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**Maciej Kołodziejski**

Faculty of Humanities and Information Technology Sciences

The Mazovian Academy

ORCID: 0000-0001-7904-7474

**Mirosław Kisiel**

Faculty of Humanities

University of Silesia in Katowice

ORCID: 0000-0003-2002-0116

**EXAMINING MUSICAL APTITUDES  
AND ACHIEVEMENTS IN THE SUBJECTIVE  
VERSION OF THE SELF-EVALUATION  
OF TEACHERS' WORK: CURRENT PERSPECTIVES**

**Aktualna perspektywa badania zdolności  
i osiągnięć muzycznych w subiektywnej odsłonie  
autoewaluacji pracy nauczyciela**

**Abstract**

The article is a review which concerns methods of measuring and evaluating the musical aptitudes and achievements of primary school students in the light of the assumptions of Edwin E. Gordon's music learning theory and in the subjective version of the self-evaluation of the teacher's work, i.e. the study of the value of his or her own didactic and educational work in music education classes. The authors describe selected tools for measuring musical

aptitudes available on the Polish market and methods to objectively verify musical achievements.

**Key words:** musical aptitudes, musical achievements, child, verification, educational diagnosis, self-evaluation, music learning theory

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### Streszczenie

Artykuł ma charakter przeglądowy i dotyczy wybranych sposobów pomiaru i wartościowania zdolności i osiągnięć muzycznych uczniów szkół podstawowych w perspektywie założeń teorii uczenia się muzyki Edwina E. Gordona oraz w subiektywnej odsłonie autoewaluacji pracy nauczyciela, czyli badania wartości jego własnej pracy dydaktyczno-wychowawczej na zajęciach edukacji muzycznej. Autorzy opisują wybrane, dostępne na rynku polskim narzędzia do pomiaru zdolności muzycznych oraz sposoby obiektywnej weryfikacji osiągnięć muzycznych.

**Słowa kluczowe:** uzdolnienia muzyczne, osiągnięcia muzyczne, dziecko, weryfikacja, diagnoza edukacyjna, autoewaluacja, teoria uczenia się muzyki

### **A child in the educational music space: an egalitarian perspective**

As far as children's aptitudes are concerned,<sup>1</sup> it is the task of parents, followed by teachers, to reveal them at an early age, to become familiar with them and to let them develop.<sup>2</sup> It is worth recalling that the earlier such a "rough diamond" is recognised, the greater the chance that, with the help of the immediate environment (family, pre-

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<sup>1</sup> See E.E. Gordon, *Musical Child Abuse*, "American Music Teacher," 1988 no. 5(37), pp. 14–16.

<sup>2</sup> V.L. Bond, *Before They Walk in the Door: Environmental Influences on Musical Ability in Early Childhood and Implications for Nurturing the Nurturers*, "Contributions to Music Education," 2011 no. 2(38), pp. 73–89.

school, school and out-of-school), it can be successfully shaped.<sup>3</sup> One of the earliest areas in which the child's spontaneous activity is exposed is the musical sphere through the prism of **vocal, instrumental, musical-motor and perceptual activity**.<sup>4</sup>

Musical space surrounds each of us, accompanying us in numerous situations of life. Assuming our hearing works correctly, we perceive sound phenomena, become accustomed to them, learn their abstract code, attribute a value to them and attempt to communicate via them. The entire process of growing into music is long but intriguing, filled with emotions and a multifaceted feeling of success, failure, interaction, networking, acquiring new skills or overcoming one's own weaknesses.<sup>5</sup>

The child's immediate environment has an important **transmission value**; its role is to provide sound stimuli in the form of melody, rhythmic speech and the organisation of musical events, which can have a strong influence on the emergence of curiosity about this art form and the formation of positive motivations for learning music. In most cases the environment interacts through people who create behavioural role models, arouse interest and provide opportunities for the child to present his or her own musical achievements. Hence, in this context, one can speak of the stimulating role of the family through the person of the mother and father and other household members, as well as teachers in kindergarten and school and instructors at extracurricular cultural institutions in the context of the holistic support of a young person's development.<sup>6</sup>

A child's activity development, based on at least five forms of music education, includes small and advanced music making. Contact with

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<sup>3</sup> Cf. M.P. Zimmerman, *Music Development in Middle Childhood: A Summary of Selected Research Studies*, "Bulletin of the Council for Research in Music Education," 1986 no. 86, pp. 18–35.

<sup>4</sup> M. Kisiel, *Diagnosis of preferences and special talents in the child's: opinions of surveyed teachers*, "Lubelski Rocznik Pedagogiczny," 2020 vol. 39, no. 4, p. 105.

<sup>5</sup> B. Bonna, *Evaluation of perceptual Musical abilities of early-school children*, "The New Educational Review," 2014 no. 2(36), p. 31.

<sup>6</sup> M. Kisiel, M. Kołodziejski, *Music playing at home – family as an environment supporting musical activity of a child*, in: *Педагогічні науки: теорія, історія, інноваційні технології*, ред. А.А. Сбруєва, Суми 2018, вип. 1(75), с. 23–33.

music can range from the perceptual through performative and restorative to the performative creative and improvisational.<sup>7</sup> The initial stage, so-called “small music-making,” should be based on play bringing the child joy and conditioned by positive emotions. This prepares the child for more demanding exercises based on established discipline and overcoming musical difficulties. Advanced music-making is associated with individual performance training “under the guidance” of a master teacher and/or the collaboration of individual ensemble members under the direction of a conductor. In addition to the enjoyment of the performance, responsibility for the individual presentation, the joint performance of the musical piece, precision in the execution of the individual vocal or instrumental parts, emotional sensitivity and, of course, proficiency in playing the musical instrument become important.

Communing with music has undeniable benefits for the harmonious development of the child. It also indicates the occurrence of desirable neuroanatomical changes that can occur as a result of regular and long-term professional music education.<sup>8</sup> By observing a child moving through the musical space, we build up a picture of their performance and are inclined to articulate many cues, co-constructing the young person’s relationship to music. On the other hand, if a young person is already making music or learning music, we want to know, mainly because of school-related conditioning, at what level their skills are. This knowledge is needed by teachers/instructors in order to establish strategies for further education and to profile the child’s musical activities, by parents with a keen interest in their child’s education and by the beneficiary himself/herself, who becomes more aware of his/her role in musical activities over time. The data obtained allow those concerned to plan rationally and subjectively for the child’s further learning, interests and activities, but will also contribute to understanding the behaviour of an immature personality, sometimes hypersensitive,

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<sup>7</sup> J.A. Sloboda, *Umysł muzyczny. Poznawcza psychologia muzyki*, transl. by A. Białkowski, E. Klimas-Kuchtova, J. Urban, Warszawa 2002, p. 56.

<sup>8</sup> A.A. Nogaj, *Korzyści wynikające z kształcenia muzycznego*, in: *Różnorodność oddziaływań psychologiczno-pedagogicznych w szkolnictwie artystycznym*, eds. A.A. Nogaj, W. Jankowski, Warszawa 2017, p. 9.



ification methods of musical aptitudes and achievements, which are discussed generally mainly from a diagnostic and prognostic perspective, are significantly reflected in the assumptions of Edwin E. Gordon's theory of music learning, mainly in the **division of ability into developing** (up to about the age of 9) and **established**. Despite the fact that, according to Richard Colwell and Frank Abrahams, Gordon was a **behaviourist**,<sup>11</sup> his approach to teaching and learning music is dominated, according to Barbara Kamińska,<sup>12</sup> by two strands. **The first is derived from phenomenology, and the second is based on psychometrics.** These strands can be considered relatively unequal to the detriment of the phenomenological approach, with a predominantly **psychometric** attachment to quantification and descriptive statistics.<sup>13</sup> Measurement is considered objective because it has measurable criteria, while valuing is considered subjective owing to its lack of precision and its reliance on unobservable criteria.<sup>14</sup> However, from the perspective of the last few decades, tests of musical aptitudes continue to play a significant role in educational research and debate on music education in Poland and worldwide. We also think that it is the responsibility of the academic and research community in music education to educate teachers in the procedure and use of musical (sound) tests using the most important hearing medium in music, so that the efforts initi-

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uczenia się muzyki Edwina Eliasa Gordona, in: *Zeszyty Wydziału Humanistycznego KPSW w Jeleniej Górze*, vol. 15: *Pedagogiczno-artystyczne konteksty edukacji dziecka*, eds. L. Albański, M. Kołodziejski, E. Zieja, KPSW, Jelenia Góra 2018, p. 149.

<sup>11</sup> Quoted in: M. Kołodziejski, "Jest już za późno! Nie jest za późno!" – czyli uwag kilka o naturze, strukturze i właściwościach zdolności muzycznych dzieci w wieku przedszkolnym i młodszym szkolnym, in: *Pedagogika i jej oblicza*, eds. J. Skibska, J. Wojciechowska, Bielsko-Biała 2018, p. 440.

<sup>12</sup> B. Kamińska, *Zdolności muzyczne w ujęciu psychologii muzyki. Ewolucja poglądów*, "Studia Psychologica," 2002 no. 3, pp. 187–195.

<sup>13</sup> Significantly underlined by W. Ann Stokes in the article cited above.

<sup>14</sup> T.W. Tunks, *Evaluation in Music Education: The Value of Measurement/The Measurement of Value*, "Bulletin of the Council for Research in Music Education," 1987 no. 90, pp. 53–59.

ated by the pioneers of testing musical aptitudes and skills in the 20<sup>th</sup> century are not lost and continue to develop.<sup>15</sup>

### **Ways of verifying musical aptitude: a cognitive perspective**

Plato said that “there is nothing so unequal as the equal treatment of students of unequal potential.”<sup>16</sup> Musical skills (or musical aptitudes more broadly) are a measure of the potential to learn music<sup>17</sup> or the ability to learn music, or even the intrinsic ability.<sup>18</sup> According to Gordon, **musical aptitudes can only be measured by standardised tests** because the test can “see what the teacher cannot hear.”<sup>19</sup> However, criticisms of the objective psychometric approach argue for the professionalisation of the music teaching profession. After all, long-term musical training is based on the development of musical analytical, critical and introspective skills in the context of one’s own and others’ musical performances. During the many years of music study, active participation in classes in theory and hearing training, musical forms and music history, as well as music performance in the broadest sense, provide the musician with adequate procedural knowledge that serves as a basis for the competence not to evaluate, but to measure and value the musical product<sup>20</sup> using criteria and often intuition, which is the case when verifying musical achievements. In Gordon’s view, the only way to objectively diagnose musical aptitudes is through standardised, accurate

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<sup>15</sup> Cf. J. Grashel, *The Measurement of Musical Aptitude in 20<sup>th</sup> Century United States: A Brief History*, “Bulletin of the Council for Research in Music Education,” 2008 no. 176, pp. 45–49.

<sup>16</sup> E.E. Gordon, *All about Audiation and Music Aptitudes*, “Music Educators Journal,” 1999 no. 2(86), p. 43.

<sup>17</sup> E.E. Gordon, *Nature, Source, Measurement, and Evaluation of Music Aptitudes*, “Polskie Forum Psychologiczne,” 2006 vol. 11, no. 2, p. 228; idem, *Sekwencje uczenia się w muzyce*, op. cit.

<sup>18</sup> M. Kołodziejski, “*Jest już za późno! Nie jest za późno!*”, op. cit., p. 433.

<sup>19</sup> E.E. Gordon, *Sekwencje uczenia się w muzyce*, op. cit.

<sup>20</sup> See E.M. Warnick, *Overcoming Measurement and Evaluation Phobia*, “Music Educators Journal,” 1985 no. 8(71), pp. 33–40.

and cognitively reliable tests with established norm values.<sup>21</sup> Here we focus on his proposals for measuring theoretical constructs such as musical aptitudes. Despite the fact that these proposals have already been described on more than one occasion, not only in the circle of the so-called Polish Gordonists (E.A. Zwolińska, B. Bonna, P.A. Trzos, B. Pazur and M. Kołodziejski), but also among researchers of musical education, constituting their interests in the other concepts, philosophies or methodological and programmatic approaches in musical education (M. Suświłło, W.A. Sacher, J. Uchyła-Zroski, A. Pękala and others), it is still worth accentuating statements with a scientific basis, which should serve reflective educational practice seeking inspiration in theories or general philosophical concepts. It is therefore necessary to distinguish those proposals for testing tools which are either available on the Polish market or currently under development in the context of Polish cultural standardisation.<sup>22</sup> These primarily include **tests of developing musical aptitudes**,<sup>23</sup> intended for students in the younger grades, the so-called first stage of education. In this sense, musical aptitudes appear to be **developmental**, meaning that their level and quality change from birth until the child is around nine years old, depending on the quality and quantity of multiple environmental influences. This is because musical aptitudes are a **product of nature and education** (more broadly culture), and these two factors contribute in hitherto unknown proportions to a child's overall level of musical skills.<sup>24</sup> To test musical aptitudes, the *Intermediate Measures of Music Audiation* (IMM) by Edwin E. Gordon is employed. This was successfully developed, published and used with excellent diagnostic and application effectiveness

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<sup>21</sup> E.E. Gordon, *Sekwencje uczenia się w muzyce*, op. cit.

<sup>22</sup> See L. Stamou, Ch. P. Schmidt, J.T. Humphreys, *Standardization of the Gordon Primary Measures of Music Audiatlon in Greece*, "Journal of Research in Music Education," 2010 no. 1(58), pp. 75–89.

<sup>23</sup> See E.E. Gordon, *Developmental Music Aptitudes among Inner-City Primary Children*, "Bulletin of the Council for Research in Music Education," 1980 no. 63, pp. 25–30.

<sup>24</sup> E.E. Gordon, *A Longitudinal Predictive Validity Study of the Intermediate Measures of Music Audiation*, "Bulletin of the Council for Research in Music Education," 1984 no. 78, pp. 1–23.



by Barbara Kamińska and Halina Kotarska in 2000.<sup>25</sup> The test examines **two fundamental dimensions of musical aptitudes: tonal and rhythmic**. This distinction requires two separate approaches to testing: first, tonal abilities (related to pitch audiation), followed by (after a few days' pause) rhythmic abilities (related to rhythm audiation).<sup>26</sup> The IMM test includes a tonal (T) and rhythmic (R) subtest. The key aim of the test is to identify students with high musical aptitudes and diagnose students' musical strengths and weaknesses, in order to adapt the teacher's pedagogy to individual students' musical needs. The test can be used both individually and in groups. The recording is available on CD and contains 40 test tasks for the tonal subtest and 40 test tasks for the rhythmic subtest. In the period between the beginning of the first year and the end of the third year of primary school, the test can be used in **longitudinal studies**, at half-yearly or annual intervals. The test employs the **natural human medium of listening**. Polish translation version omitted the word 'audiation' which was the basis of musical aptitude. This was made probably due to cognitive advantages. However, it is the authors' responsibility to signal this concept in the scientific space, for the empirical purposes of this article. Audiation<sup>27</sup> occupies an extremely important place in Gordon's theory of musical learning because it is **to music what thinking is to language**. It occurs even when sound is not physically present, when evoking, improvising or composing music.<sup>28</sup> We conclude that **audiation is an individual way of mentally organising music, determined by musical aptitude**, hence the importance of **test-based methods of diagnosing musical aptitude**

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<sup>25</sup> B. Kamińska, H. Kotarska, *Średnia miara słuchu muzycznego. Podręcznik do testu Edwina E. Gordona. Standaryzacja polska*, Warszawa 2000.

<sup>26</sup> E.E. Gordon, *A Factor Analysis of the Musical Aptitude Profile, the Primary Measures of Music Audiation, and the Intermediate Measures of Music Audiation*, "Bulletin of the Council for Research in Music Education," 1986 no. 87, pp. 17–25.

<sup>27</sup> See P.A. Trzos, *Od poznawania do rozumienia muzyki. O społeczno-edukacyjnych aspektach badań rozwoju audiacyjnego dziecka*, "Studia Pedagogiczne. Problemy społeczne, edukacyjne i artystyczne," 2014 vol. 24, pp. 445–461.

<sup>28</sup> E.E. Gordon, *A Longitudinal Predictive Validity Study of the Intermediate Measures of Music Audiation*, "Bulletin of the Council for Research in Music Education," 1984 no. 78, pp. 1–23.

being genuinely accurate and reliable and not devoid of objectivity. If teacher perceptions are only used, diagnosing musical aptitude can be unreliable, incomplete, full of subjectivity, prejudices and attitudes, therefore lacking reliability and accuracy. When considering Gordon's theory as a cognitive theory, as his psychometric research and significant shift from subjective perception to objective cognition indicate, we see that the methodology adopted has little in common with the accepted research procedures represented by contemporary cognitive scientists.<sup>29</sup> His theory of music learning does not cover certain elements of cognitive ability with due piety, hence the term 'mental representation,' as a fragment of the larger whole of auditory representation, is extremely rare in the context of audiation.<sup>30</sup> Robert Sternberg describes as deficiencies in the cognitive basis of musical ability that have been named but not adequately explained by psychometric theories.<sup>31</sup> Another important tool that is in the field research phase in Poland<sup>32</sup> is the Music Audiation Games – MAG test,<sup>33</sup> available in two versions: for children and for adolescents and adults. The MGA1 test for children comprises 40 musical tasks. Its aim, according to Gordon, is to objectively reveal the extent of a child's musical potential. The test is designed both for children with musical training and for those with no musical experience or formal musical training. However, the results of the test cannot be considered as definitive, mainly owing to the numerous factors influencing the level of musical potential of the person being tested. Importantly, Gordon highlights the fact that high scores

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<sup>29</sup> W. Ann Stokes, *Is Edwin Gordon's Learning Theory a Cognitive One?*, "Philosophy of Music Education Review," 1996 no. 2(4), pp. 96–106.

<sup>30</sup> Ibidem, pp. 99–106.

<sup>31</sup> Quoted in: W. Ann Stokes, op. cit., pp. 96–106.

<sup>32</sup> It should be noted that the American version of the test does not include cultural standardisation within the US. It's basically a test-music game, not a professional research tool. The authors of the Polish standardisation study (M. Kołodziejski and B. Pazur) hope that it will become a professional research battery, provided optimal results in terms of reliability and relevance are obtained in Polish conditions on musical and non-musical groups of different ages.

<sup>33</sup> This is the Polish name for the test proposed by researchers Maciej Kołodziejski and Barbara Pazur.

obtained in the MGA1 test can be treated seriously, while medium and low scores require the use of complementary testing methods.<sup>34</sup> The same applies to the MGA2 test, which is used on a group of adolescents or adults, or when the MGA1 test is too easy. The results will show the strengths and weaknesses of the subjects' musical potential, during both group testing techniques and individual measurements. We appeal to the wisdom and professionalism of music teachers, who should care about egalitarian pedagogy and realise that everyone has at least basic musical potential, so that everyone should have the opportunity to learn, create and improvise music. Those with a very good score may even consider pursuing music studies in the form of singing or playing instruments or dancing, so they can find the experience extremely rewarding. A key factor is the preparation of a competent teacher who is not only musical and qualified but who embraces the general ideas behind music psychology and is familiar with contemporary and comprehensive research in music learning theory.

### **The process of reviewing students' musical achievement: a diagnostic view**

The basic aim of music education at the first level of general education is for learners to become familiar with the language of music and musical speech and to acquire the ability to critically and verifiably look at their own and others' performances. They should also develop the desired behaviour appropriate to different artistic situations and to reflect on media and "live" artistic presentations, starting from performance practice and expression to the acquisition of the necessary minimum knowledge of musical culture. A prerequisite for the success of this aim is the diffusion of multiple musical activities, providing a stimulus to the creativity and natural spontaneity of the learner.<sup>35</sup> Measuring and

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<sup>34</sup> E.E. Gordon, *Am I Musical? Discover Your Music Potential. Music Audiation Games for Adults and Children Ages 7 and Up*, Chicago 2003.

<sup>35</sup> M. Kołodziejski, M. Kisiel, *Music education in the light of the contemporary educational transformations in Poland*, in: *Music Science Today*, ed. E. Daugulis, Daugavpils 2018, pp. 161–167.

valuing musical achievement in this course is **important from both an educational and research point of view.**

In characterising the diagnostic picture of the process of verifying students' musical achievements, we should highlight **the subjective and objective dimensions of assessing learning outcomes.** According to Ewa Zwolińska, giving an opinion on individual and/or group achievements requires the evaluator to be decisive and to know how to choose a particular assessment procedure<sup>36</sup> or verification.

Musical achievement is a measure of what has been learned in music.<sup>37</sup> Consequently, it can be stated that value judgements (evaluations) adjudicate the degree of correspondence between the assumed model and the actual state. They therefore represent a kind of judgement on the value of actions, achievements, ideas and solutions. Setting grades also means placing the subject on a scale, a kind of ladder indicating the values of the assessor.

In **measuring musical achievements**, educators often use **observation** of the student's activity against the background of initiated musical events. Observation is among the oldest and most basic forms of human study. Qualitative observation is always naturalistic and involves the researcher's participation in authentic situations taken from the everyday lives of the subjects.<sup>38</sup> Direct, overt and participatory observation allows the teacher to record behaviour, activity, commitment, ability to cooperate in a group, aesthetics of activities or following instructions in real time. During observation the diagnostician may describe the work of the class as a whole, relate his/her observations to gender-diverse groups or the *team* formed for the activity, but also specify his/her observations to individuals. In order to clarify and objectify the data, it is important that the researcher uses an appropriate questionnaire or diary. In this way his/her observations will be meticulously re-

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<sup>36</sup> E. Zwolińska, *Pomiar i wartościowanie w muzyce*, Bydgoszcz 2012, p. 100.

<sup>37</sup> E.E. Gordon, *Nature, Source, Measurement, and Evaluation of Music Aptitudes*, "Polskie Forum Psychologiczne," 2006 vol. 1, no. 2, p. 228.

<sup>38</sup> D. Kubinowski, *Jakościowe badania pedagogiczne. Filozofia. Metodyka. Ewolucja*, Lublin 2010, pp. 200–201.

corded, and it will be possible to analyse the dynamics of change in the categories observed as progress, regression or stagnation.<sup>39</sup>

With greater or lesser commitment, students produce works inspired by the teacher's instructions in the form of drawings, posters, short multimedia presentations or sound collections (collections of music recordings), which can be subject to evaluation. This type of material belongs to the group of documents that Tadeusz Pilch and Teresa Bauman refer to as personal. They provide the researcher with knowledge not of reality itself, but of opinions about that reality.<sup>40</sup> The output of a student's work can be a certain component of school assessment. During the research this output can become very useful for exploring children's experiences, reactions and attitudes in specific situations, in order to gather their opinions about a given reality. In pedagogical research, these creations are generally treated as material in the auxiliary technique of document research.

In the **case of musical performance**, estimation scales are widely applied to provide precise measurements of students' instrumental and vocal performance. These tools are mainly used to survey respondents' opinions and attitudes and to measure the direction and strength of their evaluation of different objects, and are of lesser importance in preference studies. The estimation scale is a specific technique for measuring the achievement, skill and performance of musical pieces prepared by a student. It is usually multidimensional and can be multi-level.<sup>41</sup> In music education, it will be used to measure the live performance or recording of an excerpt of or an entire vocal or instrumental piece. In terms of vocal achievement, the teacher may consider components such as correctness of voice use, tonal sense, maintenance of melody direction, pitch intonation or verbal articulation. In this case, the estimation scale should include at least two dimensions – tonal

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<sup>39</sup> M. Kisiel, *Wielorakie przestrzenie muzyki w edukacji i wychowaniu dziecka w młodszy wieku szkolnym*, Katowice 2013, p. 122.

<sup>40</sup> T. Pilch, T. Bauman, *Zasady badań pedagogicznych. Strategie ilościowe i jakościowe*, Warszawa 2001, p. 98.

<sup>41</sup> E.E. Gordon, *Rating Scales and Their Uses for Measuring and Evaluation Achievement in Music Performance*, Chicago 2002, pp. 5–6, 15 and 51.

(melodic) and rhythmic. It should also preferably concern expressive performance, such as dynamics, accentuation, articulation, phrasing or *feeling*. At the same time, the scale should ensure that each dimension contains five criteria which are all linked to the overall determinant, as well as being as distinct as possible from the other dimensions included in the scale. In terms of the sense of rhythm, the following criteria may be included: maintaining the correct (set) tempo, clarity of the bar measure, maintaining the tempo when performing quarter and eighth notes, and maintaining the set tempo at the end of the recitation.<sup>42</sup>

When carried out in this dimension, measurement becomes an objective activity and evaluation (valuing) a subjective one. According to Gordon, three types of rating scales are used to measure musical achievement: continuous, additive and numerical. In the literature we can find methods of designing scales to measure musical achievement according to the following determinants<sup>43</sup>:

- rating scales should cover one or more dimensions;
- there are multiple criteria for the rating scale in a given dimension;
- the same rating scale can be used both at the beginning and at the end of a semester or school year, so it can be used repeatedly;
- different rating scales can be used to measure musical achievement – one at the beginning of the semester and another at the end;
- scores on the scales can be used to determine school grades;
- the rating scale can be designed to measure a student's vocal or instrumental musical achievement. The teacher is assigned the role of competent judge who uses one rating scale, but at the same time more than one teacher can make judgements using different rating scales (on the basis of judgements by competent judges, i.e. specialists in music education).

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<sup>42</sup> L. Kataryńczuk-Mania, M. Kołodziejski, M. Kisiel, *Orientacje w metodologii badań edukacyjno-muzycznych*, Zielona Góra 2018, pp. 153–160.

<sup>43</sup> E.E. Gordon, R.F. Grunow, *Metodyka badań naukowych w dziedzinie wychowania muzycznego*, in: *Podstawy teorii uczenia się muzyki według Edwina E. Gordona*, ed. E. Zwolińska, Bydgoszcz 2000, p. 260.

To avoid the error of evaluator subjectivity, the researcher may select several people (in this case, music education specialists) as competent judges<sup>44</sup> to evaluate the same research material. Each designated person is given the same guidelines (e.g. criteria expressed by means of an estimation scale) for assessing musical performance (e.g. singing, playing instruments or improvisation). By using more performance evaluators (optimally three), the possibility of misinterpreting statements is reduced to some extent.

The use of estimation scales in the study of educational-musical school achievement helps to create greater objectivity in the measurement of education.<sup>45</sup> Examples of types of scale include: a continuous estimation scale (e.g. for tonal, rhythmic and technical dimensions), an additive scale for the tonal dimension (where a five-point scale gives the characteristics for the individual aspects: tonal, rhythmic and technical) of a performed piece, and a numerical scale where a scale from 1 to 10 shows the dimension of, for example, intonation ranging from poor, through average, to perfectly applied.<sup>46</sup>

According to Bolesław Niemierko, the accuracy of didactic measurement enables pupils' achievements to be inferred and for effective action to be taken on the basis of this measurement.<sup>47</sup> It encompasses the practical utility of measurement and the long-term effects of measurement. The basis of the analyses will be the congruence of intentions and measurement results. Research tools should be reliable, relevant and standardised. If even two criteria of relevance and reliability are mentioned, the measurement tool merits the reputation of being objective. In didactic measurement, such criteria are adopted by some testing procedures. Essay tests are among the subjective tools, as teachers award grades according to their beliefs. Multiple-choice tests are con-

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<sup>44</sup> K. Konarzewski, *Jak uprawiać badania oświatowe. Metodologia praktyczna*, Warszawa 2000, p. 136.

<sup>45</sup> A.I. Brzezińska, J.M. Brzeziński, *Skale szacunkowe w badaniach diagnostycznych*, in: *Metodologia badań społecznych. Wybór tekstów*, ed. J.M. Brzeziński, Poznań 2011, pp. 299–399.

<sup>46</sup> M. Kołodziejski, *Wybrane sposoby oceniania osiągnięć muzycznych uczniów ogólnokształcącej szkoły podstawowej*, Płock 2009, p. 61.

<sup>47</sup> B. Niemierko, *Pomiar wyników kształcenia*, Warszawa 1999, p. 173.

sidered more objective, as correct answers and the awarding of points are based on the reading of a value from a pre-prepared key. However, according to Niemierko, in order to reduce inconsistencies and distortions in information-based assessment, differential didactic measurement is useful to compare the results obtained among students with test measurements, with reference to the programme requirements.

Measuring and valuing learning achievements allows us to ascertain whether and to what extent pupils have mastered the knowledge and skills laid down in the educational programme. The diagnostic view of the process of verifying students' musical achievements requires tools that not only verify musical knowledge and preferences and the extent of a person's musical culture, but above all make it possible to assess the performance level, valuing vocal, instrumental, perceptual or creative skills.

The evaluation of a variety of student achievements aims to provide the necessary information about learning effort, which strengthens the student's motivation to learn. It alerts teachers to the effectiveness of their leadership and reassures supervisors and the public about their carefully checked competences or qualifications.

### **Conclusion and research-application recommendations for early childhood education practice**

In music pedagogy, the human being is at the heart of all interactions. Next to the student at the centre is the teacher implementing the aims, contents and principles of teaching and education, and the parents caring for and supporting their child with varying levels of commitment. In this process, the teacher can play the role of didactician, diagnostician and researcher simultaneously. The effectiveness of this work depends on several factors which can be determined by objective and subjective considerations. In looking at education through the prism of educational goals and the means of achieving them, the subjective-objective division will seem legitimate. The aims of teaching and education with objective pedagogy are based on the social good and the determination of the reliable position of a group, class or population



in the current educational context. This can relate to the level of musicality, the acquisition of musical competence, the formation of valuable forms of behaviour in relation to the arts, or active participation in the creation of regional and national culture. Subjective pedagogy, on the other hand, aims to focus attention on the child's needs, predispositions, aptitudes and deficits or incapacities.

The information and argumentation presented in this paper on the use of qualitative and quantitative methods of verifying musical ability and achievement, and how to verify them from a diagnostic perspective, convey to the teacher the research and application and exploratory tools necessary for early childhood education practice.

In view of the important role which the idea of progressivism plays in education, it is necessary to create such conditions for learners so that it is possible to adapt teaching activities to the subjective interests and cognitive needs of the individual and his/her abilities. These will often be different in the child's successive periods of psycho-physical and socio-emotional development and will be subject to dynamics. However, the objective needs of teaching and learning should not be forgotten. Underpinning this way of thinking will be John Dewey's learning theory, which assumes that the process of knowing by doing consolidates the aspirations of the individual and the collective.<sup>48</sup>

In music education, with its egalitarian provenance, an important task is to fairly (democratically) value the musical achievements of students operating in the space of reproductive, creative and perceptual expression. On the one hand, this is in order not to lose gifted individuals who, for various reasons, need support, stimulation, direction, the creation of a chance to appear and/or to become curious, and on the other hand, to proportionally assess students who reveal non-musical interests and/or who have difficulties with musical performance, but who manifest their commitment and diligence. The group of learners also includes those in need of remedial activities, where music stimulates various areas of their development in many areas of their activity, but also equips them with a sense of security and empowerment.

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<sup>48</sup> B.Z. Krasny, *Rozwój w świetle podstawowych kategorii myśli Johna Deweya*, "Studia Paedagogica Ignatiana," 2020 vol. 23, no. 1, p. 149.

In pointing out the benefits to the teacher of being able to verify a child's musical talents and achievements, one must not forget extra-curricular specialist activities, so-called interest circles, public presentations or participation in competitions and reviews. These activities are concerned with promoting individuals who have 'something to say' in the field of music, singing, dancing or other forms of presenting musical knowledge, generally categorised as individual and ensemble music-making.

All these aspects also emphasise an important premise relevant to artistic creation. Carl Rogers, a representative of humanistic pedagogy, assumed that human nature is perfectly good and that the educated person is a harmonious and conflict-free person.<sup>49</sup> According to this position, the reflective teacher-educator should also consider this value in education, which points to spontaneity and self-realisation as an important factor bringing the child/student closer to music.

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<sup>49</sup> J. Danilewska, *Psychologia humanistyczna a pedagogika szkolna, czyli siła "romantycznej utopii" na usługach szkoły w teorii i praktyce*, in: *Pogranicza pedagogiki i nauk pomocniczych*, ed. S. Palka, Kraków 2004, p. 201.

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