

## **MUSICAL ABILITIES DEVELOPMENT: WHEN TO START MUSIC EDUCATION?**

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**Abstract.** *Musical abilities are among the primary conditions for success in the field of music. It has been proven that musical abilities already begin to develop in the prenatal period and that different types of abilities have a specific developmental path. Therefore, it is necessary to remember the critical periods for learning music, i.e., time frames within which musical experiences have particular importance. In addition to the informal musical experiences gained in the preschool period, formal music education is undoubtedly one of the best ways to develop musical abilities. The paper discusses the specifics of the music education system in Serbia, more precisely, the age of students that can enroll in programs for various instruments or solo singing. The data presented in the paper points to the conclusion that students that enroll in primary music education at the age of 7 or 8 (which coincides with the most crucial period for learning music) will have better prospects for the timely development of musical abilities when compared to children who begin musical training later. However, it should be held in mind that musical abilities develop even before the start of formal musical training, so efforts should be made to provide children with diverse and valuable musical experiences in the preschool period.*

**Key words:** *Musical abilities, Musical development, Critical periods, Sensitive periods, Music education*

### 1. DISCUSSIONS ON THE STRUCTURE OF MUSICAL ABILITIES

Different stances about the structure of musical abilities have been debated among researchers for decades. The significance of this question is not only theoretical, but different views of the authors were reflected in understanding musical abilities and progressively in the construction of measuring instruments and the interpretation of results. Over time, two groups of researchers were formed. On the one side, representatives of the atomistic theory approach

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musical abilities as a set of specific, often sensory abilities that are largely independent. Thus, K. Seashore considered the fundamental elements of musical abilities to be sensory properties - a sense of pitch, duration, loudness, and timbre. He also believed that more complex types of musical activities rely on basic abilities, i.e., their specific combination. The second group of authors consists of representatives of the unitary theory, who consider musical ability as a broad, general ability. They do not exclude the fact that it can be broken down into constituent elements, i.e., specific musical abilities, which are interconnected. G. Révész is mentioned as one of the first authors representing this direction. He criticized Seashore's point of view, considering that the most crucial feature of a musical person is sensitivity to artistic quality and the ability to aesthetically evaluate a piece of music and its performance (according to Radoš 2010). A significant progress within the unitary theory was made by H. Wing, postulating the understanding of musical abilities in the form of a single measure – musical intelligence (Wing 1971). Musical intelligence, according to Wing, is a unique, general ability within which it is possible to distinguish the ability to perceive music and the ability to appreciate aesthetics. We can conclude that by the term "general musical ability", representatives of the unitary theory consider a synthesis of basic, auditory abilities that represent a necessary condition for understanding music and higher-order abilities related to aesthetic evaluation, i.e., sensitivity to the artistic value of musical works and their performances. In the literature, the behaviorist point of view of R. Lundin is cited as a possible third direction. Criticizing the directions of study and understanding mentioned earlier, he claims that musical ability consists of "a number of acquired, interconnected behaviors created through the process of a person's interaction with musical stimuli throughout life" (Lundin 1967, according to Radoš 2010, 60–61). Instead of basic musical abilities and developed abilities of a higher order, Lundin directs attention to more complex musical behaviors that are updated in interaction with the sociocultural context.

In recent times, thanks to the development of neuroscience, authors have sought to gain knowledge about musical abilities by monitoring brain activity while listening, creating, or playing music. Gardner, for example, singled out two aspects of musical abilities – figural (intuitive), located in the right cerebral hemisphere, and formal (related to musical competence), which is primarily connected to the left hemisphere (Gardner 1993, according to Kovic 2010). On the other hand, Tramo (2001) argues that there is no single "musical center". Edwards et al. (2000) believe that findings of this type are not particularly useful in conceptualizing abilities since existing studies are not in agreement as far as the brain localization of music processing is concerned. However, recent research confirms that there is no single music center but that music activates several brain regions. Specific "neural circuits" process the tone's pitch, duration, loudness, and timbre. At the same time, higher brain centers systematize this information into representations of contour, melody, rhythm, meter, phrases, and music as a whole (Levitin 2012, 633). In support of this understanding there are the medical findings of the component processing of music, i.e., cases of patients who lost a specific aspect of music processing while other aspects remained intact (Marin & Perry 1999).

Speaking about the structure of musical abilities, Persson claims that musical behaviors include both general and specific aspects, according to which both directions (atomistic and unitary) have their values and merits (Persson 2009). As a kind of response to decades of discussions about the structure of musical abilities, Radoš states that based on almost all available studies, "it has been unequivocally established that different variables do not measure specific and independent factors" neither could a "general,

'exclusive' musical factor" be found. The author believes that musical abilities can be referred to as "broader factors that are mutually connected, as well as lower and higher order abilities" (Radoš 2010, 63), which in this way make up the hierarchical organization of the structure of musicality.

The analysis of pedagogical and psychological literature related to the research problem points to the possibility of defining two areas, i.e., two levels within which different musical abilities operate. The first level refers to primary auditory abilities, i.e., hearing, understanding, structuring, remembering, and comparing sound stimuli. The second, a higher level of musical abilities, implies the ability to experience music emotionally and appreciate it aesthetically. Some authors (e.g. Radoš 2010; Bogunović 2010) equate this ability category with musicality. In agreement with the above mentioned division, Winner and Martino consider sensitivity for the structure of music as an essential ability (Winner & Martino 2000). It includes the ability to perceive tonality, tones, harmony, and rhythm as well as the ability to experience expressive aspects of music. However, they attach particular importance to sensitivity for the expressive properties of music, considering that this property can be regarded as an indicator of innate musical talent. McPherson and Williamson, on a similar principle, state the sensitivity for the structural and expressive properties of music as basic factors of musical giftedness (McPherson & Williamson 2006). It should be taken into account that the authors mean by musical giftedness a natural potential for musical achievement that has a genetic basis and manifests itself spontaneously. Kojov-Bukvić (1989) singles out two primary components of musicality - emotional and auditory. She believes that "the ability to resonate with music emotionally" can be considered a central element of musicality. However, that emotional experience requires auditory abilities related to "the fine discrimination of melodic, rhythmic, and other changes" (pp. 21).

How to understand musical abilities? As a narrower factor that does not go beyond the domain of specific abilities, or as a broader set of characteristics that allow an individual to engage in music successfully? Some authors define musical abilities in a broader sense. Under the term of musical ability, Hallam (2006) includes specific personal characteristics and acquired knowledge and skills. According to Subotnik and Jarvin (2005), initial musical abilities, which further develop into competence, expertise, and elite talent, include internal motivation, charisma, and musicality. In contrast to such attitudes, in this paper, we will opt for the interpretation of musical abilities in the narrower sense because we believe it is necessary to distinguish between abilities in the narrower sense and other characteristics. According to the model of Radoš (2010), on which we rely, basic and more complex musical abilities can be defined. Basic abilities have a strong genetic basis, which includes the sense of pitch, the sense of rhythm, and musical memory. More complex abilities relate to the perception of harmony and aesthetic appreciation of music, and they are influenced by musical experience and learning. Therefore, by musical abilities we mean a set of specific abilities representing a fundamental element of understanding and playing music.

## 2. DEVELOPMENT OF MUSICAL ABILITIES

Understanding musical development is determined by the fact that music is processed differently depending on the stage of musical expertise (Wallentin et al. 2010). This has significant practical implications for defining musical abilities, their assessment, and opportunities for encouragement at different ages. In literature, we find general data according

to which 50% of musical abilities can be identified by the age of 4, and as much as 80% by the age of 8 (Lelea 2008), as well as that "the sudden development of melodic and rhythmic aspects of musical abilities occurs between the age of 6 to 10" (Lelea 2010, 260; cf. Mirković-Radoš 1983). In this sense, it would be desirable to gain an insight into the level and quality of each child's abilities already in preschool and younger school age, to properly influence his or her musical development.

Most authors will agree that starting from the earliest days (during the first few months after a child is born), a favorable environment can have a significant impact on the development of musical abilities, i.e., that "the beginning of musical development is founded in the process of informal, early learning experiences" (Bogunović 2010, 16). In addition, many findings indicate that signs of musical sensitivity are evident even before birth, which leads to the conclusion that musical development begins already in the prenatal period (Parncutt 1993, according to Andre 2008). This is also supported by the fact that the auditory system is fully developed by the end of the fourth month of pregnancy (Lecanuet 1996). Accordingly, the method for learning music by the Japanese pedagogue Shinichi Suzuki insists that mothers listen to (or, if possible, play) quality artistic music during pregnancy, to have a positive influence on the earliest musical development of the child (Suzuki & Suzuki 1983; cf. Kodela & Nikolić 2014). In an effort to define early musical development, it should be taken into account that newborn children can differentiate the pitch, timbre, and intensity of sounds and has the aptitude to temporally process different musical stimuli (etc. duration, rhythm, tempo), but does not yet have the aptitude to understand complex musical structures (Poćwierz-Marciniak & Harciarek 2021).

Research on musical abilities of newborns is based mainly on the observation (measurement) of body movements and physiological functions during the presentation of certain musical stimuli. The results show that even five-month-old babies react to a change in the contour of a memorized melody, while a change in the pitch of the melody (tonality) does not produce significant changes in behavior. It has also been proven that nine-month-old babies can be trained to recognize the difference between a consonant (major) and a dissonant (augmented) triad, whereby their performance can be compared with the results of adult subjects (Trainor & Trehub 1993, according to Leman et al. 2012).

A significant model of the development of musical abilities at a younger age was created by Briggs (1991), who systematized the previous findings of musical development research. Within the model framework, the period from birth to the end of the sixth year is organized in four stages. The *reflex phase* refers to the first nine months of life, i.e., the period when the child "learns to hear". In the third or fourth month, progress in hearing abilities is noticed, more specifically in the discrimination of tone quality, pitch, and rhythmic groups, while at five months of age, the child can recognize the contour in a transposed melody. It has also been proved that even six-month-old babies can approximately repeat the tonal scales sung to them. The second, *intention phase*, spans over the period of 9 to 18 months, when the child recognizes songs or melodies familiar to it. The ability to localize sound improves (turning the head and eyes toward the sound source). At the beginning of this stage, the child can vocally express a preference for various things, including music, but one cannot yet speak of precise pitch control during vocal expression. The *control phase* (the period from 18 to 36 months) brings improvements in the perception of pitch, which is also reflected in singing. In this period, it is possible to recognize the contour of the melody performed by the child. In the control phase, the level of attention also increases, so the child (relatively active) listens to music for periods of several minutes. Rhythmic and motor control improves significantly from

the 24th to the 36th month. The fourth, *integration phase*, covers the period from the 36th to the 72nd month (i.e., the fourth, fifth, and sixth year of age) and leads to a significant development of musical abilities and behaviors. A vital characteristic of this period is a substantial improvement in the perception of pitch and rhythm, which is also reflected in the ability of vocal performance. In the sixth year, the understanding of tonality stabilizes, while the seventh year is also important for refining this type of ability (Briggs 1991). The author relates the cognitive aspects of musical development to the fourth period, stating that five-year-old children can understand musical terms, but cannot describe and explain them. Progress in this aspect begins to be noticed at the end of the sixth year. Briggs believes the sixth year is the best time to start formal musical training.

Most of the findings show that the development of the basic types of abilities – the sense of pitch, rhythm, and musical memory - is most noticeable with 6 to 10 years-olds. Pitch discrimination is a fundamental element of musical ability and occurs earlier than other elements. In her work, Mirković Radoš (1983) cites the results of Gilbert's research, which showed that in the period of 6 to 9 years of age pitch discrimination improves twice as much compared to the following ten years, as well as Bentley's findings that this type of ability improves significantly from the age of 7 to 14.

Understanding and remembering the melody is developed based on the sense of pitch, where the ability to understand tonality plays an important role. Thanks to it, the melody is not only remembered according to the contour but it is also connected to the tonal center, where the single tones and their sequence in the form of chords are unconsciously or consciously perceived as functions in the tonality. Briggs (1991) concluded that the understanding of tonality stabilizes at the age of 6 or 7, summarizing the findings of older research. Ramsey (1983, according to Briggs 1991), examining the singing of preschool children, established that the sense of tonality does not stabilize before the age of five, while Gardner et al. (Gardner, Davidson & McKernon 1981, according to Briggs 1991) found that five-year-olds can maintain a stable tonality during the entire song. According to the findings of other authors, Radoš (2010) concluded that melody begins to be perceived within a stable tonal system around the eighth year of life.

The sense of rhythm, as one of the basic types of musical abilities, begins to develop very early – "infants present high rhythmic sensitivity, recognizing subtle changes better than adults" (Poćwierz-Marciniak & Harciarek 2021, 9). The ability to discriminate phrases with identical tones but a changed rhythmic aspect was proved in one study with five-month-old babies (Chang & Trehaub 1977). Another group of authors also noted the discrimination of rhythmic patterns in children in the preverbal stage (Demany, McKenzie & Vurpillot 1977 according to Briggs 1991). Zenatti found that over 70% of 4- and 5-year-old children successfully discern the difference between regular rhythmic patterns and varied ones (Zenatti 1976, according to Radoš 2010). Various research points to the conclusion that the sense of rhythm is most significantly improved between the ages of 6 and 10, while around the age of 13, the development of this type of ability ends.

Significant development of the sense of harmony, which, as a more complex musical ability arises based on developed elementary abilities, is usually observed only from the age of 11 onwards. The highest form of musical ability is the aesthetic assessment of the artistic quality of a musical piece and its performance. With average musical children, progress in this field can only be expected from the age of 11 or 12.

It has been noted that elementary aspects of musical abilities "appear earlier, develop over a shorter period and finish their development earlier", while more complex ones

appear later and "develop more slowly and over a longer period of time" (Mirković-Radoš 1998, 96). The cited author also claims that the development of musical abilities understood in the narrower sense ends, i.e., that "musical maturity" is reached around the age of 17. These findings about development agree with the results of the research we conducted with students of the Faculty of Arts in Niš (Nikolić & Kodela 2015). Using the Musical Ear Test (Wallentin et al. 2010), which is based on the discrimination of melodic and rhythmic phrases, we did not get significantly better results for third-year students than for students two years younger. Therefore, we concluded that "the basic aspects of musical abilities – the sense of pitch and the sense of rhythm – are stabilized in the earlier period of development [...], and that Solfeggio course in music studies more significantly develops listening, memorizing and music decoding skills, enhanced by greater attention, concentration, musical memory, and musical-theoretical knowledge" (Nikolić & Kodela 2015, 621).

Although the different types of musical abilities often appear in a fixed order, the ages and periods in which abilities mature should not be understood as immutable. The musical development of each individual is different. It depends on genetic dispositions and on the influence of the environment. Regarding environmental factors, Gagné states that the development process can have four different forms (Gagné, according to Gojkov 2004): maturation, informal learning, formal non-institutional, and formal institutional learning. Maturation is a genetically determined process and refers to the progressive growth of biological structures and psychological processes. Informal learning includes the influence of the environment within everyday activities and is often related to the preschool period. Gagné considers traditional forms of learning to be structured activities aimed at achieving goals, according to methodical principles. It would be useful to apply this standpoint to the understanding of the development of musical abilities, which is directly dependent on the maturation process in terms of the development of psycho-motor skills, vocal apparatus, cognitive functions, and other factors. Informal musical experiences are the foundation for the development of future abilities and their practical application within various musical activities. It goes without saying that monitoring and encouraging musical abilities, and in a broader sense, musicality, is one of the primary tasks of formal music education in general education and specialized schools.

Gordon (2003) distinguishes two forms of musical experience in his theory of children's musical development: musical direction and education. Musical direction implies early musical experiences to which children are exposed from an early period of life, even in the prenatal period. Unlike education, the goal of musical direction is not to develop specific skills but to encourage innate abilities through different musical experiences. A similar division is made by Sloboda (Sloboda 2002, according to Poćwierz-Marciniak & Harciarek 2021), distinguishing enculturation from adequate training, which mostly implies formal musical training. He claims that the interaction of self-activity with genetic factors and environmental influences is important for musical development.

Considering the already mentioned impact of learning on the development of musical abilities, the question arises about the way and to what extent we can attribute this development to environmental factors. In other words: what is the nature of musical abilities, i.e., what is the share of heritage and environment in musical development? Despite the beliefs of certain researchers (e.g. Seashore, Révész) about the definitive innateness of musical abilities, most contemporary authors agree that it is almost impossible to answer the above question precisely. We still don't know whether a person not being exposed to Western scale structure in younger age, will form "brain circuits" for

processing the scale and harmonic structures of that musical tradition (Trainor 2005). We can conclude that musical abilities develop through the interaction of hereditary and environmental factors. In this sense, Radoš sees musical ability as the totality of inherited and learned, as "the result of a) capacity, that is, innate dispositions associated with the effect of maturation, b) informal early musical experiences acquired under the influence of the environment and c) formal learning of music" (Radoš 2010, 53). In her older research, the author concluded that the course and pace of musical development depend on the qualitative and quantitative properties of disposition and environment, but "it seems that the 'strong genetic component' is the factor that more significantly determines the level of achievement and sets the upper limit for the development of musical abilities" (Mirković-Radoš 1983, 217). According to a similar view, the ability to create and understand music is an inherent property of all people, but the innate capacity determines the ultimate limit of the development of abilities and achievements, regardless of favorable environmental conditions or a high level of motivation (Shuter-Dyson 1982, according to Persson 2009). It makes one think about the attitude (the truth, related not only to musical abilities but to abilities in general) according to which the abilities children are born with have certain limits. Nevertheless, they are "quite elastic", which is why no human being has fully utilized developmental possibilities (Koch 1977, according to Andre 2008). The scientific and pedagogical implications of the aforementioned findings are based on the compromise that musical abilities rely on genetic factors but that a favorable environment is necessary for their proper, timely, and optimal development.

### 3. WHY THE START TIME OF MUSICAL TRAINING IS IMPORTANT FOR THE DEVELOPMENT OF MUSICAL ABILITIES?

In order to look at the different possibilities of environmental influence on the musical abilities development (in terms of informal and formal learning), it is important to keep in mind the critical periods for learning music. A critical period can be defined "as a developmental window during which specific experience has a greater effect than at other times" (Trainor 2005, 262)<sup>1</sup>. A wider critical period for children's musical development is considered to be the one during the age of 3 to 6 when the importance of specific and mostly informal musical activities is evident, while the age of 5 to 8 is considered the most important critical period (Radoš 2010).

Most authors agree that early, informal musical experiences are important for musical development. However, the best form of encouraging the development of musical abilities refers to formal music education, when development of musical abilities, musical skills, motivation, and creativity are encouraged through organized musical training and lessons in instrument, solfeggio, and other subjects. This is also indicated by the opinion that "musical training that begins during a sensitive period promotes long-term changes in the brain and behavior" (Penhune 2020, 16), and that these changes are due to a large amount of practice, which is necessary for advancement within formal music education.

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<sup>1</sup> While in some studies the terms critical period and sensitive period are used as synonyms, Penhune uses the term sensitive period as a "window in development when specific experience has particularly potent effects on brain plasticity, and thus long-term effects on structure and function" while she considers that in the critical period "exposure to specific experience is *required* for appropriate behavior and neural development to occur" (Penhune 2020, 14).

A significant amount of research shows that an earlier start of musical training can lead to faster and wider development of musical abilities and, thus, greater achievements in music practice. Baily and Penhune (2012) conducted a study of the musical abilities of musicians who started their music education before the age of seven (early-trained, ET musicians) and others who started their musical training later (late-trained, LT musicians). It is significant that the groups did not differ according to musical experience, i.e., the length of musical education and the amount of practice, but only by the time of the start of musical training. The results showed that musicians with an earlier start in music education reproduced rhythmic tasks more successfully. The authors conclude that "observed group difference on task performance could not be attributed to differences in musical experience or cognitive ability, but to the developmental window during which musical training began" (Baily & Penhune 2012, 169). In their further research, the authors included other variables and different tasks. Still, all studies found out that "ET musicians outperform LT musicians on measures of rhythm synchronization and melody discrimination" (Penhune 2020, 14).

Important data can be provided by research on absolute pitch (perfect pitch) as a specific type of ability that allows person to recognize and name, or imagine and sing tones without previous sound support, i.e., without reference tone. Most findings suggest that early musical experiences are essential for developing this ability. Trainor believes that "there is a critical period for the development of absolute pitch that ends around six years of age" (Trainor 2005, 271). In the research conducted by Baharloo et al. (1998), out of 612 participants, 92 declared that they had absolute pitch. It is important to note that almost all participants from this sub-sample started music education before the age of six. Although early music education is necessary to develop perfect pitch, it is not the only factor. Bearing in mind that only a minority of people with early music training develop absolute pitch, Brown et al. (2002) believe that music training during an early 'critical period' is not sufficient for the development of this ability. According to Levitin and Zatorre (2003), in order to acquire absolute pitch, "one needs the combination of some as yet unknown substrate (perhaps genetic) in interaction with the right input at the right time" (Levitin & Zatorre 2003, 108–109). These authors concluded that people who acquire perfect pitch early show "an effortlessness and automaticity", compared to individuals who develop this ability at an adult age.

Bearing in mind the already mentioned importance of musical experiences in critical periods of musical development, it is clear how important the timely start of musical education is. This fact can be indicated by the research results (Mirković-Radoš 1983), in which the students of the brass and the solo singing program of the secondary music school achieved significantly lower score on the musical ability test compared to other students. Namely, "they missed the critical period for starting to learn music, and what was missed, for most, can hardly be compensated for by further training" (pp. 202). The findings of Seashore and Gordon agree with this. These authors came to the conclusion that musical potential stabilizes at the age of 9 to 10 (according to Haroutounian 2008). They believe that musical potential should be encouraged before this limitation period.

In relation to the statement that formal music education is the best form of encouraging the development of musical abilities, it is important to look at the characteristics of the elementary music education system in Serbia. According to the available data, 39 well-distributed elementary music schools in Serbia (<https://zmbss.org/>) provide children with systematized formal musical training. The organization of work relies on the Rules on the Curriculum and Teaching Syllabi for Primary Music Education (2019), which, among other things, prescribes



the ages of students for enrollment in the first grade of elementary music school. For instruments such as violin, viola, cello, guitar, piano, accordion, flute, students up to the age of 9 can enroll in the first grade. For most wind instruments (oboe, clarinet, bassoon, horn, trumpet, trombone), organ, percussion, or double bass, students up to the age of 11 can enroll in the first class. In the solo singing curriculum, thirteen-year-old students and older ones enroll in the first grade of the program for female voices, while the age cutoff is sixteen and older for male voices. Bearing in mind the critical periods for learning music, the mentioned conditions raise the issue of timely encouragement of musical abilities.

When would be the best time to start formally learning music? Briggs (1991) has expressed an opinion that the sixth year is the best period to start formal music training. Penhune validated "that the age range where early training has its strongest effect is between the ages of 7 to 9" (Penhune 2020, 18). According to those statements, students who enter music school at the age of 7 or 8 will have greater benefits of music education, compared to students who, according to the specifications for wind instruments, percussion, double bass or solo singing, start their music education in a later period. Certainly, a significant opportunity for encouraging musical potential can be represented by a preparatory class that the school can organize for younger students, the goal of which is to develop a love for music, freedom and the ability to express through music, thereby creating a quality basis for further music practice (Rules 2019).

#### 4. CONCLUSION

In this article we have presented the characteristics of musical development, more precisely, the development of musical abilities, and exposed arguments about the presence of critical periods for learning music. However, it should be borne in mind that critical periods "are not 'brick walls' that define with absolute precision when something will occur", but "an average age at which individuals pass through a particular developmental stage" (Levitin & Zatorre 2003, 106). This means that students who do not start music education from the age of 7 or 8 will still be able to progress in music education, but it is possible that the development of their musical abilities will have a slightly different curve.

McPherson and Hallam state that "human beings as a species are pre-programmed to acquire a wide range of musical skills" and argue that "children are born with *enables* rather than *constrains* of what they will eventually be able to achieve" (McPherson & Hallam 2005, 261). According to this view, it is important to allow each child to have appropriate musical experiences, so that their musical potential is manifested to an adequate extent. However, we must not limit ourselves to the development of musical abilities within the formal music education, but also consider that rich informal musical experiences in the preschool period can greatly impact musical development.

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## **RAZVOJ MUZIČKIH SPOSOBNOSTI: KADA JE PRAVO VREME ZA POČETAK MUZIČKOG OBRAZOVANJA?**

*Muzičke sposobnosti predstavljaju jedan od osnovnih uslova za uspeh u domenu muzike. Dokazano je da sposobnosti počinju da se razvijaju već u prenatalnom periodu, kao i da različiti vidovi sposobnosti imaju specifičan razvojni put. Zbog toga je potrebno imati u vidu kritičke periode za učenje muzike, tj. vremenske okvire u kojima muzička iskustva imaju izrazit značaj. Pored neformalnih muzičkih iskustava koja se stiču u predškolskom periodu, jedan od najboljih vidova razvoja muzičkih sposobnosti svakako je formalno muzičko obrazovanje. U radu su razmotrene specifičnosti sistema muzičkog obrazovanja u Srbiji, preciznije, uzrast učenika koji mogu da pristupe programima za različite instrumente ili solo pevanje. Podaci navedeni u radu upućuju na zaključak da će bolje izgleda za pravovremeni razvoj muzičkih sposobnosti imati učenici koji osnovno muzičko obrazovanje upišu sa 7 ili 8 godina (što se poklapa sa najznačajnijim kritičkim periodom za učenje muzike), u odnosu na decu koja sa muzičkom obukom krenu kasnije. Treba ipak imati u vidu da se muzičke sposobnosti razvijaju i pre početka formalne muzičke obuke, pa treba nastojati da se deci u predškolskom periodu omoguće raznovrsna i vredna muzička iskustva.*

*Ključne reči: muzičke sposobnosti, muzički razvoj, kritički periodi, muzičko obrazovanje*