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Music Education in Training Early Childhood Education Teachers in the Context of Jerome Bruner's System of Representations. Its Purpose and Teaching Methodology Modification for Remote Work

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Abstract

The article consists of two parts. The first presents the implications for training early childhood music education teachers which arise from the theory of developmental psychology concerning Jerome Bruner's system of representations. The author strives to point out that their proper understanding appears to be essential to building a good teaching foundation for working with early childhood education students. With reference to the theory in question, the second part of the article discusses a modification of selected methods of conducting music education at the indicated stage of education in relation to the challenges connected with the necessity to work remotely. The author discusses examples of methodology in detail and suggests modifications. The aim of such treatment

of the matter is to demonstrate that it is possible to retain the practical nature of educational efforts in spite of the unfavourable conditions that stem from the need to be isolated and work online.

Keywords: early childhood education, Jerome Bruner, music education, remote work, modification.

Introduction

The aim of the present work is to analyse the pedagogical implications resulting from developmental psychology in accordance with Jerome Bruner's theory of representations, which turn out to be essential to discussing music education at an academic level in terms of training early childhood education teachers. The reasons for performing the analysis can be found both in relation to the crisis that the entire world faced at the turn of 2019 and 2020 (the necessity to modify the contents and methods of teaching for remote work) and in the conclusions drawn from observations and conversations with future and current kindergarten and early-school education teachers. The solutions suggested herein are universal in nature; that is, they are conducive to both remote and traditional education. The first part of the article focuses on the concepts related to the purpose of the kind of education in question with reference to Jerome Bruner's psychological concept. The second part introduces practical methodological examples which have undergone modification so as to be used in remote work that is oriented towards acquiring practical skills in spite of technical limitations. The reason for that is also found in the research areas within the field of music education, which, according to Susan Young, often revolve around creating scientific theories rather than providing practical knowledge. The author also notes that research on the development of teaching practice for new and experienced teachers is scarce, yet it draws attention to the complexity of what may be neglected in terms of early childhood music education, the process of teaching and how it can be theorised[1].

Early childhood education teacher – "a teacher of everything"

The tasks facing the students and their teachers appear to be highly difficult. On the one hand, the demanding perspective of the academic teacher, which assumes passing a solid theoretical background and often (or particularly in the case of music education) practical skills onto students, must be confronted with the perspective of the student, who is supposed to be able to teach everything while studying the said specialisation. The student should know not only the basics of

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[1]   S. Young, *Early childhood music education research: An overview,* [in:] *Research Studies in Music Education*, Sage Publishing 2016, p. 6. Source: https://journals.sagepub.com/doi/abs/ 10.1177/1321103X16640106 [access: 17.01.2021].

the theory of education but, more importantly, possess a number of practical tools for educating young people in many completely independent areas of education, including: mathematics, language, music, art, theatre, science, media or physical education and health. A fundamental question arises: how are they meant to do that?

It is this reflection that is the reason for the discussion which I would like to present. It seems to me, however, that it is worth connecting this issue with a question regarding the purpose of education[2]. If the answer we give in a generally natural way is the *bon mot*: the purpose of such training is to prepare the kindergarten and early-school education teacher to conducting classes in music education; or we add an indirect purpose: to sensitize the student to music, then we face the task of making it possible for the graduate of a (for example) 30-hour course to manage to learn the entire broad spectrum of concepts, rules, literature and practical skills related to a field which is, in fact, alien to them. It is analogous in the case of the other nine fields mentioned above. Where, then, is that coveted golden mean that would give a sense of fulfilment to both sides of the task?

Not to overwhelm…

The first important issue that I would like to draw attention to here is the expression: *meaning first, symbol later*, which appears in the context of mathematics education[3]. That manifest has its origin in developmental psychology and is closely related to Jerome Bruner's research, which concerned the perceptual capabilities of children; however, I shall return to this in the latter part of the article. It is worth noting that similar conclusions may be found in popular systems of music education, for example Carl Orff's, who, as Beata Michalak quotes, wrote the following about his assumptions:

> It is not playing [music – Beata Michalak's note] from music sheets, but a free creation of music in improvisation that is well-thought-out and desirable for which the examples provide information and stimulate it.[4]

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[2] For the purposes of this article, I focus on the technical aspects of the purpose of education in the strict sense, that is the practical area. I would like to point out, however, that the purpose of education appears to be an essential problem that is worth investigating from a broader philosophical perspective. After all, we are dealing with music education, in which conveying specific values seems to be unavoidable. We often face such a simple question as: which piece of music should I present to the children? Should it be classical music, a jazz standard or a "children's" song in a typical arrangement that resembles the style of *disco-polo* music? Jan Rutkowski presents an interesting approach to this issue in his book *Zmierzch kształcenia? Wybrane implikacje pedagogiczne filozofii Leo Straussa i Erica Voegelina*, to which I refer in the context of this research.

[3] M. Dąbrowski, *Pozwólmy dzieciom myśleć! O umiejętnościach matematycznych polskich trzecioklasistów.* Second revised edition, Centralna Komisja Egzaminacyjna, Warszawa 2008, p. 10.

[4] B. Michalak, *Schulwerk Carla Orffa. Idea muzyki elementarnej i jej recepcja,* Wydawnictwo Poznańskiego Towarzystwa Przyjaciół Nauk, Poznań 2009, p. 75. All translations – Artur Wagner.

Zoltán Kodály is of a similar opinion, writing that it is only "when the child can play a few melodies that it may be introduced to musical notation."[5] Emil Jacques-Dalcroze also presents an interesting metaphor in his work:

> [t]he teacher would not even think to ask a child to draw an object if it does not know the object or does not know how to use a pencil. Learning geography will only begin once it can move and gesticulate in a conscious way, thanks to which it acquires the fundamental notion of space.[6]

Nevertheless, I have decided to consider and discuss this issue on the basis of Jerome Bruner's theory of representations for two fundamental reasons: firstly, he is a well-known author to students of early childhood education, and his works are discussed in many subjects and seminars (in addition to J. Piaget and L. Vygotsky); therefore, I hope that relating music education to the psychological literature that is familiar to students will help them to understand its crux while not overcomplicating it. Secondly, the previously mentioned systems of music education are very advanced in specialist terms (musical – examples, methods, discussion, terminology) and there is a fear that they could be unclear to Readers who are not musicians.

In addition to a wide array of analogies, mathematics and music education have one crucial feature in common. Both fields are connected by the issues related to the world of symbols. As it turns out, pupils at the stage of early childhood education often do not understand what they are doing while solving mathematical tasks[7]. The situation is similar when various kinds of calculations are done by students who are still unskilled or, what is worse, by students who make use of methods based on stereotypical thinking that they have learnt by heart. In the case of music education, the situation described above is nearly analogous, as a result of which teaching often produces effects that are opposite to those intended. The conclusion that arises from observation of students and children in kindergarten and school may be formulated in the following way: music stops being interesting once we start dealing with it professionally because entangling it in the surrounding symbols deprives it of its charm.

It would be hard for it to be otherwise if it is often the case that even teachers who work at music schools realize after a few years that their student cannot properly name, for instance, the c^2 note, confuses a natural with a flat or incorrectly reads the notation in particular clefs. What, then, about the student who only interacts with music once a week for an hour and a half, and the whole adventure lasts more or less one or two semesters?

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[5]   Z. Kodály, *O edukacji muzycznej. Pisma wybrane,* ed. M. Jankowska, Akademia Muzyczna im. Fryderyka Chopina, Warszawa 2002, p. 153.

[6]   E. Jacques-Dalcroze, *Pisma wybrane,* trans. M. Bogdan, B. Wakar, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1992, pp. 15–16.

[7]   Ibid.

Conducting research on the processes of concept creation, perception and school maturity, Jerome Bruner distinguished three types of representation which emerge over the course of human intellectual development[8]: *enactive*, *iconic* and *symbolic* representation. As he argued in his works, they develop in the above-mentioned order and often combine with each other[9]. The author defined the representations in question as

> a set of rules in the categories of which the individual creates the concept of permanence of the events it encountered.[10]

Representations of certain events may be acquired through actions and in the form of images or with the help of words or symbols. As Bruner describes it, at the stage of development, the individual creates a particular knot: "we learn the act of tying it and once we know it, our knowledge of the knot consists in a certain habitual act which we have mastered and can repeat. That habit, which organises the entirety in the form of a knot, is organised in a serial way and is governed by a certain pattern, which connects its subsequent segments."[11]

The *enactive* representation, in short, consists in performing motor functions without the use of words or symbols. It is related to modelling, which Bruner discusses with reference to competence (as early as) in the period of infancy.

> Modelling constitutes a potentially very powerful means of transferring behaviours which acquired a high level of organisation. […] The main advantage of the discussed type of early skill learning is the fact that it enables young people to engage in play-observation type of behaviour.[12]

The *iconic* representation is a *step forward*, as it makes it possible to present the reflection of representation on paper (with reference to the conducted research, this type of representation is also an answer to the question of why children are so eager to draw starting from less than two years old – as soon as they can use simple tools such as a chalk or coloured pencil)[13]. Both of these forms of representation are generally easy, achievable and accessible for children, and also adults, since they are intuitive and connected with the world of imagination. However, we also distinguish a third – the most difficult – form of representation: *symbolic*, which requires experiences to be transferred to the world of symbols[14]. The subsequent representations do not replace the earlier ones but complement them. This means that during development, the individual learns to perceive the world in different ways.

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[8] J. Bruner, *Poza dostarczone informacje,* PWN, Warszawa 1978, p. 530.

[9] Ibid, p. 523.

[10] Ibid, p. 530–531.

[11] Ibid, p. 531.

[12] Ibid, p. 515.

[13] See A. Gopnik, P. Kuhl, A. Meltzoff, *Naukowiec w kołysce. Czego o umyśle uczą nas małe dzieci,* Media Rodzina, Poznań 2004.

[14] Ibid, pp. 531–532.

> Spontaneous learning largely consists in inducing more general rules of creation […] of more effective ways of representing similar events.[15]

This description is a good illustration to one of the experiments conducted by Jerome Bruner, which concerned the concept of permanence[16]. The child is given two identical small plasticine balls. After it deforms one of them, the child is asked a question – is the amount of plasticine still the same in both figures? The study was conducted on six- and seven-year-old children. Its purpose was to check if children who do not know the concept of permanence may acquire it under the influence of a specific training. That training is related to two factors: the influence of active manipulation and the influence of names given to shapes.

> Four groups were created: a) children who changed the second plasticine ball on their own and, at the same time, had to characterise the shape created in this way (naming and manipulation at the same time); b) children who gave a name but did not manipulate the material (the plasticine was reformed by the experimenter); c) children wo manipulated but did not name; d) children who neither manipulated nor named.[17.]

The conclusions from the experiment proved that only ¼ of children who did not manipulate and name the creations exhibited an improvement in a control test. Not many more children exhibited an improvement after being trained only in manipulation or only in naming. "However, when both types of training were applied together, the concept of permanence manifested itself in more than ¾ of children in a control test."[18] The implication that follows from this is that we should stimulate the simultaneous growth of different forms of representation while working with children in order for them to better assimilate new information and experiences.

Analogies

In mathematics, it could be a pouch with five chips, which we will replace with the symbol: 5. In music, on the other hand, it will turn out that walking around the classroom with a particular musical accompaniment is not only playing *hedgehogs* but also a performance of a duple metre with a metric accent on the first beat, which may be symbolically presented as on fig. 1.

The conclusions from Jerome Bruner's discoveries do not prove that symbols should not be used in education; on the contrary, their presence is essential. We must, however, remember that introducing a symbol will almost only make sense

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[15] Ibid, p. 531.

[16] It is an experiment based on a paradigm used previously by B. Inhelder and J. Piaget in Geneva. B. Inhelder, J. Piaget, *The early growth of logic in the child,* Harper, New York 1964.

[17] Ibid, pp. 538–539.

[18] Ibid, p. 540.

when the pupil (both the student and the schoolchild) understands what the symbol means.

Fig. 1

With reference to Hans Freudenthal, Mirosław Dąbrowski presents two ways of introducing symbols in mathematics education:

> we introduce a new concept or mathematical symbol by referring to other concepts and symbols which the students have previously learned; then, we look for examples or life situations that will help the students understand the sense and usefulness of the given concept or symbol

– we act accordingly in the context of music education, looking for examples from the surrounding world such as, e.g.: the rattle of a train resembles the eighth note with a dot and sixteenth note, which we may then write using symbols. The second way is as follows:

> […] we start by arranging such a situation and triggering such activities of the students from which the sense and usefulness of the concept or symbol that is interesting to us results; then, once the "ground is laid," we introduce a suitable name or sign.[19]

As it can be seen, this method is well rooted in the methodology of conducting music education classes, which is reflected in a rich literature with music exercises and games. It contains descriptions of specific activities for working with children, in which there are no symbols but various games. Two examples of that are *Zabawy i ćwiczenia przy muzyce* by Urszula Smoczyńska-Nachtman[20] and *Świat trzylatka. Zbiór zabaw ruchowych* by Marzanna Cieśla and Monika Słojewska[21].

The essence of the undertaking

While talking with students, I often encounter a lack of awareness – which appears to be somewhat natural at the beginning of education – as to why we should avoid excessive symbolism while working with children at an early school age and instead use a wide array of activities involving physical (and not only)

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[19] M. Dąbrowski, op. cit., p. 10.
[20] See U. Smoczyńska-Nachtman, *Zabawy i ćwiczenia przy muzyce. Wydanie 4,* Centralny Ośrodek Metodyki Upowszechniania Kultury, Warszawa 1983.
[21] See M. Cieśla, M. Słojewska, *Świat trzylatka. Zbiór zabaw ruchowych,* Wydawnictwo JUKA, Warszawa 2009.

movement. This stems from two fundamental reasons. Firstly, games are more accessible to children due to the use of (mostly) *enactive* representation during the activity. Secondly, the research concerning the influence of music on intelligence proves that music education affects the growth of intelligence – on the condition that it is based on practical activities[22].

Activities involving physical movement with music give us (teachers) a tool to develop not only the musical sensitivity of our pupils but also – as proved by Glenn Schellenberg – their intelligence. It is also worth remembering that physical games and activities are not only favourable for the aforementioned processes but – interestingly – open another *teaching door* in the form of interdisciplinarity. Imitating bicycles in move may, for example, combine: music education (the sense of rhythm, measure, e.g. double time) physical education (the function of individual muscle groups), mathematics (symmetry, circles and other geometric figures), language (names in the native and a foreign language) etc.

Due to the advantages which I described above, but also the doubts of students as to the methodological solutions during (particularly) short courses at universities (the doubts concern the need for education through play), it seems worth considering putting more emphasis on giving future teachers a chance to thoroughly understand the way in which young people develop and learn. Otherwise, they will treat play as insignificant or even infantile, which will not be conducive to teaching at this stage.

Learning the meaning, which Mirosław Dąbrowski writes about, seems to be more important than the knowledge of a large number of tasks, exercises or music games – the number of methodological resources of high quality is favourable, yet it seems essential to understand how (and why) to use them.

Modification of contents for developing practical skills in remote work

Above, I tried to present a starting point for introducing students to working with children at an early school age from the theoretical perspective – making use of the achievements of developmental psychology based on Jerome Bruner's work. With reference to the above-mentioned conclusions, I will now try to pre-

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[22] See G. Schellenberg, *Music and Cognitive Abilities, Current Directions in Psychological Science*, 14 (6), 2005, s. 317–320. The psychologist described studies carried out on 6-year-old children. The respondents had their intelligence tested and were then assigned to random experimental groups, in which throughout the following 36 weeks they learned to play an instrument and/or sing. At the same time, the control groups had acting classes or did not receive any classes related to art. After the experiment was concluded, the measurement revealed that the children who learned music exhibited a higher IQ gain than the control groups; moreover, they were more comprehensively intelligent.

sent a few teaching ideas – in what way remote work can be used to present a methodology that students will be able to take advantage of in practice.

To take advantage of the camera

How to carry out practical games that require (by definition) physical involvement of the participants? Let us analyse a classical game that is typical for classes in theatre and music education: *The Mirror*. One of the descriptions of this well-known activity is: "Children pair up and choose a spot in the classroom. The person conducting the class decides which child in each pair is number "one" and which is number "two." Children face each other and touch hands very lightly. Quiet and slow music is the sign for the "ones" to move their hands as if they were painting figures on the board in front of them. The "twos" are supposed to follow the motions of their partner, only taking passive participation in painting. After a short pause, the twos take over the active role."[23]

The best way for a student to gain a practical skill that they will be able to "recreate" in their future work is… play. However, how does one do that while sitting in front of the computer? After all, we are talking about walking around the classroom and performing specific instructions as well as touching the other person. It is here that the modification takes place, allowing for practical experiences, which, *nota bene*, may be applied in "traditional" methodology after a time[24].

Almost every digital tool that can currently be used while working with students or pupils, such as *Google Meet*, *ZOOM*, *Microsoft Teams* etc., provides the basic opportunity for all participants of the meeting to see each other on the platform. On the grounds of modification, we give up walking around the classroom. By means of a certain method, e.g. at random, we choose two participants who take part in the play. One of them becomes number "one" and the other one – number "two." The task of "one" is – in line with the rules of the game – to "paint any figures with the hands" while "two" tries to mimic the motions they see. It is here that the actual play begins. The participants take turns creating more pairs, but … there is a possibility for including additional elements. The signals do not have to be limited to quiet and loud music. The teacher can play an instrument (or make use of a library of existing recordings) and take this opportunity to familiarise the pupils with all the elements of a piece of music in a completely natural way[25]. How does one achieve that?

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23 U. Smoczyńska-Nachtman, *Zabawy i ćwiczenia przy muzyce…,* pp. 13–14.

24 By traditional methodology, I understand, of course, that created when there was no necessity for remote work, hence oriented towards physical activities in direct people-to-people interactions.

25 We distinguish 7 main elements of a musical piece. See F. Wesołowski, *Zasady muzyki,* Polskie Wydawnictwo Muzyczne SA, Kraków 2008. If the teacher does not play any instrument, they may use existing recordings which correspond to the described or alternative sound ideas.

Rhythmicity may be presented using two different rhythms: e.g. eighth note or quarter note rhythm (in which, as in the case of the other elements of a musical piece, the "ones" react to eighth note rhythm and the "twos" to quarter note rhythm).

Melodic pattern – creating melodic opposites: rising melody for the "ones," e.g. from c^1 to c^3, falling melody for the "twos" – e.g. from c^1 to C.

Harmonics[26] – "one" leads the play when the melody is cheerful (we may focus on one accord, for instance C major); "two," on the other hand, reacts when the cheerful melody changes into sad, as a result of which the C major chord is replaced with e.g. C minor. Any harmonic instrument would surely prove useful in this element of the musical piece, but it is not the proverbial *sine qua non*.

Agogics, referring to the tempo of the piece and also related to the liveliness of the flow of music[27] is as follows: "one" draws while hearing not very quick music, e.g. in moderato tempo, that is at a moderate speed. "Two" reacts to a tempo that may be described as presto, that is quickly[28]. The students may be recommended to use an application for mobile devices that imitates a digital metronome[29]. It is sufficient to know what number of beats, that is the so-called *BPM*[30], describes the given tempo; for instance, moderato is approximately 90 BPM, whereas presto 168–199 BPM.

Dynamics – is nothing but an element that appears in the description of the game. In the basic version, it may be assumed that loud sounds (of an instrument, singing or mechanical sounds) correspond to the "ones" and the quiet ones to the "twos."

In order to familiarise the participants with **articulation**, any instrument may be used, e.g. in the case of the drum, the "ones" may react to the sounds made by striking the instrument with a hand, whereas "twos" react when they hear sounds played with a drum stick[31].

Finally, the last element of a piece of music – the tone colour, that is

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[26] It is a "[s]et of harmonic features characteristic of an age, period, school, composer or even a single piece of music." J.M. Chomiński, *Harmonia*, [in:] *Mała encyklopedia muzyki,* ed. S. Śledziński, Państwowe Wydawnictwo Naukowe, Warszawa 1981, p. 376. These features, in turn, create harmonics, that is "one of the main elements of the structure of a polyphonic piece of music. Its essence is a simultaneous interaction of sounds in the form of consonances and chords." Ibid, p. 390.

[27] In *Mała encyklopedia muzyki*, we find a description which states that "an agogically lively flow is also a flow that is maintained in a slow tempo (e.g. in adagio) but exhibits a prevalence of the lowest rhythmic values." Ibid, p. 20.

[28] See ibid.

[29] A classic, easy to use application is e.g. *ProMetronome*.

[30] *Beats per minute*. For example, a tempo of 60 BPM means one beat per second.

[31] The play will become more interesting when the teacher uses more advanced instruments, e.g. the violin (or in the simplified version – their recordings); this creates an opportunity to show the fundamental difference in the sound of the instrument that results from the technique of playing: *arco* (with a bow) or *pizzicato* (*with fingers*).

the tonal dependencies of musical structures that are predominantly reliant on the number of performing techniques (sound generators) and the way in which they interact, which are independent from the melodic factor and harmonic relationships,[32]

which can be presented in the simplest form by singing or reciting any sounds for the "ones" and doing the same while covering the lips with a hand (muffling them, so to speak) for the "twos."

The examples presented above do not exhaust the subject. My goal is merely to draw attention to the possibilities and show the simplest examples of solutions that may be used or subjected to modification in teaching work. To summarize, it is worth mentioning here that taking advantage of the previously mentioned elements in the play not only makes it possible to use them during remote classes but also in traditional teaching. It should be remembered that all the elements of a musical piece that have been described here should first be presented in practice and only then discussed, adhering to the advice I have mentioned earlier: "meaning first, symbol later."

"Holy Grail" or how to remotely encourage all the participants to take part in the play, make it more attractive and achieve the goal

The methodology of conducting music education classes distinguishes many different goals, one of which I indicated earlier. Apart from physical development, one of the most important goals is the development of the ability to focus (which is included in many activities)[33]. One of the plays that are characterised by that goal is **The Maze**

[…] the person conducting the class draws any continuous figure on the floor with a chalk. The line should be long and the path relatively varied […]. The beginning and end of the path should be marked with a point or a line, or an object may be put in that place – a percussion instrument, ball, pouch with beans. The children's task is to walk along the line from the starting point to the finish. The person who loses their way or steps on the floor next to the line leaves the game. A variant of the exercise is to walk the line within a set time limit. The group watching the competitor can count, sing a song or say any text in the meanwhile. Having reached the finish, the competitor signals the completion of the task with a prop – they will play an instrument, bounce a ball or throw the pouch up and catch it. The geometric figure is initially drawn by the adult, but children can do it with time.[34]

In spite of the fact that just as in the case of **The Mirror**, **The Maze** is designed as a physical activity for a group of participants in a classroom – it can be

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[32] S. Śledziński, op. cit., p. 501.

[33] See E. Lipska, M. Przychodzińska, *Muzyka w nauczaniu początkowym. Metodyka,* WSiP, Warszawa 1991.

[34] U. Smoczyńska-Nachtman, op. cit., pp. 14–15.

analogously adapted to the conditions of remote work. However, I would like to draw attention to two teaching-related aspects of the exercise.

The first is the main task (creating and getting through the maze), which at the stage of adaptation to digital conditions, transforms into a digital maze. In order to do that, the group of students present in real time at, for example, the platform "Google Meet" may use the tool "Google Jamboard."[35]
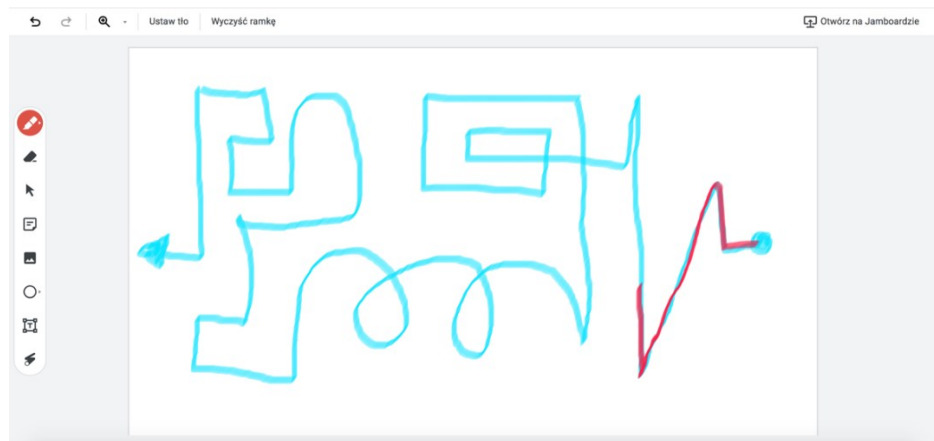

Fig 2. Screenshot taken during the activity[36].

In the play, one of the participants prepares a maze, and the other one has to beat it. What about the others? It is here that an opportunity appears to introduce more musical symbols: metre, measure and rhythmic value, and take this chance to show basic relationships, that is a difference related (again) to mathematics: even and odd metre. Let us assume that the goal is to introduce the students to the latter. From the available literature, we choose, for example, the piece *Take Five* by David Brubeck, which is based on the odd metre: $\frac{5}{4}$. At the beginning – in line with Jerome Bruner's advice – we do not use symbols. The tasks consist in counting to five (it might be a good idea to divide that into: 1–2–3, 1–2 or vice versa). The exercise that introduces the play involves counting subsequent "fives" – each one is a single segment (a bar). After a short period of joint counting with the recording, we present the contents of the revised play: the person who starts draws a maze (on "Jamboard"). Then, the second designated participant uses a digital marker pen of a different colour to get through the maze by drawing on it while trying to be as precise as possible. The other participants count how many "fives" (bars) it takes for the student to get through the maze. The person conducting the class initiates and concludes the game

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[35] It is a digital board which allows for drawing shapes in real time by several users at the same time. When one user is drawing, the others can see the effects on their screens.

[36] The shape drawn in light blue is the maze prepared by one of the participants, whereas the red fragments are the "path" traced by the other participant of the play.

– once the student reaches the finishing line (e.g. using the words "start" and "stop"). The winner is the one who calculates the number of bars most accurately – that is how many segments (five each) it took for the participant to get through the maze. The winner becomes the next competitor to get through a new shape (maze) drawn by the previous competitor. The play is repeated a few times. In the event that there are recurring winners, it is worth choosing the children who were closest to the correct result so that everyone has a chance to try and a sufficient number of attempts allows the children to become familiar with the problem[37].

Only once the play has ended do we introduce the concepts: "metre," "measure" and "rhythmic values" (quarter notes)*,* and their symbolic appearance (at first in the most basic form, including the metre, number of rhythmic values and the bar line) – fig. 3.
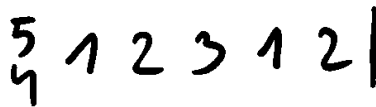
Fig 3

In the next stage, the symbols of the rhythmic values are presented with their signature – fig. 4.
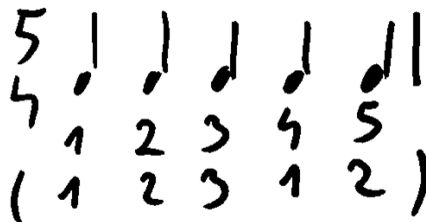
Fig 4

The drawings are minimalist on purpose so that they prompt simple associations which the participants can relate to *enactive* experiences (it is probably what counting during the class looked like: tapping one's feet and counting or waving a finger or hand five times).

Summary

In the first part of the article, I tried to illustrate the problem related to understanding the essence of the issue – why it is necessary to work with children at

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[37] The famous saying: *practise make perfect* seems to be particularly valuable advice.

the stage of early childhood education using various plays and practical exercises. The key – in my opinion – is to evoke a specific kind of association, which, in a way, contains the previously discussed transition from *enactive* and *iconic* to *symbolic* representations. It seems important to me to understand the basics of the issue; they stem from developmental psychology, which I presented with reference to Jerome Bruner's theory. I tried to demonstrate its advantages and encourage people who train early childhood education teachers to combine practical classes related to music education with the fundamental theoretical background that emerges from the indicated theory.

In the second part of the article, I suggested what a modification of the methodology of teaching music with regard to the possibilities of the digital world and the challenges facing pedagogy (remote work) might look like. Due to the fact that many new methodological solutions are, so to speak, *en route*, I tried to share the relevant solutions which I have discovered recently in order to assist that difficult process[38]. Moreover, there is a chance that creative work with students which provides them with opportunities for modifying certain teaching methods will equip them with additional tools facilitating their future work in the field in question.

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[38] It is worth noticing that different programmes and offers are created in response to the current challenges of remote education; they assist the process and are based on practical efforts, including singing or playing instruments. See e.g. source: https://www.macphail.org/community-programs/online-sing-play-learn/ [access: 17.01.2021]; source: https://www.musictogether.com/parents/class-types/music-together-online [access: 17.01.2021].

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Edukacja muzyczna w kształceniu nauczycieli wczesnej edukacji w kontekście systemu reprezentacji Jerome'a Brunera. Jej celowość oraz modyfikacja metodyki nauczania do pracy zdalnej

Abstrakt

Artykuł składa się z dwóch części. W pierwszej przedstawione zostają implikacje dla kształcenia nauczycieli wczesnej edukacji z zakresu edukacji muzycznej wynikające z teorii psychologii rozwojowej dotyczącej systemu reprezentacji Jerome'a Brunera. Autor stara się zwrócić uwagę, iż właściwe ich rozumienie wydaje się być kluczowe dla budowania dobrego podłoża dydaktycznego w pracy ze studentami kierunków wczesnej edukacji. W drugiej części artykułu w odniesieniu do przedstawionej teorii ukazana zostaje modyfikacja wybranych metod prowadzenia edukacji muzycznej na wskazanym etapie kształcenia, w odniesieniu do wyzwań związanych z koniecznością pracy zdalnej. Autor szczegółowo omawia wybrane przykłady metodyczne i proponuje ich modyfikacje. Celem zabiegu jest ukazanie możliwości zachowania praktycznego charakteru działań edukacyjnych mimo niesprzyjających warunków, jakie niesie za sobą konieczność izolacji i pracy online.

Słowa kluczowe: wczesna edukacja, Jerome Bruner, edukacja muzyczna, praca zdalna, modyfikacja.