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Education of Early School Teachers in the Field of Music in the Face of Educational Change

KEYWORDS ABSTRACT

music education,
audiation,
graduation and
evaluation,
self-education

In pedagogical research, we refer to specific theories that explain the meaning of the formulated problems and hypotheses, justify the selection of methods, techniques and research tools for a specific research subject. The subject of the article concerns the process of learning music through audiation, which takes the form of action research, conceptually understood as inquiries undertaken by practitioners about their own education in order to improve it. The program of studies in the field of Early School Education with a music module, implemented for several years at the Kazimierz Wielki University in Bydgoszcz, made it possible to take up research problems treated as an application of the theory of music learning. This text presents the views of students on the inclusion in the curriculum of methodological content necessary to conduct research in the field of music education. The considerations concerned the audiation model of education, covering the process of developing human musicality from birth to adulthood. The presented opinions testify to a positive attitude to research in music education and make it aware that it is necessary to skilfully analyze the rules that students follow when learning music.

The purpose and meaning of music research

Becoming a teacher is a creative process that begins with pedagogical studies organised and conducted in such a way that a future organiser of teaching and educational events can develop both personally and professionally. The qualifications and competences of educators should already be shaped during their studies at universities in such a way that they can meet the expectations of the society and the needs of students. Also, teachers should be able to turn a traditional institution into a school of the future which will equip its pupils with operational knowledge, the ability to select and assess information, as well as an active and creative attitude towards the world. What is needed, therefore, is a modern model of academic teacher education that corresponds with the aims and functions of contemporary education. Such education should be scientific, functional, professional, open to changes, and it should be characterised by deep and genuine humanism. The hitherto unfavourable course of music education for young children requires changes.

What should be considered is an audiation model of education involving a sequence of development of human musicality from birth to adulthood in which there is a gradual accumulation and processing of musical structures. In this model, educational outcomes are determined by the ability to use the language of music. The contemporary school is faced with challenges that primarily concern teachers. The organisation of the music education process must be based on the following questions: 1. Why to teach? (awareness of goals), 2. What to teach? (materials used), 3. When to teach? (use of methodology), 4. How to teach? (teaching techniques). Edwin E. Gordon's theory of music learning makes it possible to construct a logical order of the individual goals that the student must pursue (stages of audiation) in order to achieve the goal of understanding music (related to types of audiation). In this model, the main goal of music education is the formation of thinking in action, which is linked to intellectual activity. The correct development of audiation skills makes it possible to carry out dialogue through musical language, as well as active recognition and solution of many problems (Zwolińska 2012:94). The research in the field of music education covers a wide range of issues, integrates theory and practice, teaches collaboration, refers to current knowledge and introduces us to learning. Unfortunately, few projects are cyclical and the focus on reflection is only symbolic.

In the course of studies in early school pedagogy with a music module, students learned about the audiation model of education by watching classes with young children, as well as learning a critical approach and reflecting on the environment and their own situation. In this way, they discovered how audiation skills need to be developed in a group, and how they can change the musicality of individual students by working together in a team activity – research in action (Červinková 2012). In order

to undertake quality research in action, students need direction to use specialised literature and a justified opinion on data analysis, as well as to generate reliable results. Teachers decide what is worth researching and they implement specific activities. Then, they obtain information on their effectiveness, thus developing their views on teaching, which results in changes in both didactic and practical behaviour. After each music lesson, the following questions need to be answered: “What did the students do?”; “What did they learn?”; “What is the value of the action taken?”; “What did the teacher do?”; “What should I do next?”. If the pupils are to understand music, the next activities should be planned with reference to the answers to these questions, and, at the end of the next stages of learning, the learning process should be summarised with the whole group.

Social sciences position researchers as observers of the practices of others, where different actions are presented and analysed. The process of learning music through audiation takes the form of action research conceptualised as research undertaken by practitioners on their own education in order to improve it. Action research, however, is about checking one’s own professional preparation, so just as a practitioner analyses his/her own conduct, a teacher must use research methods and techniques to improve his/her skills (McNiff and Whitehead 2005: 161). Action research is associated with terms such as: “teacher research” (Lytle and Cochran-Smith 1992; Bonna 2018), “practitioner research” (Middlewood et al. 2008; Trzos 2018) or “self-education” (Loughran 2005; Kolodziejski 2011). Susan L. Lytle and Marilyn Cochran-Smith emphasise that, when teacher development is reconfigured and educators’ inquiries are considered challenging and critical, such activities will become forms of social change in classrooms, schools and educational communities.

Music teachers should be able to independently design empirical research, conduct it, interpret it, and generalise the results obtained. Methodological knowledge and adequate skills are necessary to understand the scientific texts and procedures with which students become familiar when reading theoretical studies (Brzezinski 2010: 17), and the diversity of pedagogy reflects the richness of the social life that is the subject of its research (Rubacha 2004; Śliwerski 2011). Conducting scientific research on education in a pedagogical perspective involves three overlapping analytical and interpretative levels. These are: 1. description, interpretation and understanding/explanation of education and its contexts using the methods of scientific cognition; 2. humanistic valuation of a specific object of research; 3. Categories of human development potentiality and creation of a better life with reference to education (Kubinowski 2019). In pedagogical research we refer to specific theories that explain the meaning of formulated problems and hypotheses, as well as justify the selection of methods, techniques and research tools for a specific research subject. We interpret the obtained results according to the adopted conceptual structure in discussed theoretical foundations, so if

the research is based on Edwin E. Gordon's theory of music learning, then the results are presented according to the terms adopted in this theory.

In the curriculum of studies in early school pedagogy with a music module at the Kazimierz Wielki University in Bydgoszcz, an obligatory course named "Measurement and valuation in music" was conducted. The content of the course was an important area for students writing their diploma thesis in first degree studies, for those doing research in music education in second degree studies, and for those who intended to continue their studies in a doctoral school. The research competence was complemented by other subjects in education of preschool and early school teachers preparing to conduct music classes with young children, such as: theoretical foundations of music, diagnosis of changes in musical development, children's dances and movement improvisations, vocal ensemble with methodology, introduction to vocal improvisation, methodology of playing instruments, methodology of early music teaching, early music teaching techniques, theory of music learning according to E.E. Gordon, and introduction to speech therapy. Ensuring balance between the chosen elements of the curriculum required meeting the needs of students and an appropriate attitude towards scientific research in music education.

An important point was made by Thomas S. Kuhn (2003: 39) responding to the arguments of Davidson (1974), Kitcher (1978) and Putnam (1981), who stated that the outcome of interpretation depends on the adopted translation scheme, and that this cannot be reconciled with incommensurability. There is a so-called circular interpretation of the incommensurability thesis in which T. S. Kuhn and Paul K. Feyerabend emphasised that, in the course of theoretical change, language is updated, which prevents reliable communication because the lack of common vocabulary makes it impossible to demonstrate the advantages and disadvantages of the issues under analysis (Jodkowski 1984). The term "epistemological incommensurability" (Ślesięński 2018:163) means that it is possible to analyse the cognition and experience of reality and to determine our place in it. In the perspective of twentieth-century philosophy and methodology of science, an objectivist and scientific approach is emphasised, and in the perspective of the ontological-hermeneutic research, a so-called understanding philosophical critique is introduced (Koertge 2006; Kourany 2006). It should be emphasised that without the knowledge of the theory of music learning through audiation, it is not possible to verify problems in terms of the language of description and interpretation.

Kuhn's thesis of the incommensurability of paradigms is often connected with the issue of language, but it should be remembered that each community of specialists uses a distinct system of signs and associated meanings. Interpretations of this thesis emphasise that incommensurability can occur at several levels: observational, linguistic, methodological and ontological (enumeration after: Jodkowski 1990). In music

pedagogy, the observational layer is concerned with a direct relationship with theoretical assumptions grounded within a particular paradigm, so researchers hear and see what they have learned in the process of audiation development. When referring to approaches other than E. E. Gordon's music learning theory, there may be differences in how music is perceived, so the accepted concepts will be incommensurable. At the linguistic level, users use terms that do not function in the conceptual scheme of another paradigm or use the same terms but in different meanings. At the methodological level, researchers of the process of audiation development have specific toolkits for solving musical problems, and, at the ontological level, it is assumed that a paradigm provides specific assumptions that model sounds, enabling the identification of musical structures.

Thomas S. Kuhn (2003: 39) distinguished two processes: translation and interpretation, and he pointed out that they should not be equated. Translation is something done by a person who speaks two languages; in this case, the language of music and the language of music theory, due to which the person formulates the same ideas or describes the same situations. When dealing with a musical piece performed with the voice or on an instrument, or with a notation, we understand motifs and their sequences in the light of different theoretical approaches, obtaining equivalent content. With the help of certain methods, we learn the meaning of musical phrases and, at the same time, gain information about situations in which we can audiate. We learn more about some phrases, while what we know about others comes from their occurrence in various musical phrases. Thus, we simultaneously learn about the nature and meaning of motifs in different contexts, which can only function if we have a hearing, performance, reading and writing vocabulary (Gordon 1999: 163).

It should be emphasised that what is required is the identity of meaning and denotations, assuming that the translation contains the same information as the original. A necessary feature of a translation understood in this way is the knowledge of musical language, which is a prerequisite before one can present his/her version. The translation does not change the motifs, although it may expand their scope or replace phrases. The performer's ideas, however, are not part of the translation, but if they are needed, it is necessary to know why. In contemporary pedagogy, it is possible to identify constructs with the rank of paradigms, which, generally speaking, define the rules of science (Jankowski 2016: 215) with an indication of the field to which they apply, a specification of the research area, or an indication of the guiding position. This article is concerned with the paradigm of music pedagogy in relation to education through audiation, which, however, does not offer a clear-cut solution to all the issues.

Learning music through audiation is a variant of ostension (presentation) involving the direct matching of sound expressions to the nature of the melodic course. The formulation of base motifs is justified by the music learning theory due to which

we can notice that audiation skills are also acquired through non-musical processes, referring to the role of paradigms as solutions to specific problems. The adoption of specific paradigms enables researchers to be relatively unanimous in their choice and evaluation of solutions. They can function even where there is no theory (Masterman 1979: 69). A more accurate term is disciplinary matrix, as it consists of ordered components that require individual distinction, and it is shared by researchers in a particular discipline (Kuhn (2003: 156). As part of their dissertations, students were introduced to specific problems by undertaking standard solutions to issues. Also, they explored books while preparing for examinations, and so they referred to problem-solving paradigms treated as applications of the music learning theory. Based on this, they built an adequate theoretical construct and then created tools in the form of, for example, continuous or additive estimation scales in tonal or rhythmic result dimensions as a means of translating qualitative data into quantitative data (Zwolińska 2012: 127-131).

At different stages of the process of audiation development¹ each person perceives music in a different way. In the case of music education, we are dealing with the impossibility of fully understanding the sounds distinguished by others, so, by using the term “epistemological incommensurability”, we refer to concepts that are more commonly used in pedagogy, such as “multifacetedness” or “ambiguity” (Gnitecki 2008: 35). Adopting this perspective enriches methodological analyses, deepens the interpretation of pedagogical texts, and influences methodological awareness that facilitates the definition of terms used in one theory in terms of another theory (Kuhn 2003: 37-41). Gordon’s examples are confusing for those who are unfamiliar with music learning theory because they equate interpretation with translation. In order to interpret a musical utterance, one needs to acquire vocabulary on the same basis as one learns the words of one’s native language in early childhood, and then one recognises musical motifs correctly without translating their meaning.

In the process of educating future preschool and early school teachers, it is important to ensure that they become skilled researchers and benefit from a wealth of knowledge about improving music teaching methods. Promoting the purposefulness of music education is essential for the development of pedagogy. Graduates of early childhood pedagogy with a music module should be able to justify the importance of learning research methodology as part of their studies. An important goal for teachers concerned with the development of young children’s auditory abilities is to recognise the impact of this mode of interaction. This article highlights the views of graduate

1 The process of audiation development is a sequence of steps leading to significant changes in the formal mental processing of sounds. Each operation is a part of organising, encoding and interpreting sounds during music learning. Underlying all observed kinds of musical behaviour is a progress in musicality in which the conscious content relates to its meaning in a context (Gordon, 1999: 481).

students in relation to methodological knowledge within pedagogical research that may be relevant to the practice of teaching music to young children. It was assumed that the attitude towards research in music education is positive due to the knowledge of music learning theory and the methodological knowledge gained. To fulfil the requirements, students undertook their first action research projects as part of their diploma thesis, which is important for their future teaching practice.

A review of research on music learning includes a variety of issues focused on change in music education (Thiessen and Barrett 2002), student teaching (Rideout and Feldman 2002), curriculum structure (Boardman 1990), as well as instructional and evaluative processes (Verrastro and Leglar 1992). We learn from these that research in action has little impact on changes in the process of teaching and learning music. A synthesis of research focused directly on how educators learn to teach music comes from a review of research conducted mainly in a qualitative paradigm. There is a view that teaching music should be a process of combining self-awareness with social knowledge. Research focused on music education is a valuable source of information and the basis for taking up strategic actions for all parties interested in the issue.

It is widely acknowledged that action research is useful in improving educational practice in professional development and generates new empirical or presentational knowledge, but its scientific status is debatable (Wideen, Mayer-Smith, Moon 1998: 130-178). Many university researchers judge teachers' activities as theoretical and irrelevant to their work. Such researchers hardly ever present practitioners' contributions in their articles. However, there are opinions suggesting that such knowledge contains the potential to be used in the effective action of teachers involved in the collection of scientific literature in the development of textbooks. Students from the field of early school pedagogy at the Kazimierz Wielki University in Bydgoszcz undertook musical research as a part of their dissertations. Such explorations can be seen as a democratic process or a "bottom-up movement" as they position students as practitioners building their own knowledge in a collaborative setting. Research in action may be useful in introducing innovative changes and can be a systematic intervention that goes beyond describing, analysing or theoretically transforming the practice carried out in schools or universities (Somekh 2006).

Outline of the audiation model of music education

General curricular slogans related to a creative didactic process can be identified, such as: the subjectivity of the students, the competence of the teacher, or the evaluation of achievements. The audiation model of music education is a simplified didactic structure, which is characterised by specific ways of achieving the distinguished

learning objectives and the assumptions of music learning theory, where the effects are not determined by knowledge of music, but by the ability to use the musical language in various activities. One of the basic objectives is the preparation for self-education, which requires three conditions: 1. the pupils' willingness and readiness to perform tasks; 2. experiencing audiation in action; 3. musical talent enabling understanding music. The degree of independence and the extent of assistance should be related to the students' needs and not to the teacher's beliefs (Petty 2010: 337).

In Edwin E. Gordon's music learning theory, aiming at self-education is a natural process in which the teacher first plays the role of an organiser and manager (the differentiation stage), and then the role of an advisor who only gives some suggestions (the inference stage). Pupils become self-critical, so they recognise the need to learn music, they do not doubt their ability to complete tasks, and they accept criticism from others. The awareness of purpose is fundamental. An important part of the audiation development process is the training of perceptual acuity: we learn where to direct our attention and how to change and enlarge the filters through which incoming external information passes in order to notice what we have not noticed before. It's about the awareness of sensation, i. e. understanding experience in the present time. When communicating musically with others, we receive brief but relevant sound signals that enable us to know the reactions of others, and, when battling with ourselves, we speak of a heightened awareness of our inner sensations to gain self-confidence. What we need is sensitivity that allows us to see whether what we do is what we want as a satisfying outcome. If it is not, then actions need to be changed, because we need to hear, see and feel the course of events, and be able to choose the right reactions.

The aim of learning music through audiation is to point out different possibilities for undertaking musical activity. Relying on only one way of doing things is not a choice, and alternative options generate interesting questions in relation to many issues. Having a choice means being able to apply at least three possibilities. In each musical interaction, those who know the most ways of doing things and have a high degree of flexibility in their actions, will be the best able to control the situations in question. If we do the same thing over and over again, we will always get the same result. More choices always mean a greater chance of success. When learning anything, there hardly ever is a straight path that leads to the established goal (Zwolińska 2019: 29).

Experiencing audiation is an art and a science of creating individual musicality. It is an art because each participant in the process brings his/her own unique personality and style to the activities performed, which cannot be expressed in words or techniques, and it is a science because, through imitation and modelling, we discover the principles used in musical activity to achieve positive results. The ways in which we organise and interpret

what we hear, see and feel are subjective, but research focuses on both intentional and unintentional responses.

The research by developmental psychologists shows that people do science and art because one of their primary learning strategies is imitation, and they are born with a tendency to imitate. Thus, if teachers are able to transfer theories and practical skills, they contribute to the accumulation of knowledge and to supplementing it to make it useful for students. The mechanism for producing increasingly more useful conceptualisations and ways of coping in life has been described by Michael Tomasello as a “cultural trapdoor” which ensures the permanence of cultural products: it does not allow one to regress to previous forms of development. Thanks to this mechanism, children can learn a common cultural heritage and they do not have to “start from scratch” (Tomasello 2002).

Contemporary neuroscientific research reveals the fundamental influence of emotions on thinking and especially on the way we make decisions (Lerner et al. 2015: 799-823). This conclusion is important for the process of audiation development because if a normally functioning brain, in terms of memory, language or perception, undertakes a complex decision-making process, it activates mental (internal) states that “categorise” possible courses of action as good or bad. The types of feelings generated on the basis of previous experiences and considerable agitation of the mind provide a physiological signal to the individual about the anticipated consequences of a decision (Health 2006). People use such information (consciously or unconsciously) that serves them best, and this allows them to undertake a given activity (Damasio et al. 1991: 217-229).

Everyone has a unique genetic potential and research indicates that all children manifest the same non-negotiable needs and, when these needs are not met, they experience the same severe and long-term consequences for musical functioning. Favourable or unfavourable environmental influences during childhood interact in a variety of ways with every aspect of neural development. The lack of appropriate interactions and contacts in early childhood disrupts brain development in terms of musical aptitude and cognitive functioning, which becomes fixed. The period in which the brain is most flexible, i.e. susceptible to being shaped by positive and negative musical experiences, is infancy and early childhood. During this time, the neural pathways and centres that determine our musical functioning throughout life are organised. This is a unique opportunity to express genetic potential, but it also involves a huge vulnerability to damage that cannot be repaired later on.

There is a difference between imagining sounds and audiation in musical language, but the difference is not significant because language grows out of our ability to imagine a variety of melodies and reproduce them. Research by neuroscientists and cognitive scientists indicates that imagination uses the same neuronal circuits that are

active when observing a certain object or performing a certain activity (Deceity, Jeanerod 1995: 474-479). Therefore, it can be assumed that if we imagine that we are playing a certain melody on an instrument, the same groups of neurons are activated in the brain (in the ventral premotor cortex) that are activated when we actually play. Moreover, this also happens when I hear the words “grab the instrument” or when I say them (Gallese, Lakoff 2005: 455-479). The above observations are compliant with the thesis that language skills are rooted in the sensorimotor structures of our brains (Brożek 2016: 100).

In order to study the process of musical development, a method is needed which relies on the correct sequence of actions and the right distribution of what has to be taken into account in order to discover the meaning of audiation. All our mental perceptiveness must be directed to the smallest and simplest elements in music (motifs), and we must ponder on them in order to convincingly grasp the relevant relationships by means of intuition. The aim of many studies in social sciences is to perceive the value of the way children learn music and to systematically explain musical phenomena regardless of the teaching method used. When developing curricula, care must be taken to demonstrate a clear connection between the research and the benefits of the results to the participants in the teaching process who are students and teachers. A consequence of this will be to recognise the impact of research on everyday pedagogical practice.

Analysing opinions

This article focuses on the question: What do students of early childhood education with a music module think about research in the area of music learning? The standards set out in the general education core curriculum emphasise the need to establish and assess students’ musical achievements. In order to fulfil this task, knowledge of methodology and, within this, the ability to apply the measurement of musical performances and to value them is essential. According to Edwin E. Gordon, measurement is the basis of valuing, which, in turn, is considered to be a synonym of assessment. Without measurement and evaluation, such important aspects of teaching as, for example, the progression of students through levels of skills or the content of the music learning sequence, can only be a matter of chance. Unfortunately, teachers rarely measure their students’ achievements, although they do give school grades. This article presents the views of those who were aware of the crucial importance of music learning theory for their discipline, i. e. pedagogy.

It was assumed that the opinions reveal a relatively fixed structure of cognitive and emotional processes. Also, there seems to be a behavioural tendency to express a

particular attitude towards methodological issues. It was expected that the respondents would reveal a learned tendency to respond in a scientific manner by taking actions in response to social expectations related to musical development. The analysis of opinions was conducted through verbal behaviours involving forms of communication such as spoken words, gestures and writing. The sample was purposively selected and the intention of the study was not to determine the effectiveness of learning the curriculum content. Examples of statements were selected from the utterances of future teachers prepared to teach music lessons in a kindergarten and in first grades of a primary school. Those candidates for teachers studied the music module and invested in improving themselves in this area. Here are some of the statements:

My knowledge of the research methodology allows me to read published results with understanding and engage in music research.

I understand that reliable scientific research is difficult to conduct, it requires the inclusion of a large group (e.g. 2.000 people), and, by designing the research on a small group of people, it is easy to get the expected results.

The study should be randomised, and this means that subjects enrolled in both the experimental and control groups should be selected at random.

I read accounts of research on music education and find them understandable and inspiring.

I have gathered knowledge on the types of research conducted by music teachers.

I am aware of the prerequisites for carrying out research in music education.

The creation of the research design, data collection, its analysis and interpretation are similar to other social research, but the tools are not a neutral research instrument.

From the methodological point of view, there are many approaches and a particular type of research tools used in projects based on different assumptions of music learning theory.

I see a clear link between scientific research and the way in which music is taught and learned.

I am aware that systematically analysing and explaining ways of learning music is of great value to students and teachers.

I am confident that analysing research in music education is a valuable part of bachelor studies in early school education.

I positively evaluate the curriculum material implemented in the classes related to the subject "Measurement and Valuing in Music".

I feel motivated to undertake research in music education.

Scientific research into the process of music education will be an important part of my experience as a teacher in a kindergarten and grades 1-3 of a primary school.

Research in music education is interdisciplinary. Like most approaches in social sciences, it refers to the knowledge of pedagogy, psychology, sociology, philosophy, cultural anthropology, semiotics (analysis of meaning and syntactic relations) or statistics. I feel competent to conduct research in the field of music education.

I try to adjust my way of teaching music to the research findings in preschool and early school pedagogy.

As a music teacher of young children, I am looking for answers to the questions that are the subject of research already published.

Learning about research methods, techniques and tools is likely to change the way I teach music.

A music teacher in kindergarten and grades 1-3 can test different concepts of education by “crossing” them with each other.

Table 1 shows the number of students attending full-time studies in the specialization of early school pedagogy with music education which, for more than a dozen years, has been carried out at the Faculty of Pedagogy and Psychology at the Kazimierz Wielki University in Bydgoszcz.

Table 1. Basic information on the specialization and graduates

L.p.	Name of faculty, specialization or module	Year of graduation	Number of graduates	Women	Men
1	Pedagogy Specialization: <i>Early school pedagogy with music education</i> Uniform master studies	2009	14	11	3
2	Pedagogy Specialization: <i>Early school pedagogy with music education</i> Uniform master studies	2010	15	15	-
3	Pedagogy Specialization: <i>Early school pedagogy with music education</i> Uniform master studies	2011	16	14	2
4	Pedagogy Specialization: <i>Early school pedagogy with music education</i> Bachelor studies	2012	30	28	2
5	Pedagogy Specialization: <i>Early school pedagogy with music education according to E. E. Gordon</i> Bachelor studies	2013	27	26	1

L.p.	Name of faculty, specialization or module	Year of graduation	Number of graduates	Women	Men
6	Pedagogy Specialization: <i>Early school pedagogy with music education according to E. E. Gordon</i> Bachelor studies	2014	24	24	-
7	Pedagogy Specialization: <i>Early school pedagogy with music education according to E. E. Gordon</i> Bachelor studies	2015	18	17	1
8	Pedagogy Specialization: <i>Early school pedagogy with music education according to E. E. Gordon</i> Bachelor studies	2016	8	8	-
9	Early school pedagogy Module: <i>Innovative music education</i> Bachelor studies	2017	17	16	1
10	Early school pedagogy Module: <i>Innovative music education</i> Bachelor studies	2018	11	11	-
11	Early school pedagogy Module: <i>Innovative music education</i> Bachelor studies	2019	15	15	-
12	Early school pedagogy Module: <i>Innovative music education</i> Bachelor studies	2020	22	22	-
Total			217	207	10

All students of bachelor studies completed their master studies at the Kazimierz Wielki University in Bydgoszcz. Most of them graduated from the faculty of pedagogy with the specialization of early school pedagogy, and three people continued their studies for a doctor's degree and obtained the PhD in pedagogy in 2018, 2019 and 2020.

Discussion, implications and suggestions for research

The text indicates that the feedback from students of early school education with a music module, who were exposed to research methodology during their coursework, appreciate its value. Familiarity with the principles of conducting research as part of master studies, professional career or continuation of studies in a doctoral school was noted, so it is useful to look for specific ways to make explicit links between research and practice in music education. What emerges from the literature review on music teaching and learning is the need to conduct research at the stage of writing bachelor and master theses to try to increase the number of degree applicants in the future. Analyses related to music actions should be defined as a form of collective self-reflective enquiry undertaken by participants to improve the rationality of music education or their own music education practices. Such activity is needed at the level of studies because it teaches one to adapt to the role of a researcher and to share experiences with others.

It should be noted that the opinions expressed demonstrate a positive attitude towards music education research. The sample comprised 217 early school education students who graduated between 2009 and 2020. The research questions they formulated were influenced by the music learning theory of Edwin E. Gordon and they made the students realise that we are unable to notice some important variables. Even a slight modification in the right place has certain consequences, which makes us realise the importance of subjective experience and expresses the systemic (holistic, multifaceted) nature of our audition (inner) experience. What is needed is an analysis of the rules that guide students when they learn music, and teachers when they teach the children.

A growing number of university teachers appreciate the fact that the role of a teacher in the classroom provides a valuable scientific perspective. However, striving to be both an educator and a researcher is a specific and serious challenge. The nature of the conflicts experienced by the teacher in the role of an explorer can be outlined in terms of the Aristotelian distinction between “theoretical sciences”, which aim to formulate knowledge for its own sake, and “practical sciences”, which enable the formulation of knowledge for moral excellence. However, it is necessary to renegotiate traditional values and expectations in the classroom so that research activities can become a more productive part of the instructional experience. Similar tensions exist in any responsible inquiry-oriented teaching, but such challenges provide opportunities to consider important questions about the nature of research, teaching and curriculum (Wong 1995). Edwin E. Gordon’s theory of music learning provides a set of concepts for defining and explaining many of the behaviours that can be studied as part of a critical understanding of musical phenomena.

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