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Professional article

THE FUNCTION OF ANALOGY IN PIANO PEDAGOGY

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Abstract. The paper explains the role played by the practice of analogical reasoning in piano lessons, especially at the beginner level. The first stage of piano studies is the most important one in raising musicians. In order to develop a young student's understanding and appreciation of music and piano playing, teachers use interesting and logically connected stories with plenty of entertaining characters, colorful illustrations and imaginative scenes. Comprehensive analogies with images of characters and their adventures used to introduce and expand on musical concepts in working with beginners make complicated playing techniques understandable and acceptable to them. It is very important to invoke students' imagination and creativity using fantasy, as well as analogies from everyday life, in order to help them to envisage musical images and express them through physical movements. By making progress in piano playing, students also improve their problem-solving skills in the arts, sciences, natural environment and social life.

Key words: imagination, learning, piano pedagogy, piano playing, teaching, analogical reasoning

1. INTRODUCTION

Piano pedagogy arose with the appearance of the piano itself at the beginning of the eighteenth century. The practice of learning and teaching to play keyboard instruments has always reflected "the integrity of the musical culture of the time" (Zafranas, 2003, p. 134), and lessons in playing these instruments were an integral part of the education of children and youth in middle-class families. The romantic pianism of the nineteenth century leads to flourishing of both piano art and piano pedagogy. During the twentieth century, piano learning has a privileged status in the educational systems of many countries where specialized state music schools were established, and as a teaching discipline it continues to represent one of the significant achievements of contemporary educational programs at all levels - from preschool to university. Contemporary piano pedagogy has become so-

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called 'lifelong learning', with piano lessons for adults following the general world trend that the improvement process does not have to end with our regular schooling.

Nowadays, people believe almost indisputably that learning to play the piano brings numerous benefits, starting with motor and intellectual ones, all the way to the development of creativity, imagination and inner spirit. Playing the piano is considered "one of the most complex motor acts performed by the human being" (Koschevitsky, 1995, p. iii). In that sense, the vocation of a professional pianist presumes a long and demanding education, and implies certain personal physical and psychological predispositions. The education of a future professional pianist usually begins in early childhood and involves many personal abstentions and sacrifices, because learning is hard and requires many hours of daily practice over a number of years. The modern age is dominantly determined by the use of technology in all areas of human activity and creativity, including music performance. Nowadays we have recorded music available on devices. It is no longer necessary to learn to play music in order to hear it. Despite this, the interest in music performance studies is still evident throughout the world. According to available data, only in China there are more than thirty million young people who study piano playing (Ćeklić, 2015, p. 94).

From the perspective of today's man, it is not easy to understand why so many students persist in learning to play the piano despite all the challenges and difficulties that come with playing music professionally. There are studies demonstrating that piano and keyboard lessons lead to improved spatial-temporal test results in kindergarten children, and based on this, music and piano-keyboard lessons are recommended as an integral part of kindergarten education (Zafranas, 2003, p. 2). However, children are not motivated to learn to play the piano just because of the effects music lessons have on their cognitive abilities, as if was is a kind of medicine, or mental therapy. There is something else about piano playing that appeals to countless enthusiasts, from eighteenth-century times to the modern technological age.

There are two basic approaches to teaching piano. The approach which could be described as 'algorithmic', is represented in words originating, according to oral tradition, from Johann Sebastian Bach who allegedly claimed that there was nothing remarkable about playing and that "all one has to do is hit the right keys at the right time and the instrument plays itself." Viewed in this way, musical notation represents a specific algorithm, a sequence of instructions used to perform a computation of musical score, and all the performer needs to do in order to play the music is to follow the instructions. But, if the student/performer desires "disclosing the vast field of artistic interpretation", (s)he "must learn to perceive the invisible something which unifies the seemingly separate notes, groups, periods, sections, and parts into an organic whole" (Hofmann, 1920, p. viii). That "spiritual eye for this invisible something is what musicians have in mind when they speak of 'reading between the lines' which is at once the most fascinating and most difficult task of the interpretative artist; for, it is just between the lines where, in literature as in music, the soul of a work of art lies hidden" (Ibid, p. viii-ix). Because "to play its notes, even to play them correctly, is still very far from doing justice to the life and soul of an artistic composition" (Ibid, p. ix). This approach of creating music could be described as 'transcendent', as it goes beyond or above the range of normal or merely physical human experience, and its functioning mechanism is the subject of this paper.

In the following sections it will be explained that piano playing is a creative artistic activity which takes place on an imaginary level through associative thinking and analogical reasoning. In piano pedagogy, the function of analogy is to introduce and expand musical concepts in the work with beginners, as well as to illuminate the symbolic 'meaning' of an articulated musical phrase in the work of professional pianists.

2. LEARNING TO CREATE MUSIC ON THE PIANO THROUGH ANALOGICAL REASONING

Piano pedagogy involves the study and teaching of motor, intellectual, problemsolving, and artistic skills required to play the piano effectively (Uszler, Gordon, & McBride Smith, 2000). In order to understand what it means to 'study and teach playing the piano effectively', it is first necessary to explain the technical capabilities and possibilities of the piano, resulting from the construction of the instrument, which differ from the way that other musical instruments and the human voice create musical sounds.

The piano is a musical instrument with strings struck by wooden hammers coated with a softer material made of dense wool felt. Music is played using the instrument's keyboard. which is a row of keys where each of them is linked to a complex system of levers. The keys touched by the performer with the fingers and thumbs of both hands cause the hammers to strike the strings. The key raises the 'wippen', which forces up the jack against the hammer roller and lifts the lever carrying the hammer. The key also raises the damper and immediately after striking the string the hammer drops back, allowing the string to sound. On releasing the key, the damper drops back onto the string and cuts off the sound (Macaulay & Ardley, 2016, p. 26). The vibrations of the piano strings are not very loud, but they are transmitted to a large soundboard that moves air and thus converts the energy to sound. The irregular shape and off-center placement of the bridge ensure that the soundboard vibrates strongly at all frequencies. The raised damper allows the instrument to sound until the key, or sustain pedal, is released. The auditory sensation in which a listener assigns musical tones to relative positions on a musical scale based primarily on their perception of the frequency of vibration as 'higher' and 'lower' is called the tone 'pitch'. The factors that affect the pitch of a vibrating string are its length, thickness and tension (Reblitz, 1997, p. 203). The elements that determine the pitch are fixed through the processes of construction and tuning of the instrument, and the performer has no influence on them.

In piano playing, the performer effects on the speed and quality of keystrokes. Striking the piano key with greater velocity increases the amplitude of the waves and therefore the volume of the sound. When someone plays from pianissimo (extremely quiet) to fortissimo (extremely loud) sound dynamics, the velocity of hammers hitting the strings changes, and contact time of the hammer with the string in fortissimo dynamics is several times shorter than in pianissimo dynamics. The piano sound can be impressively dramatic in its dynamic nuances and directly depends on the delicacy of the pianist's touch when pressing the key. Its sound can be as powerful as the sound of an orchestra, and at the same time it has the ability to imitate the finesse of each individual instrument in the orchestra, as well as the sensitivity of human voice. The nature of writing for the piano is multivoiced and piano texture frequently includes orchestral elements (Schenker, 2000, p. 7). Its range includes the highest and deepest practicable tones, although limited by the invariance of the semitonic scale (Busoni, 1911, p. 43).

The advantages and prerogatives of the piano are evident, but it also has one important disability compared to string and wind instruments that is physically impossible to overcome - the lack of sustained tone. The intensity of the piano sound is constantly decreasing from the moment the tone is created. This happens even when the sound is extended with 'sustaining' pedal, the lever pressed by right foot, which raises all of the dampers at once allowing all played notes, as well as the sympathetic vibrations of all unstruck strings, to continue sounding after the keys are released (Reblitz, 1997, p. 15). Unlike the piano, string and wind instruments can maintain the same intensity of the tone

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volume as long as it allows the length of the bow that stroke the string or the capacity of the air insufflated into the wind instrument. The volume of the tone produced on these instruments, as with the human voice, can even increase while it continues, which is physically impossible on the piano. The lack of sustained tone is an irreparable physical disability in the sound quality of the piano that can be overcome only with the help of imagination as the creative power.

Imagination is a crucial mental instrument that pianists use in order to create the illusion of sustained tone and thereby imitate singing on the piano. Illusion is an instance of a wrong or misinterpreted perception of a sensory experience, which implies a false ascribing of reality based on what one imagines. In order to perceive the imaginary singing of the piano, it is necessary to seduce the senses. Many illusions are probably partly influenced by human's past experiences, which have taught humans to expect certain order in the world of physical reality (Solso, MacLin, & MacLin, 2014, p. 93). Human expectations based on knowledge received from previous experiences facilitates the illusion effect. There are even suggestions that illusions reflect "deeply embedded immutable structures of the brain", and that they are important "not because they indicate a flaw in our perceptual ability, but because they provide insight into how our perceptual system works" (Ibid). From the above, it can be understood that most people share the features of the perceptual system that enable pianists to be convincing in creating the illusion of sustained tone sonority on the piano. In this regard, a crucial problem in piano pedagogy is how to teach a child, whose experience is quite limited, to create the illusion of a sustained tone or some other imaginary sound on the piano.

The first 'instrument' that piano teachers use in their work is analogical reasoning. Analogical reasoning, which is "fundamental to human thought", is "any type of thinking that relies upon an analogy", that is, upon "a comparison between two objects, or systems of objects, that highlights respects in which they are thought to be similar" (Bartha, 2022). In piano pedagogy, analogical thinking has an irreplaceable function. From the first piano lesson, the student is shown that the hands are held 'as if the upper arms were supported by rubber balloons full of air' or 'as if they were floating in thick water'; that the whole arms from the shoulders to the tips of the fingers should fall freely and flexibly 'as if they were branches of willow swaying in the wind'; that the hands should come down on the keyboard 'as if the palms lie on the hemispheres'; that the fingers move 'like walking legs'. In piano pedagogy, each new knowledge is compared with something that the student knows from personal experience or is imaginable as someone else's experience.

The ability to understand analogies leads to the development of imagination - another important cognitive process that also helps to make knowledge applicable to problem solving, which is the basis for the integration of experience and the learning process. Imagination is "the act or power of forming mental images of what is not actually present to the senses or what has not actually been experienced" and "also the act or power of creating new ideas or images through the combination and reorganization of previous experiences" (Efland, 2002, p. 133). Imagination has an emphasized significance in performing arts. In his piano textbook *The Art of Piano Playing*, which is considered one of the most authoritative and comprehensive approaches to the subject, Heinrich Neuhaus explains the 'antinomies' of the pianistic art by describing his work method with the example of motifs from the beginning of the second movement of Beethoven's sonata op.27 no.2 which 'resembles a flower'. Neuhaus's explanation deserves to be given in his original words (Neuhaus, 1973, p. 26):

"I never 'illustrate' music, i.e. in the case of point I do not say that the music represents the flower; I say that it can create the spiritual and visual impression given by a flower, it can symbolize it, and call forth in imagination the image of a flower. [...] But we have in our brains a 'photocell' (I think that everyone knows this miracle gadget) which can translate the phenomena of a given world of perception into another. After all, the curve traced on a film produces a sound! Surely the human spirit is not poorer or duller than the apparatus it has created! That is way for people who have the gift of creative imagination all music in its entirety is programme music (even the so-called pure music devoid of programme) and at the same time does not need any programme, since it expresses in its own language the whole of its content."

According to Neuhaus (1973, p. 10), learning to work on the 'artistic image' of musical composition should begin as early as possible, already at the first piano lessons. The young student "should be made, at the early possible stage, to play a sad melody sadly, a gay melody gaily, a solemn melody solemnly, etc. and should make his musical and artistic intensions completely clear (Ibid)." A development of the wide range of musical images should be the main objective at all levels of the piano studies, starting with the initial stage. In the next section it will be explained how the art of piano playing becomes a thoughtful activity when it involves the use of the musical imagination, which functions mainly through analogical reasoning.

3. THE USE OF ANALOGIES IN PIANO LEARNING METHODS FOR BEGINNERS

Teaching young beginners is "the most unique, complex and creative area in piano pedagogy", which "requires the piano teacher not only to be a great educator, pianist and interpreter, but also a child psychologist, actor, storyteller, singer and disciplinarian" (Gorin, 2014, p. 7). The piano is an instrument that demands a great artistic imagination for producing a single musical tone on it. In music playing, every produced sound structure should have a certain 'character' in order to be understood as musical. Regarding to this postulate, as soon as the student begins to play the first musical tones, great attention must be paid to the creation of the sound and the pianist's 'touch'. Piano pedagogues almost as a rule start teaching piano playing by working with students on sound production. Playing one tone of a certain 'character' is considered by many important pedagogues to be the first element of piano technique (Neuhaus, 1973, p. 115; Schenker, 2000, p. 8; Gorin, 2014, p.39).

The first element of technique in piano pedagogy is called 'piano singing', or 'singing on the piano'. This term refers to the application of the principles of vocal technique and string instruments to the piano. The 'piano singing' implies "stroking of the air through up-and-down motions of the hand – as the bow strokes the string: pressure $\downarrow -\uparrow$ reflex" (Schenker, 2000, p. 8). A motion "demands a single thrusting of the hand" which "must be prepared from the outset, like bow strokes on strings and breathing in playing wind instruments" (Ibid). Producing a tone on the piano implies imitating the tone production on string and wind instruments. This technique is better understood by older students at the academic level. Beginners usually do not have enough experience in performing music, which means that the analogy with playing other instruments is not functional in piano lessons with them.

The explanation of music performance skills and basic body flexibility techniques to beginners should correspond to the level of physical and mental development of the student. The teacher needs to think up exercises, sometimes away from the instrument, which are M. DINOV

adequate "for establishing a whole-body connection at the very beginning of piano studies" (Gorin, 2014, p. 24). These exercises are always based on analogies and usually have picturesque names such as: "Weeping Willow Tree Exercise", "Big Bird Exercise", "Windmill Exercise", "Floating Arms Exercise", "Marionette Exercise", and others (Ibid, p. 25-27).

Exercises for the wrist are very important. As the most important element in the pianistic apparatus, wrist is responsible for the multiple functions in tone producing. Vertical movement of the wrist in piano pedagogy and art is called 'breathing' (Gorin, 2014, p. 29; Schenker, 2000, p. 8, 68, 70, 78). It should be performed with the hand gently placed on a keyboard as it 'breathes in' with the wrist, lifting it up until only the finger touches the key, after which the wrist moves down as it 'breathes out' to its lowest position (Gorin, 2014, p. 30). In an essay discussing the art of piano playing, Schenker insists on 'breathing' in order to bring to student's eyes and ears the model of the human voice for 'singing' playing and 'speaking' articulation (Schenker, 2000, p. viii). When it comes to simulating human speech in piano playing, the group of notes that form a phrase requires a single 'breathing' motion of the hand, which must not be interrupted during a passage as it moves from tone to tone. For this kind of gesture, the student needs to make horizontal movement of wrist and arm. Piano teachers compare this movement with those the monkeys make while swinging on the trees and call it 'the monkey swing' movement. In order to perform this movement, a student should be asked to imagine a monkey paws around his/her forearm, to place the finger on the key and to move the wrist gently side to side (Gorin, 2014, p. 30). The purpose of this exercise is "to create a foundation for tackling phrasing, and to produce a beautiful singing tone" (Ibid, p. 31) or a tune, that is, a group of tones belonging to one 'breath' of the hand.

From 'breathing' wrist movements naturally evolves articulation called *non legato*, which is the Italian term for *not tied* notes. This can be referred to as playing on the 'exhale', which means that "the wrist 'inhales' right above the key, while the finger continuously remains on the surface of the key and 'exhales' with a pressing of the key downward" (Gorin, 2014, p. 37). The student should be encouraged to actually breathe while executing *non legato* technique, because it is a good way "to fell the natural movement of the forearm and hand" (Ibid). When the hand releases the key, it should 'float off' freely and move in the direction of the next key, while the short break between sounds must be heard. This is an important tool in learning the 'geography' of the keyboard, and in that purpose, there are exercises such as "The Rainbow" or "The Butterfly", which can help students to "imagine that their hands are light, supple and elegant" (Ibid, p. 38).

The simplest *non legato* exercises are recommended to start working on the quality of sound production and the pianist's 'touch'. If we keep in mind that one and the same tone can be played in expressively different ways, then "the playing on the piano of one single note with one finger is already a problem" (Neuhaus, 1973, p. 115). Neuhaus explains this through the parallel of an actor who is tasked with pronouncing one 'Ah' seventeen times in different ways: "an admiring 'Ah!', a questioning 'Ah', a threatening 'Ah, an astonished 'Ah, 'Ah' as a cry of pain, a joyful 'Ah', etc., etc." Analogously to this acting exercise, in working with beginners the piano teacher demonstrates playing a tone repeated several times with different expressions and articulations, for example "lilting and gentle or harsh and prickly", and then "attention is directed to how different the notes from the examples will sound on different parts of the keyboard" (Gorin, 2014, p. 39). Some of the well-known analogies that are used in teaching young beginners to create the imitation of sustained 'singing' sound on the piano are: the imagery of dipping child's fingers into his favorite

jelly, or Rachmaninoff's image of fingers which should grow roots in the keyboard, or Hoffman's imagery of the sound produced as if there was a ripe strawberry sitting on the key and you had to push through it (Ibid, p. 39-40).

Obtaining the skill of shaping tonal varieties on the instrument is a basic prerequisite for any further work on developing performative abilities of the student. The following example may illustrate how just one tone performed adequately on the piano can generate the artistic content of the composition. There is a small piece entitled *The Sick Doll* from Tchaikovsky's *Album for Young* (1878), whose structure is very simple, but whose poetic content is extremely suggestive when viewed through the prism of intense emotions that most children experience in their lives. The composition is built on rhythmized broken chord whose last tone in the sequence is *non legato* marked as *tenuto*, which is the Italian term for sustained tone. This kind of tone is particularly suitable for demonstrating a technique that simulates 'breathing' of the wrist, and a tone created in such a way in this particular situation can be understood as a painful 'sigh' or an 'exhalation' (Dinov Vasić, 2019, pp. 98-99).

Another piano technique that involves playing separate tones is *staccato*, the Italian term for *detached* tones. Children usually grasp *staccato* playing very easily. During the initial stages, this technique "is introduced as a thrusting (or pushing) movement, which travels in the opposite direction of *non legato*" (Gorin, 2014, p. 44). It is similar to *non legato* and should be executed on 'exhale' with the hand relaxed "immediately after the springy forward push of *staccato*" (Ibid). The analogy of a 'jumping frog' or 'jumping on a trampoline' is commonly used in teaching beginners how to play *staccato* tones. Detached tones can be played with many nuances that depend on how long the finger stays at the bottom of the key, and on the sharpness or softness of its spring-like movement. Each tone nuance can have a different extra-musical connotation related to musical imagination.

The process of playing *legato*, the Italian term for *tied* notes, involves the most complex set of technical skills. Since the piano is a percussion instrument, it is very difficult to make the notes in the melody sound like a singing voice. Playing *legato* requires "a keen auditory perception, for one must listen to the moment of transition from one sound to another" (Gorin, 2014, p. 41). It is necessary to teach the student "to distinguish 'good' from 'bad' *legato* by, for example, singing the tune first and then playing the same tune on the piano" (Ibid). The tune must be played very carefully so that the tones are neither disconnected nor overlapped. The student must achieve smooth shifts from one sound to another by making connected 'steps' from one key to another. Learning legato technique usually starts with exercises on playing two notes - legato pairs - which should "teach a pupil to synchronize the beginning of the second sound with the end of the previous sound" (Ibid, p. 42). Since "a line consisting of sounds of the same volume does not produce the impression of connected sounds", one must be aware that "the connection occurs only if a dynamic and rhythmic relationship between sounds is present" (Ibid). The legato pairs are "one of the essential articulation elements of music", which have an enormous importance because students must learn, even at the initial stages, to listen carefully to the ending of the last note in phrase, that is, under the slur. Learning to play legato pairs is "the first step in developing musical sensitivity, which will in the future enable students to beautifully shape and phrase a melody" (Ibid).

The first sound of a *legato* pair should be played "deeply on an inward motion, the same movement as in *non legato*"; the finger must "slowly step over the adjacent key so that the second sound is played softer and lighter, followed by the floating motion of the wrist" (Ibid). While playing *legato* "hand and wrist must be flexible, making it possible to feel the transition of weight from one finger to another" (Ibid, p.42-43). To learn the *legato*

playing, an analogy with walking is commonly used, when the weight of the body is transferred from one foot to the other. It is also very helpful to practice *legato* pairs while breathing (or sighing if the notes are shorter and more agitated). After mastering to play *legato* pairs, connecting three notes in legato articulation is just "a modification of playing a two-note slur", where "the finger that takes the middle note acts as a bridge between the finger on the first and the third note" (Ibid, p. 43). Concerning *legato* technique, it is most important to learn to play a several-finger position "on a combining wrist movement, when the wrist moves slightly toward the last finger of a group" and the hand moves "in a free and flexible manner, connecting notes smoothly, leading fingers from key to key" (Ibid). Such movements are "necessary for a smooth execution of *legato* and for the feeling of 'breathing' hands" (Ibid).

As can be seen from the above, "teachers inevitably and constantly use metaphor to define the various ways of producing tone on the piano", in order to "arouse the pupil's imagination and when accompanied by illustrations at the piano they help to develop his ear and his motorsensory mechanism", which is called 'touch' (Neuhaus, 1973, p. 62). The use of metaphorical thinking by noticing analogies between phenomena is an approach that pianists permanently retain in their work. In piano playing, the defining feature of the movement that results in a 'singing touch' is that "the fingers and the hand assume a fixed position before striking the keys, and the rhythmic group thus delivered displays less micro-fluctuations in terms of its intensity" (Doğantan-Dack, 2011, p. 257). In that way the 'singing touch', which may affect a single note or a group of notes, becomes "a musical unit through the initial unifying momentum" provided by the motion of the hand (Ibid). In advanced and professional level of piano playing, the hand movement that unifies a musical phrase is equivalent to the expressive playing of a single note at the beginner level. According to Schenker, the essence of piano playing derives from the idea that "the meaning of the phrase determines the position and motion of the hands" (Schenker, 2000, p. 8). An articulated musical phrase represents a certain symbolic idea whose meaning is created by the performer's imagination and expressed through physical movement of the performer's hand. The basic task of piano pedagogy is working on expressive and imaginative performance, which should start from the first lessons and last throughout the entire professional life. In order to teach effectively, a good piano pedagogue should be able to inspire students to give some meaningful content to their hand movements by making analogies between playing music and other experiences. A good teacher also never forgets that "the key to all forms of work is to leave the creative initiative to students" (Gorin, 2014, p. 53), because the student develops his mental capacities primarily through personal engagement in the learning process.

4. CLOSING REMARKS

The most important value of learning to play the piano is nurturing student's, but at the same time the teacher's imagination. Creative musical imagination develops manly through the practice of analogical reasoning and metaphorical thinking. The pianist can obtain from the piano all that is possible only by demanding the impossible of it, which means that in the art of piano playing "imagination and desire are ahead of the possible reality" (Neuhaus, 1973, p. 66). A deaf Beethoven, who "created for the piano sounds never heard before and thus predetermined the development of the piano for several decades to come", showed how "the composer's creative spirit imposes on the piano rules to which it gradually conforms" (Ibid).

The imagery and the formation of mental representations is no doubt of central importance to the creative process for artists. The ability to recreate the composer's message in performing pieces through appropriate tempo, creative phrasing, and dynamic contrast, is possible through the prism of imagination. Imagination is important for scientists as well. In the interview with G. S. Viereck, published on October 26, 1929 in *Saturday Evening Post* under the title "What Life Means to Einstein", the world most famous physicist, who was a solid violin player, said that he often thinks in music, lives his daydreams in music and sees his life in terms of music (Calaprice, 2011, p. 237). The words of the great scientist are one of the biggest confirmations of the importance of the musical imagination for the development of logical and creative thinking. Creativity can't be learned, but it can be modeled by teaching. Piano pedagogy with its methods can help music students to lay a stable foundation for becoming successful artists imbued with a vivid imagination.

In pianism, the position and movement of a hand performing music are directly subjected to the condition of mind. The connection between the human mind and bodily movements in pianism is supremely transparent. There are many reasons to assume that music lessons have the positive effects on cognitive abilities. In addition to improving students' intellectual competencies, piano pedagogy has a strong influence on student's emotional growth. Nurturing the creative spirit of the students, the teacher helps them develop deep love and respect for music, and this constructive emotional relationship developed towards music at an early age will follow them throughout their lives, as a personal characteristic that can influence the nature of new emotional connections. Learning to play music gives students an opportunity to enter new imaginary worlds, introduces them to composer's historical circumstances and unites them emotionally with other people. Works of art reflect the impermanence of human existence, and serious understanding of their contents enables people to better understand everyday life, deal with problems, and profoundly understand the world and its values.

REFERENCES

Bartha, P. (2022, June 21) Analogy and Analogical Reasoning, The Stanford Encyclopedia of Philosophy (Summer 2022 Edition), E. N. Zalta (Ed.). https://plato.stanford.edu/archives/sum2022/entries/reasoning-analogy

Busoni, F. (1911). Sketch of A New Esthetic of Music. (Th. Baker, Trans.). G. Schirmer, New York.

Calaprice, A. (Ed.) (2011). The ultimate quotable Einstein. Princeton University Press.

Ćeklić, N.O. (2015). Stručna Kritika u savremenom svijetu pijanizma. In D. Stojanović & D. Zdravić Mihailović (Eds.), Balkan Art Forum 2014, Umetnost i kultura danas: duh vremena i problem interpretacije (pp. 93-103). Niš: Fakultet umetnosti u Nišu.

- Dinov Vasić, M. (2019). Studije izvođačkih umetnosti: performativnost i funkcija telesnog gesta u pijanizmu [Unpublished doctoral dissertation]. Univerzitet umetnosti u Beogradu, Interdisciplinarne studije. https://eteze.arts.bg.ac.rs/handle/123456789/407
- Doğantan-Dack, M. (2011). In the Beginning was Gesture: Piano Touch and the Phenomenology of the Performing Body. In A. Gritten & E. King (Eds.), New Perspectives on Music and Gesture (pp. 243-265). Farnham/Burlington: Ashgate Publishing Limited.
- Efland, D. A. (2002). Art and Cognition: Integrating the Visual Arts in the Curriculum. Teachers College, Columbia University.

Gorin, I. (2014). Tales of a Musical Journey - Handbook for Piano Teachers. Irina Gorin Publications.

Hofmann, J. (1920). Piano Playing: With Piano Questions Answered. Philadelphia Theodore Presser Company.

Koschevitsky, G. (1995). The Art of Piano Playing – a scientific approach. Los Angeles, CA: Summy-Birchard Inc. Macaulay, D., & Ardley, N. (2016). The New How Things Work. From Levers to Lasers, Windmills to Web Sites,

A Visual guide to the World of Machines. Houghton Mifflin Company, United States.

Neuhaus, H. (1973). The Art of Piano Playing. (K. A. Leibovitch, Trans.). Praeger Publishers.

Reblitz, A., A. (1997). Piano Servicing, Tuning, and Rebuilding. For the Professional, the Student, and the Hobbyist. Vestal Press, Lanham Maryland.

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Solso, R. L., MacLin, M. K., & MacLin, O. H. (2014). Cognitive Psychology, Eight Edition. Pearson Education Limited. Schenker, H. (2000). The Art of Performance. (H. Esser, Ed., I. Schreier Scott, Trans.). Oxford University Press. Uszler, M., Gordon, S., & McBride Smith, S. (2000). The Well-Tempered Keyboard Teacher. Schirmer Books. Boston, USA.

Zafranas, N. (2003). The effects of piano-keyboard instruction on cognitive abilities of female and male kindergarten children [Doctoral dissertation, Brunel University School of Sport and Education]. http://bura.brunel.ac.uk/handle/2438/5350

FUNKCIJA ANALOGIJE U KLAVIRSKOJ PEDAGOGIJI

U radu je objašnjena uloga koju igra praksa analognog zaključivanja u nastavi klavira, naročito na početnom nivou. Prva faza učenja klavira je najvažnija u formiranju muzičara. Kako bi kod mladog učenika razvili razumevanje i uvažavanje muzike i sviranja klavira, nastavnici koriste zanimljive i logički povezane priče sa mnoštvom zanimljivih karaktera, živopisnih ilustracija i maštovitih scena. Sveobuhvatne analogije sa slikama likova i njihovih avantura koje se koriste za uvođenje i proširenje muzičkih koncepata u radu sa početnicima čine im razumljivim i prihvatljivim komplikovane tehnike sviranja. Veoma je važno prizvati maštu i kreativnost učenika koristeći fantaziju, kao i analogije iz svakodnevnog života, kako bi se učenicima pomoglo da zamisle muzičke slike i otkriju fizičke pokrete potrebne za njihovo izražavanje. Kroz napredak u sviranju klavira, učenici takođe poboljšavaju svoje veštine rešavanja problema u umetnosti, nauci, prirodnom okruženju i društvenom životu.

Ključne reči: imaginacija, učenje, klavirska pedagogija, sviranje klavira, podučavanje, analogno zaključivanje