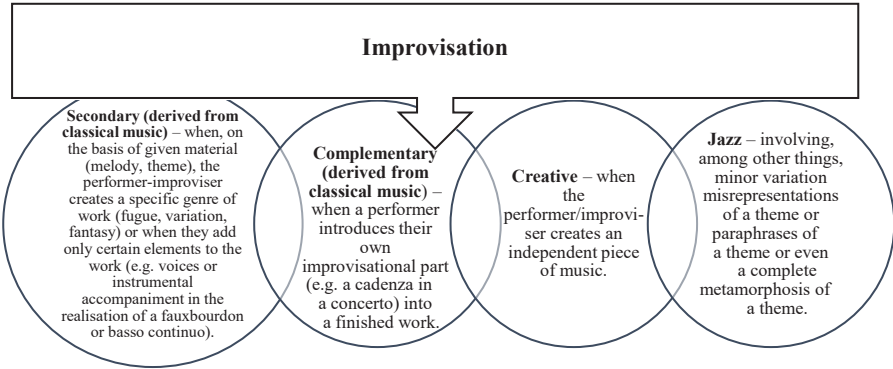
6 At the same time, I would like to emphasize the phenomenon of Fordism, causing concern in the scientific community, in the promotion of Edwin E. Gordon's ideas in Poland, which is characterised by a mass, often unreflective and based only on methodical behavioural activities, commercial 'production' of various types of classes/training courses/workshops in music imitating a genuine approach to the

. As Rosamund Shuter (1969, p. 90) significantly reports, following in the footsteps of Ralph Smith, this problem concerns the difference between “aristocratic” and “democratic” approaches in music education (Shuter, 1969, p. 90). Thus, a differentiated musical experience **based on providing opportunities to actively build a vocabulary of tonal and rhythm patterns** (as advocated in John Dewey’s progressivist approach) is the essence of rationalised music education, rather than merely acquiring and storing declarative knowledge (*I know that...*) through mental memory operations. The experience involves a real personal interaction with and through music by means of assimilated musical patterns, which are the building blocks for creating and improvising music.

On the Need to Develop Students' Readiness for Musical Improvisation

Improvising on a theme is a well-known practice in music (Ferand, 1940, pp. 115–125). However, it is much less common in academic writing to reverse this process – that is, to deal with improvisation as a topic or object of consideration or discussion. Generally speaking, improvisation is an artistic activity in which “the creative act coincides with the performance of a simultaneously created work” (Chodkowski, 2001, p. 378). In musical creation, I distinguish (after Chodkowski, 2001, p. 378) at least **three** historically determined **types** of improvisation, depending on the role of the performer-composer-improviser, as shown in the diagram below.

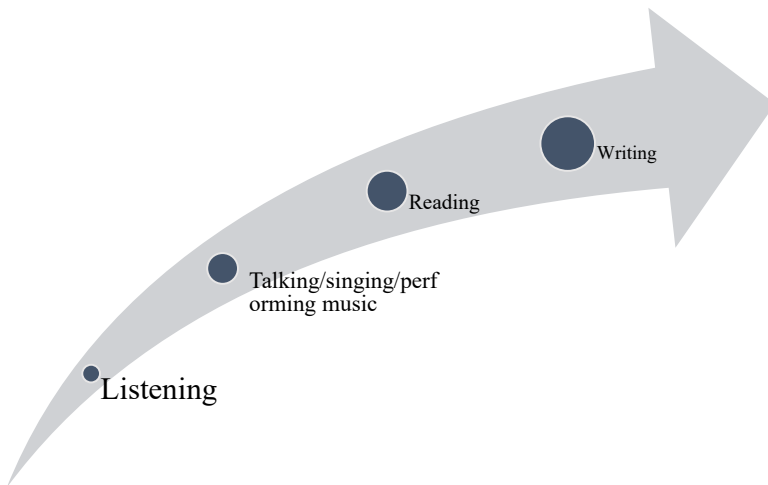
development of musical (preliminary and proper) audiation. The effectiveness of music learning theory in optimising musical achievements in the perspective of a taxonomy of cognitive goals has not been sufficiently and definitively established (Shuler, 2021, p. 45; Colwell & Abrahams, 2021; Woodford, 1996, pp. 83–95; Çenberci & Tufan, 2023).

Figure 2 . *Types of Improvisation in Historical Perspective*

Source: Selective self-analysis based on (Chodkowski, 2001, p. 378).

Improvisation does not only concern art music (classical), as the practice is also found in folk music, the music of oriental peoples, or in the above-mentioned jazz. Regarding jazz as an inspiration in the development of the concept of musical improvisation, the music learning theory of Edwin E. Gordon plays an important role here. Improvisation is treated (after Beckstead, 2013) as a specific cognitive activity, in the context of the uniqueness of this, so often ignored (especially in Polish educational reality), area of music learning. Edwin E. Gordon (1989, 1999b) suggests that improvisation cannot be taught, but that pupils' readiness to fulfil their musical potential towards improvisation must be developed (Gordon, 1989, 1998, 1999b). The most important of the four vocabularies of musical skill acquisition is listening, as it is the foundation on which the other three (performing, reading and writing music) are built.⁷ Before vocabulary emerges, children listen to their mother tongue for almost a year. Ideally, as writes Kathy A. Liperote (2006, pp. 46–47), the transition to reading words comes more naturally for children with a rich listening and speaking vocabulary. Knowledge of content and context allows them not only to pronounce the words they read, but also to understand their meaning. Just as listening to language prepares children for speaking, listening and speaking prepares them for reading and writing. The four vocabularies form a chain whose proficiency at the earlier levels enables the student to enter the next level stress-free, of which listening is the most important and writing the most difficult. This is illustrated in the chart below.

⁷ When asked if he could read notes, the great jazz musician Louis Armstrong replied: "Yes, but not to the point of compromising my performance" (quoted after Woody, 2012).

Figure 3. *Four Basic Musical Skills in Order of Development*

Source: the author's own study.

According to John Sloboda (2002) “music is composed of great amount of small pieces tied together, and the perception of music is just in combining a number of acts of perception connected to those fragments” (p. 182). Each teacher can help pupils in the process of developing their musical skills by developing their vocabulary first in order to obtain the required number of tonal and rhythm patterns (understood by Sloboda as “small pieces”) connected to listening to music and talking/performing music. Pupils should participate in tasks that develop their vocabulary connected to performing music through learning music without notation, through chanting of sounds, signing, melodious moving, improvising, and creating music. Properly guided exercises with the use of musical materials in the form of chants, rhythm clapping or songs that gradually develop listening skills, allow pupils to focus on music content such as tonality (e.g. major, minor harmonic, dorian, etc.), metre (binary, tertiary, combined), music style, and harmonic progression. Understanding those concepts is a preliminary condition for developing the ability to comprehensively read notes, perform music at a steady pace or improvise expressively (Gordon, 1999b; Liperote, 2006). A suggestion to develop musicality through improvisation based on musical dialogue was published by Christopher D. Azzara and Richard F. Grunow (2006) with the use of the melodies from the book titled *Developing Musicianship through Improvisation. Book 1 – Vocal Edition*. It assumes building musical vocabulary that contains tonal patterns, melodic phrases, rhythmic patterns and phrases which, through assimilation, may be used in (classic, jazz or folk) music. Exercises in the

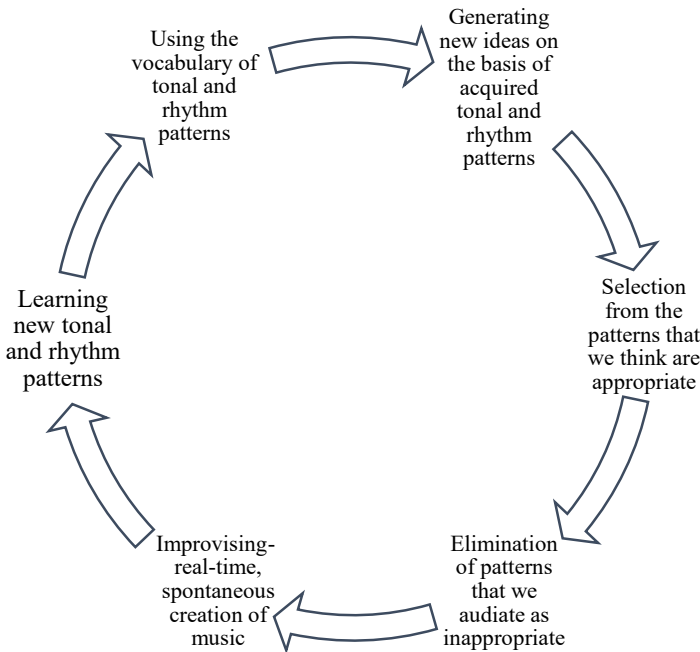
book will allow to also read and write music in the future. Irrespective of previous music experience or education, learners may perform melodies and learn harmony by ear, i.e. develop the skills that are the basis for improvisation (Azzara & Grunow, 2006). The quality and scope of previous music environment influence general musical skills of a person. They are also the most important factors defining the scope to which one may become musically creative to the degree their inborn potential allows (Gordon, 1999b). The readiness to improvise music should be, therefore, developed, as by expanding the vocabulary of tonal and rhythm patterns, pupils get ready for musical reasoning. In this context, improvisation is a particularly satisfactory form of musical expression and an indispensable element of comprehensive music studies. Improvisation means demonstrating an understanding of music in a similar way that paraphrasing is a measure of language comprehension. In order to teach improvisation, appropriate order should be followed, at best one step at a time (more on this subject in: Kołodziejcki & Pazur 2020).

Diagnosis of Improvisation Readiness in Creating Students' Musical Potential

The main goal for using tests (of musical skills, achievements or readiness) in music education includes (Kołodziejcki, 2012) helping the teacher in teaching through adjusting educational activities to pupil's individual skills and needs. In order for students to develop their readiness for improvisation, the teacher has to know whether the pupil's skills in tonal range are higher or lower than his/her rhythmic predispositions so that they can possibly compensate the deficiencies through appropriate exercises. Without mastering musical vocabulary through listening, that initially involves a small⁸ number of tonal patterns in major and minor harmonic tonality, and rhythm patterns in binary and tertiary metre, irrespective of the level of their musical aptitude, pupils will not be sufficiently prepared to creatively communicate in a musical dialogue through improvisation (Gordon, 1989, 1998, 1999b). New musical ideas are produced on the basis of learnt tonal and rhythm patterns, and, thanks to audiation, students may acquire musical sense (Hickey & Webster, 2001). This is illustrated in the chart below.

8 From scientific seminars with prof. Edwin E. Gordon I have learnt that the number of 20 tonal patterns and 20 rhythm patterns is enough to start exercising improvisation.

Figure 4. *Cyclic Process of Development of Improvisation Skills*



Source: the author's own study.

That is why teachers should, first of all, focus on teaching the readiness for musical improvisation, and not only on the ability to improvise, as the skills are representation of what we have already learnt to audiate (Gordon, 1989, 1999b). The questions on the level of musical improvisation readiness in pupils are answered by the results obtained in the readiness records:⁹ *Harmonic Improvisation Readiness Record* (HIRR) and *Rhythm Improvisation Readiness Record* (RIRR). The first one, HIRR, that is *Harmonic Improvisation Readiness Record*¹⁰ is designed for younger and older students and adults of all ages. The goal of HIRR is to objectively help the teacher to determine whether individual students present necessary readiness to learn harmonic improvisation. Then, thanks to information obtained during testing, teachers adjust their teaching to individual musical differences during improvisation. This recorded,

9 E. E. Gordon (1999b, 2001) does not call them tests, but records, as they measure neither musical skills nor achievements. The focus is on the measurement of the improvisation readiness, which I define tentatively as a **current quality level or informal guidance and formal education towards undertaking musical** (rhythm and harmonic) **improvisation**.

10 This is the Polish name use in the book: Gordon 1999b.

17-minute-long group test consists of 43 harmonic tasks that are performed in various scales (e.g. C major, A minor) and tonalities (major, minor harmonic). All the tasks presented are performed in the same, uncomplicated rhythm. Each task comprises of three chords of the same length, and the tonic chord is the first and the last one of the C major scale. All the necessary directions with practical exercises are on the recording. The students are asked to listen to pairs of harmonic patterns and to mark on the answer sheet whether they think the patterns in each pair are the same or different. If the students are not sure, they are asked to mark the column with a question mark (Gordon, 1999b, 2001). The other, RIRR, is designed, like HIRR, for students and adults of all ages. The goal of this test is to determine the rhythm improvisation readiness. This 20-minute-long group test consists of 40 pairs of rhythm patterns. Each pair is based on the same simple melody line in C major scale. Each melody line contains only four uncomplicated rhythmic values of various pitch. The directions for RIRR together with practical exercises are, similarly to HIRR, on the CD. The students are asked to listen to pairs of patterns and to mark on the answer sheet whether they think each pair is the same or the duration of the second example is longer or shorter than of the first one. If the students are not sure, they are asked to mark the column with a question mark (Gordon, 1999b, 2001).

Final Remarks

Contrary to the common way of defining improvisation as undertaking actions without being prepared, improvisation in music is a **cognitive process** in which, due to audiation, **consciously and unconsciously, on an ongoing basis, we use the real-time, assimilated musical patterns** (tonal and rhythm) in known and unknown systems of meanings (metre and tonality). This process requires two types of musical thinking: using known rhythm and tonal patterns to generate new musical ideas, and to eliminate the ones that do not meet the conditions of musical sense (after Miner, 2007). The process is extremely complicated and conditioned by numerous variables. As the concept of Edwin E. Gordon's improvisation in music is derived from basic obligations towards a child, that consist in developing their musical potential visible in musical skills – tonal and rhythm ones, with, as in the case of proper audiation, sequential procedures (more on the subject in Gordon 1999b), pre-school teachers should, as a part of musical education, use verified formulas offered by the music learning theory more often. Guidelines for teaching improvisation at school, although

not connected directly to the discussed theory, were suggested by two NAFME¹¹ members: David C. Edmund and Elliott C. Keller (2019):

- experience first, before intellectualizing (use theory and reflection),
- improvise within structure/syntax (use tonal and rhythm patterns in syntax with tonality/scale and metre),
- improvise by ear (use hearing medium, imitate and audiate),
- improvisation is a way of being in music,
- balance improvisation freedom with structure (do not be afraid of transgressions in music).

References

- Abeles, H. F., Hoffer, Ch. R., & Klotman, R. H. (1994). *Foundations of music education* (2nd ed.). Cengage Learning.
- Alfred, D. M. (2021). Speaking music: A historical study of Edwin Gordon's music learning theory. *Graduate Theses, Dissertations, and Problem Reports*, 11534. <https://researchrepository.wvu.edu/etd/11534>
- Azzara, C. D. (1993). Audiation-Based improvisation techniques and elementary instrumental students' music achievement. *Journal of Research in Music Education*, 41(4), 328–342. <https://doi.org/10.2307/3345508>
- Azzara, C. D. (1999). An aural approach to improvisation. *Music Educators Journal*, 86(3), 21–25. <https://doi.org/10.2307/3399555>
- Azzara, C. D., & Grunow, R. F. (2006). *Developing musicianship through improvisation. Book 1 – Vocal edition*. GIA Publications.
- Beckstead, D. (2013). Improvisation: Thinking and playing music. *Music Educators Journal*, 99(3), 69–74. <http://www.jstor.org/stable/23364264>
- Biasutti, M. (2017). Teaching improvisation through Processes: Applications in Music education and implications for general education. *Frontiers in Psychology*, 8, 911. <https://doi.org/10.3389/fpsyg.2017.00911>
- Bonna, B. (2005). *Rodzina i przedszkole w kształtowaniu umiejętności muzycznych dzieci. Zastosowanie koncepcji Edwina E. Gordona*. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Bonna, B. (2016). *Zdolności i kompetencje muzyczne uczniów w młodszym wieku szkolnym*. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Burczyk, I. (2016). Głos w muzykoterapii. *Edukacja Elementarna w Teorii i Praktyce*, 11(3/41), 225–238. <https://doi.org/10.14632/eetp.2016.11.41.225>
- Çenberci, S., & Tufan, E. (2023). Effect of music education based on Edwin E. Gordon's theory on children's developmental music aptitude and social emotional learning skills. *International Journal of Music Education*. <https://doi.org/10.1177/02557614231196973>
- Chodkowski, A. (Ed.). (2001). *Encyklopedia muzyki*. Wydawnictwo Naukowe PWN.

11 National Association for Music Education.

- Colwell, R., & Abrahams, F. (2021). Edwin Gordon's contribution: An appraisal. *Visions of Research in Music Education*, 16, 6. <https://opencommons.uconn.edu/vrme/vol16/iss2/6>
- Edmund, D. C., & Keller, E. C. (2019, November 1). A way of being in music: *Guiding principles for improvisation in the general music classroom*. National Association for Music Education. <https://nafme.org/blog/guiding-principles-improvisation-general-music-classroom>
- Elliot, D. (1995). *Music matters: A new philosophy of music education*. Oxford University Press.
- Ferland, E. T. (1940). Improvisation in music history and education. *Papers of the American Musicological Society*, 115–125. <http://www.jstor.org/stable/43873094>
- Gardner, H. (2002). *Inteligencje wielorakie. Teoria w praktyce* (A. Jankowski, Trans.). Media Rodzina.
- Gnitecki, J. (2008). Eksplikacja pojęcia „przedmiot badań pedagogiki”. In K. Rubacha (Ed.), *Konceptualizacje przedmiotu badań pedagogiki* (pp. 13–46). Oficyna Wydawnicza „Impuls”.
- Gordon, E. E. (1989). Audiation, music learning theory, music aptitude, and creativity. *Suncoast Music Education Forum on Creativity*, 75–81. <https://files.eric.ed.gov/fulltext/ED380341.pdf>
- Gordon, E. E. (1997). *Umuzycznianie niemowląt i małych dzieci. Teoria i wskazówki praktyczne* (A. Kuchtowa & A. Zielińska, Trans.). Zamiast Korepetycji.
- Gordon, E. E. (1998). *Harmonic improvisation readiness record and rhythm improvisation readiness record*. GIA Publications.
- Gordon, E. E. (1999a). All about audiation and music aptitudes. *Music Educators Journal*, 86(2), 41–44. <https://doi.org/10.2307/3399589>
- Gordon, E. E. (1999b). *Sekwencje uczenia się w muzyce. Umiejętności, zawartość i motywy. Teoria uczenia się muzyki* (A. Zielińska-Croom & E. Klimas-Kuchtowa, Trans.). Wyższa Szkoła Pedagogiczna.
- Gordon, E. E. (2001). *Music aptitude and related tests*. GIA Publications.
- Gordon, E. E. (2008). *Clarity by comparison and relationship: A bedtime reader for music educators*. GIA Publications.
- Gordon, E. E. (2012). *Learning sequences in music: Skill, content, and patterns*. GIA Publications.
- Gordon, E. E. (2016). *Teoria uczenia się muzyki. Niemowlęta i małe dzieci* (E. Klimas-Kuchtowa, Trans.). Harmonia Universalis.
- Grashel, J. (1991). A review of selected studies using Gordon's audiation theory. *Applications of Research in Music Education*, 10(1), 30–34. <https://doi.org/10.1177/875512339101000107>
- Gutek, G. L. (2003). *Filozoficzne i ideologiczne podstawy edukacji* (A. Kacmajor & A. Sulak, Trans.). Gdańskie Wydawnictwo Psychologiczne.
- Hanson, J. (2019). Meta-Analytic evidence of the criterion validity of Gordon's music aptitude tests in published music education research. *Journal of Research in Music Education*, 67(2), 193–213. <https://doi.org/10.1177/0022429418819165>

- Hart, J. T. (2014). Guided metacognition in instrumental practice. *Music Educators Journal*, 101(2), 57–64. <http://www.jstor.org/stable/43288923>
- Hickey, M., & Webster, P. R. (2001). Creative thinking in music. *Music Educators Journal*, 88(1), 19–23.
- Jankowski, W. (2010). *Pięć tez przeciw deprecjacji muzyki w szkole*. In A. Białkowski, M. Grusiewicz, M. Michalak & D. Szwarzman (Ed.), *Edukacja muzyczna w Polsce. Diagnozy, debaty, aspiracje* (pp. 131–140). Fundacja „Muzyka Jest dla Wszystkich”.
- Kierzkowski, M. (2010). Analiza wybranych czynników warunkujących rozwój muzyczny dziecka. *Sztuka. Kultura. Edukacja. Rocznik Naukowy*, 1, 16–29.
- Kołodziejki, M. (2011). *Koncepcja Edwina E. Gordona w powszechnej edukacji muzycznej*. Wydawnictwo PWSZ.
- Kołodziejki, M. (2012). *Muzyka i wielostronna edukacja dziecka*. Wydawnictwo Wyższej Szkoły Lingwistycznej.
- Kołodziejki, M. (2022). Wybrane refleksje nad audiacją gordonowską. *Roczniki Humanistyczne*, 70(12), 277–290. <https://doi.org/10.18290/rh227012.18>
- Kołodziejki, M., & Pazur, B., (2020). Do improwizacji „kuchennymi schodami” w kontekście pedagogiki muzycznej Edwina E. Gordona. *Ars Inter Culturas*, 9, 195–216.
- Kołodziejki, M., & Pazur, B. (2022). Improwizacja jako rodzaj kreatywności muzycznej w świetle teorii uczenia się muzyki Edwina E. Gordona. *Edukacja Elementarna w Teorii i Praktyce*, 17(2/65), 25–46. <https://doi.org/10.35765/eetp.2022.1765.02>
- Krasny, B. Z. (2020). Rozwój w świetle podstawowych kategorii myśli Johna Deweya. *Studia Paedagogica Ignatiana*, 23(1), 149–169. <https://doi.org/10.12775/SPI.2020.1.008>
- Liperote, K. A. (2006). Audiation for beginning instrumentalists: Listen, speak, read, write. *Music Educators Journal*, 93(1), 46–52. <https://doi.org/10.2307/3693430>
- Majzner, R. (2017). Wybrane kierunki optymalizacji edukacji muzycznej w klasach początkowych szkoły podstawowej w opiniach studentów. *Zeszyty Naukowe Wyższej Szkoły Humanitas. Pedagogika*, 14, 203–213.
- McCarthy, M., & Goble, J. S. (2002). Music education philosophy: Changing times. *Music Educators Journal*, 89(1), 19–26. <https://doi.org/10.2307/3399880>
- Miner, B. (2007). Fostering musical creativity in the elementary classroom. *Inquiry Journal*, 8. https://scholars.unh.edu/cgi/viewcontent.cgi?article=1007&context=inquiry_2007
- Navarro Ramón, L., & Chacón-López, H. (2021). The impact of musical improvisation on children's creative thinking. *Thinking Skills and Creativity*, 40. <https://doi.org/10.1016/j.tsc.2021.100839>
- Pérez-Ibáñez, I. (2018). Dewey's thought on education and social change. *Journal of Thought*, 52(3–4), 19–31. <https://www.jstor.org/stable/90026735>
- Przybylska-Zielińska, A. (2023). *Zdolności muzyczne i kompetencje wokalne uczniów klas pierwszych szkoły podstawowej w kontekście założeń teorii uczenia się muzyki Edwina E. Gordona*. [Unpublished doctoral dissertation]. Wydział Nauk Społecznych Uniwersytetu Zielonogórskiego.
- Reimer, B. (1991). A philosophy of music education. *Journal of Aesthetics and Art Criticism*, 49(3), 279–280.

- Reimer, B. (2022). *A philosophy of music education: Advancing the vision* (3rd ed.). State University of New York Press.
- Schön, D. A. (1992). The theory of inquiry: Dewey's legacy to education. *Curriculum Inquiry*, 22(2), 119–139. <https://doi.org/10.2307/1180029>
- Shuler, S. C. (2021). A critical examination of the contributions of Edwin Gordon's music learning theory to the music education profession. *Visions of Research in Music Education*, 16, 7. <https://opencommons.uconn.edu/vrme/vol16/iss2/7>
- Shuter, R. (1969). Some problems in psychology of musical ability. *Journal of Research in Music Education*, 17(1), 90–93. <https://doi.org/10.2307/3344193>
- Sloboda, J. A. (1999). Emocje i znaczenie w przekazie muzycznym – perspektywy psychologiczne (A. Miśkiewicz, Trans.). In J. A. Sloboda, *Poznanie, emocje i wykonanie. Trzy wykłady z psychologii muzyki* (pp. 31–48). Wydawnictwo AMFC.
- Sloboda, J. A. (2002). *Umysł muzyczny. Poznawcza psychologia muzyki* (A. Białkowski, E. Klimas-Kuchtowa & A. Urban, Trans.). Wydawnictwo AMFC.
- Toporova, A. V., Gadzhieva, Z. S., & Malukhova, F. V. (2016). Musicality: A phenomenon of nature, culture and identity. *International Electronic Journal of Mathematics Education*, 11(5), 1373–1382. <https://www.iejme.com/article/musicality-a-phenomenon-of-nature-culture-and-identity>
- Trzos, P. A. (2009). *Preferencje barwy dźwięku i zdolności muzyczne w nauce gry na instrumencie dętym. Badania edukacyjne nad adaptacją teorii uczenia się muzyki E.E. Gordona*. Uniwersytet im. A. Mickiewicza w Poznaniu Wydział Pedagogiczno-Artystyczny w Kaliszu, Państwowa Wyższa Szkoła Zawodowa w Koninie.
- Trzos, P. A. (2018). *Umiejętności audiacyjne uczniów na etapie edukacji wczesnoszkolnej*. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Valerio, W. (n.d.). *The Gordon approach: Music learning theory*. The Alliance for Active Music Making. <https://www.allianceamm.org/resources/gordon>
- Woodford, P. G. (1996). Evaluating Edwin Gordon's music learning theory from a critical thinking perspective. *Philosophy of Music Education Review*, 4(2), 83–95.
- Woody, R. H. (2012). Playing by ear: Foundation or frill? *Music Educators Journal*, 99(2), 82–88. <https://doi.org/10.1177/0027432112459199>