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ACHIEVEMENT IDENTIFICATION AND EVALUATION OF MUSICALLY GIFTED CHILDREN IN LOWER MUSIC SCHOOL

Abstract: Music schools are specific educational institutions which teach children to understand musical language, the rules of musical writing and how to play an instrument. It is assumed that children who enroll in music school have a certain level of "musicality", i.e. possess musical ability. Starting from this premise, in this paper we wanted to identify the number of musically gifted children, from the total number of children enrolled in the first year of lower music school. The research was conducted on 125 learners who enrolled the first year of Music school *Josif Marinkovic* in 2014/2015. The paper was organized as a linear study which followed the achievement of learners during the aforementioned school year. The study was conducted by solfeggio and musical instrument teachers. The identification of musical giftedness was followed through the following criteria: recognition and reproduction of tones and intervals, reproduction of rhythmic models and reproduction of short music units. Solfeggio teachers monitored the first two criteria (recognition and reproduction of tones and intervals and reproduction of rhythmic models) while musical instrument teachers monitored the other two (reproduction of melody phrases and reproduction of short music units. Achievements were assessed four times during the school year and a comparison of results gathered by solfeggio and musical instrument teacher was conducted. At the end of the school year a result analysis was conducted; the results of which showed that 13 learners who were monitored by solfeggio teachers and 9 learners who were monitored by music instrument teachers successfully completed the criteria. Methods for evaluating the proposed criteria and analysis of the gathered results will be presented in this paper.

Key words: identification of the gifted, interpretation, criteria, musical abilities.

Introduction

Gifted individuals have been in the attention of the scientific public for the past few decades. Programs whose goal is to concisely define the concept of giftedness and to identify the gifted, are being planned and implemented. The experts' activity is directed towards making the wider public aware of the need for joined action of competent personnel and official representatives of the social community for the gifted to fulfil their full potential. The development of strategies connected to the identification and evaluation of the achievements of the gifted, in many European countries is moving in two directions: one refers to the

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development and application of programs for the identification of giftedness, and others directed towards multidisciplinary programs which stimulate the gifted for developing their potentials. Experts who deal with the identification of the gifted (Gojkov, G:1995, Keleman, G:2011, Kevereski, LJ:2014) agree that it is necessary that the identification process as early as possible so that the gifted children could optimally develop creativity and direct their potentials towards the areas which interest them.

Gojkov, G (2003:28) defines giftedness as highly above average competency in one or more ability spheres. She notes that some authors (Ganje, Koren, Feldman) make a distinction between giftedness and talent. According to them talent is a type of developed giftedness in a certain area. On the basis of the aforementioned expert opinions it can be concluded that talent is more easily identified in art domain (visual, musical and theatre) and sports. The development of giftedness in all areas in which it is recognized, entails the acquisition of certain competencies. Musical giftedness, as well as other types of giftedness are developed through systematic monitoring and encouragement, so that the gifted persons could gain competencies which would enable them to direct their abilities towards creative and highly productive functioning. Musically gifted children can, at an early age, express their musical talent, love for music and an above average musical ear. These characteristics can encourage parents and children to opt for gaining musical education. Monitoring the development of the gifted is most commonly placed in specialized musical schools in which music teachers, with certain didactic methods help the children develop their potentials. Evaluation of achievements and skill quality, which the gifted learners have mastered in every educational phase, represents the basis for the assumption of how their musical talent will further develop (Bogunovic, B: 2006). Music school teachers who work with gifted children have a great task in front of them which refers to motivating children, enabling children to master program activities and gain a realistic understanding of their talent. The teachers are also obliged to learn the emotional and cognitive characteristics of each child and to adapt the program to the characteristics of the child's personality. The pedagogic style and quality of the relationship which the teacher builds with the gifted learners and their parents are often decisive for the development of the learners' musical competencies (Bogunovic, B. 2006).

The complex content which is incorporated in the concept of giftedness entails that in the process of identification teachers take into consideration all aspects of the gifted learners' personality and not only the ones connected to the manifestation of musical ability. Anticipated and identified musical abilities are not a guarantee that the child, in which they are recognized, will develop them to the full extent. Achievements are conditioned in a multifactorial way and they will develop if teachers in music schools, parents of gifted children and the community, in which such children develop, systematically monitor and support the talented children. Such a synergy can enable a talented child to maximally develop its potentials.

Research subject and problem

Music as a cultural phenomenon has followed the development of humankind from the earliest beginnings of organized human communities. Children recognized sounds while still in the mother's stomach and after birth positively react to music. From the infant period children like listening to music and make their first thought out movements which resemble dancing. Child games are often connected to a child's attempts to create music. In preschool institutions musical rhythmic activities are always well accepted. In this period children who

show talent or above average abilities for reproducing or creating music can be identified. Musical schools are institutions which work with children who want to learn about the rules of musical performance. The task of these institutions is to identify and develop musical potentials of children and give special attention to children with high musical abilities. The emotional relationship which children show towards music and their abilities for reproducing and creating music are not always in correlation. The task of teachers in music schools is to carefully monitor the personality of each child and harmonize them with the child's abilities. Teachers should devote their attention to children who like music, but through monitoring the ways in which children approach and fulfill their tasks, teachers also need to identify the learners who apart from love also possess giftedness.

Teachers in the lower music school in Vrsac had the task to identify gifted learners enrolled in the first year. In the task realization participated solfeggio and instrument teachers.

The identification was conducted only by music teachers which presents a disadvantage in the research process, since the identification of the gifted should be based on interdisciplinary group work by pedagogues, psychologists and music teachers (Lelea J. 2003:174).

Although expert and scientific views agree that identification of musically gifted children cannot be done using only musicality tests, the team which conducted this research did not have the means to fulfill all of the demands which are presupposed for the identification of musically gifted children. Lelea, J. (2003b:174) states that apart from musical tests it is important to monitor criteria such as: intellectual abilities, relationship between motivation and musical creativity, character traits of the musically gifted children and cooperation with the parents.

The research team did not have the means to test the intellectual level of the learners involved in the study process, nor to evaluate their personality characteristics. These criteria were not met since the school does not employ experts (pedagogues and psychologists) who could adequately fulfill the demands. Only music tests were used in the research, to test the feeling for rhythm, pitch, intensity, and length, as well as the ability to remember and reproduce musical units.

Research goals

Explore the musical abilities of children who have enrolled in the first year of music school and examine whether among the children there are those who possess initial extraordinary musical ability, i.e. whether among them are musically gifted children. Through musical tests determine whether extra ordinary musical giftedness can be determined among first grade learners in the lower music school. Determine whether among the children who were identified as musically gifted exist differences regarding age, gender, and previous musical experience in comparison to other children in the tested group.

Research hypotheses

Hypothesis A

Children who enroll music school are musically gifted.

Hypothesis B

Musically gifted children with equal skill acquire reproduction and recognition of tones, which are learned in solfeggio classes, and reproduction of melody phrases and musical units, which are taught in instrument classes.

Hypothesis C

Children who enrolled in music school before acquiring linguistic literacy will not successfully acquire the tasks of the solfeggio and instrument programs.

Hypothesis D

Musical giftedness is equally present in children of both genders.

Methodological research procedure

Musical ability or musicality can be determined by monitoring the feeling for rhythm, pitch, tone intensity and length, as well as by remembering and reproducing musical themes. These parameters were taken from Kojov-Bukvic, I. (1989: 22). Musical abilities were checked in September in the school year 2014/2015, during the entrance exam which all of the children who applied took. The team which evaluated musical abilities was comprised of solfeggio and musical instrument teachers. The assessment showed that 125 learners showed elementary musical abilities (musicality) and they were regularly enrolled in the first year of lower music school *Josif Marinkovic* in Vrsac. After the confirmation that the children possess musical abilities we started on the task of preparing the program for monitoring and assessing achievement, so that by the end of the school year (June 2015) we could evaluate the results and determine whether there are musically gifted learners.

Monitoring of the learners progress was conducted by observation and a standardized checklist, modified to suit the needs of this study.

Monitoring of the students' achievements was conducted through the analysis of the following criteria:

- Recognizing and reproducing tones and intervals
- Reproduction of rhythmic models
- Reproduction of melodic phrases
- Reproduction of short musical units

Each of the listed criteria was determined with 10 specific items which described it in more detail.

Through the specific items perceptive, interpretative and creative ability of the learners was determined.

Perceptive ability referred to active listening of music. This activity is developed by encouraging learners to evaluate the character of the song based on the current feelings; i.e. to determine whether the music which they are listening to is happy, sad, playful, gentle, formal or awakens some other feelings.

Perception incorporates also the child's ability to recognize the tempo and rhythm of the music. Rhythm represents the form of melody movement, chosen from a large number of possibilities which are offered in the basic music scheme (Heveler, K. 1988:365).

Tempo represents the speed at which a musical piece is performed. Children are directed to describe the tempo by being asked suggestive questions. Example: How would you describe this tempo? As fast, moderate, slow...

With perception dynamics (silent, moderately silent, strong, moderately strong) and melody movement (rising, falling, rise-fall) were determined.

The children's perception results were monitored with a checklist which was maintained in parallel by solfeggio and musical instrument teachers.

Only music instrument teachers monitored the interpretative and creative abilities.

Monitoring of perceptive, interpretative and creative abilities had as a goal to more closely determine and contribute to the analysis of the assigned criteria and decrease the possibility of error, which could occur, if a child were to be identified as musically gifted, when in fact it does not possess a considerable musical giftedness. The other type of errors would be the situations in which a child who has exceptional musical giftedness is not identified.

Cooperation with the parents, as a necessary aspect of pedagogical work, was conducted during the enrolment but also continued after the research was concluded. Apart from the basic interview which is a part of the school program, the parents filled in a questionnaire which consisted of 10 questions and was constructed for the needs of this study. On the basis of this interview motivation of the children was assessed, and information was gathered about the sort of musical contact that the children had before enrolling in the music school. One of the aspects which was evaluated referred to the children's independence and initiative in deciding to enroll in music school.

In cooperation with the parents the research team conducted observations on the children's behavior and adjustment to the new environment in the first three months. Observation of the children's adaptation was necessary so that possible adaptation problems could be noticed, which could most likely occur in children who had at the same time started both elementary school and music school. From the adaptation problems anxiety and certain forms of fear were expected. Symptoms of anxiety, as a common developmental hindrance can influence the children's concentration, independence and self-initiative. Anticipating these difficulties, the research team members together introduced the children to the program and checked and encouraged them to express their abilities.

In the research group (125 learners) no problems with adaptation were noticed.

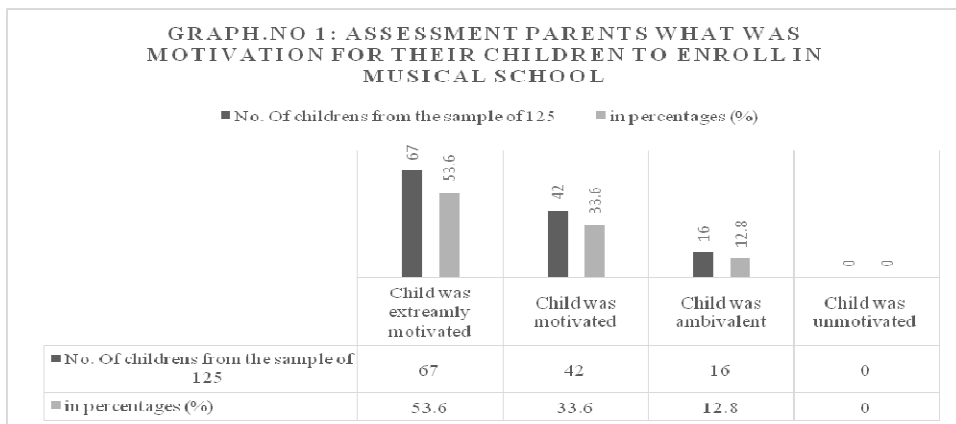
Checklists consisted of ten items according to which criteria for the assessment of giftedness was determined. Two criteria were monitored by solfeggio teachers and two by musical instrument teachers. The criteria contained variables which the research team members constructed. In every class the teachers assessed every item, and once a month compared and summed up the results. At the end of the school year the evaluated values of the items were summed up and divided according to the criteria. Solfeggio teachers assessed the recognition and production of tones and intervals (criteria I) and reproduction of rhythmic models (criteria II). Musical instrument teachers assessed the reproduction of melody phrases (criteria I) and reproduction of short music units (criteria II). Each of the teachers evaluated the gathered

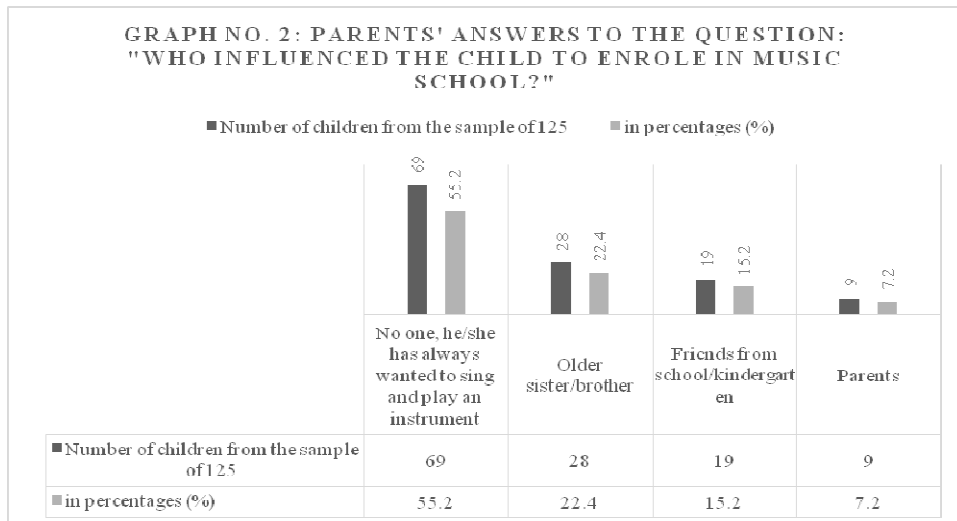
values which characterized the aforementioned criteria and made adequate conclusions. The conclusions are presented in tables, percentages and through the descriptive method.

Research results

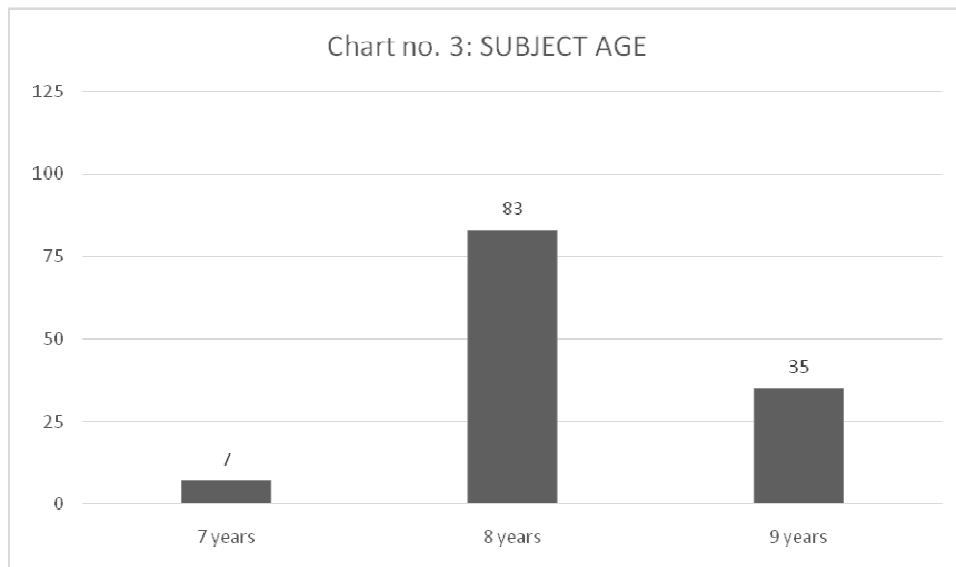
The initial research task referred to the evaluation of motivation and self-initiative of the learners, which was gathered through the analysis of the questionnaire which the parents filled out. The results are presented in graph number 1 and 2.

The first graph representing the children’s motivation for enrolment into music school shows that 53.6% of children were highly motivated, according to the opinion of their parents. With the percentage reached from the variable “the child was motivated” which is 33.6%, we reach the results that 87,2% of the children were either very motivated or motivated to enroll in music school. The high percentage of motivated children and the fact that there were no unmotivated children, could be considered as an important indicator of musical ability.





In chart no 2, self-initiative if children to enroll in music school is presented. According to the results, a significant percentage of children, who independently wanted to enroll in the aforementioned school, was repeated (55.2). The influence of older brothers and sisters is also significant (22.4%). This information, together with the data that 15,2% children reached the decision under the influence of peers, can indirectly present a parameter which shows that children had positive role models in their environment, i.e. that their socialization flowed in the positive direction, because they accepted the socially desirable behavioral models. The small percentage (7.2) of parents influence, cannot be validly interpreted. It can be assumed that the parents wanted to leave the children the possibility to make the decision by themselves, which would present an acceptable model of the parents' educational influence.



In chart number 3 the age of the subjects is presented. Most of the subjects is eight years old (74,2%). In the interview with the parents, information was gathered that the parents talked to the music school teachers about the optimal age for enrolment in the first year of music school. In the opinion of solfeggio teachers, younger children would have problems with adaptation and mastering content, because they would simultaneously start the first year of two schools, and are still learning to write and read. Since they have not mastered the rules of reading and writing, the additional teaching of rules for musical writing, for a great number of children would be too great of an effort, which could negatively influence their motivation. These opinions of solfeggio teachers are in collision with the opinions of giftedness experts, who consider that identification of the gifted should be done as soon as possible. Lelea J. (2003c:175) notes that research has shown that 50% of music expression can be identified by the fourth year and 80% from the eighth year of life. Solfeggio teachers' opinions are based on following and application of the teaching plan which was created by the ministry of education for all music schools; its application in some segments is not adapted for children who have not mastered reading and writing. In the research group seven children (5.6%) enrolled in school when they were 7 years old. In the interview with the parents, information was received that three children enrolled earlier in the first grade of general elementary school, and that four children went to private classes of solfeggio and instrument because they wished to do so. The parents of this group (four children) expressed their belief that their children were very talented for music because they expressed a wish for playing instruments and singing from a very early age. These children were identified as talented for music, in the preschool institution, and actively and creatively participated in musical-rhythmic activities and in child performances as vocal solo performers and children's choir members.

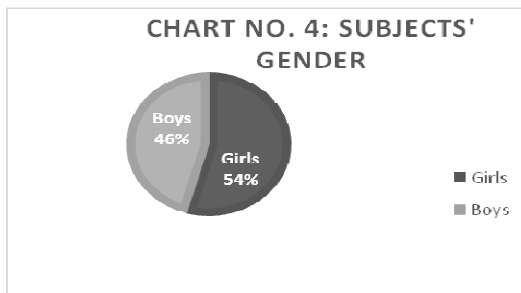


Chart number 4 refers to the subjects' gender and shows that there were slightly more girls (54%) than boys (46%), which does not indicate a large difference.

Solfeggio teacher's result analysis

Recognizing tones and intervals represents the first criteria for the assessment of musical giftedness. This criteria was assessed by solfeggio teachers. Six identical variables were used by both solfeggio and musical instrument teachers. Variable "extremely well" indicated that children solve 90% to 100% of the tone recognition task correctly. Variable "very well" indicated that 65% to 75% of tasks were solved correctly. Variable "satisfactory" indicated that 50% to 60% of the task was solved correctly. Variable "partially fulfils the task" indicates that 30% to 45% of the task was solved correctly, and variable "does not fulfill the task" indicated children who managed to solve up to 30% of the task. Each variable was more precisely identified by ten items. By following the ten items which referred to the recognition and reproduction of tones and intervals, solfeggio teachers assessed that from the total number of subjects 7.2% completed these tasks "extremely well". If to this percentage we add the percentage from "very well" and "satisfactory" we get 46.5%, therefore we can conclude that almost half of the enrolled learners successfully mastered the important starting tasks in solfeggio. These tasks are indicators of motivation, musicality and perceptive ability.

According to the solfeggio teachers' assessment 11 learners (8.8%) did not successfully fulfill the tasks for this criteria. Additional analysis which was conducted through interview with this group of learners showed that five of the learners did not regularly come to class (because of sickness or obligations in elementary school), four of the learners could not adequately fulfill the tasks because they could not follow the textual part which was an integrated segment of the task. Two of the learners could not adjust to the demands of class.

Through the analysis of the age of the learners who showed unsatisfactory success in recognizing and reproducing tones and intervals, it was concluded that four children who were seven years old could not fulfill the assigned tasks, because of the inability to follow the textual segments of the task. This fact is in favor of the solfeggio teachers' opinion that children have difficulties to master the solfeggio teaching plan and program if they have not mastered reading and writing.

Table no.1 Recognizing and reproducing tones and intervals

Table I	Extremely well	Very well	Well	Satisfactory	Partially fulfils the task	Does not fulfill the task
Number of subjects (125)	9	26	22	29	28	11
Percentually	7,2%	20,8%	17,6%	23,2%	22,4%	8,8%

Table no. 2 Reproduction rhythmical models

Table II	Extremely well	Very well	Well	Satisfactory	Partially fulfils the task	Does not fulfill the task
Number of subjects (125)	9	28	21	30	27	10
Percentually	7,2%	22,4%	16,8%	24,0%	21,6%	8,0%

Reproduction of rhythmical models is the second criteria which the solfeggio teachers assessed. By comparing the results and analyzing variables from the first and the second criteria, it was concluded that the reached values for both criteria were quite similar. Because of small numerical differences the statistical difference was not calculated. However, in the personal analysis of the children who showed unsatisfactory results, it was concluded that, although the number of children is almost identical (11 and 10) different children failed in the first and the second criteria. These differences occurred because of different content in the assignments of the first criteria. Seven-year-old learners could follow the rhythm and reproduce rhythmical models; in this way they showed that they have musicality which could not be recognized during the reproduction of tones and intervals.

Instrument teachers' result analysis

Instrument teachers assessed criteria which referred to the reproduction of melody phrases and reproduction of short music units. Although the variables which determined the criteria were the same for both groups of teachers, the items which were assessed in the instrument teachers' criteria were different and referred to the assessment of the learners' interpretative and creative abilities. All six variables for both criteria were expressed perceptually (variable "extremely well" with 90% to 100%, variable "very well" from 70% to 85%, variable well from 50% to 60%, variable "partially fulfils the task" from 30% to 45% and variable "does not fulfill the task less than 30% of the task solved).

Table no. 3 Reproduction of melody phrases

Table III	Extremely well	Very well	Well	Satisfactory	Partially fulfils the task	Does not fulfill the task
Number of subjects (125)	13	23	20	28	27	14
Percentually	10,4%	18,4%	16,0%	22,4%	21,6%	11,2%

Results which instrument teachers assessed are presented in table number 3. Reproduction of melody phrases is the first criteria with six variables which contained ten items. Variables are identical to the ones which the solfeggio teachers used. In comparison of the results gathered from the first criteria by solfeggio and instrument teachers it was noticed that instrument teachers assessed that 10.4% of learners completed the task extremely well, which is a lower percentage than the solfeggio teachers (7.2%). This difference was analyzed in the team and it was concluded that the way in which class was conducted influenced the instrument teachers to identify more gifted children than the solfeggio teachers. Instrument classes are individual. The teacher spends more time with the learners, gets to know them better and form better communication. In the direct contact which is realized during the whole class, the instrument teacher has enough time to motivate children, to ease the initial fears and enable them to repeat the task multiple times. Group classes which are conducted by solfeggio teachers incorporate a substantially shorter time period for which teachers have for individual learners. Because of this work on motivation and formation of good interaction is of a lower quality. Different content in the content of the first criteria for instrument and solfeggio teachers resulted in a conclusion that musically gifted children show greater interest in playing an instrument than theory classes and monotonous tone analysis. Musically gifted children are curious and eager to try reproducing melody phrases, because of this their motivation was significantly higher than for the reproduction of simple tones. With the sum analysis of the first three variables results are reached that 44.8% of tested learners adequately fulfilled the assigned task of reproducing melody phrases. From the other variables "Does not fulfill the task" indicates that 11.2% (14) of learners had problems in the realization of the program. Through an individual analysis of each child, who gained the abovementioned results, it was concluded that among these children none were seven years old, while in the assessment of solfeggio teachers there were four. From the fourteen children who showed unsatisfactory results, five did not come to class regularly (the same children were identified by the solfeggio teachers) while the other nine did not show enough patience during practice.

Table no.4 Reproduction of short music wholes

Table IV	Extremely well	Very well	Well	Satisfactory	Partially fulfils the task	Does not fulfill the task
Number of subjects (125)	13	19	17	28	33	15
Percentually	10,4%	15,2%	13,6%	22,4%	26,4%	12,0%

In table number 4 are presented the results gathered by instrument teachers. Reproducing short melody units is the second criteria for the learners' assessment. The results do not significantly differ from the assessment of variables for the first criteria. The sum of results from the first three variable shows that 42% of tested children completed the task extremely well, very well and well. On the basis of this information it can be concluded that the interpretative and creative ability of the learners is satisfactory.

Table number 5 Representation of the number of children and instrument of their choice

Table V	Number of subjects (125)	Percentually
Piano	47	37,6%
Guitar	19	15,2%

Violin	8	6,4%
Tambura	10	8,0%
Flute	15	12,0%
Clarinet	8	6,4%
Harmonica	14	11,2%
Harp	4	3,2%

Through the analysis of the data it can be concluded that the learners in the most significant number (37.6%) opted for the piano. The reasons for the selection of a certain instrument were not separately analyzed.

Conclusion

Presented in this paper are the results of a linear research conducted during one school year with first year learners of the lower music school *Josif Marinkovic* in Vrsac. The research group consisted of 125 children aged from seven to nine years. The goal of the research was to test the musical abilities of these children, in order to identify the children with extraordinary musical abilities. Research criteria selected by instrument and solfeggio teachers were set. Each group of teachers monitored two criteria. Student success was monitored with special attention to extraordinary results which are supposed to identify gifted children. By comparing the reached results it was concluded that a different number of gifted children was identified by solfeggio and instrument teachers. Solfeggio teachers through the analysis of their criteria identified 7.2% of children who solved the tasks extremely well while that number was larger for instrument teachers (10.4%). Although the difference is not numerically significant, a separate analysis was conducted using a questionnaire for all children who achieved extremely well results. It was concluded that children show greater interest in work with instruments than theoretical learning of musical signs and recognizing tones. The different class organization contributed to the varied number of identified learners, because individual classes which are held by instrument teachers enable a close and quality interaction to be formed, which influences motivation.

According to the assessment of solfeggio teachers 46% of learners completed the course task extremely well, very well and well. That percentage was lower 42% in the assessment of instrument teachers. The cause of the possible differences were not analyzed in more detail, but it was concluded that the children who selected the violin and harp for their instruments more slowly mastered the criteria posed by instrument teachers than solfeggio teachers. Through the analysis of the instrument and solfeggio teachers' sum results it was concluded that 46% of solfeggio learners and 42% of instrument learners possess musical abilities, which can be creatively developed, especially for children who completed their tasks extremely well. On the basis of the reached results it can be concluded that hypothesis A was confirmed.

In the continuation of the analysis it was concluded that hypothesis B, which assumed that the musically gifted learners would complete the solfeggio and instrument tasks equally well, was not confirmed.

The assumption of hypothesis C that children who had not mastered elementary literacy would not complete the tasks from the criteria posed by instrument and solfeggio teachers,

was confirmed on a very small sample (four children). On the basis of this sample conclusions cannot be made, however it was important to note because of the opinion which is held by the teachers in the school in which the research was conducted. Teachers at *Josif Markovic* music school advise parents to enroll children in the school only after they have acquired elementary literacy. These opinions did not stem from scientific analysis and literature, but from previous working experience. The results from this research do not confirm the practical opinions of the teachers. Four seven year old children who simultaneously started elementary school and lower music school did not fulfill only recognition and reproduction of tones and intervals task (criteria I which was monitored by solfeggio teachers) while the other three criteria were mastered. Instrument teachers assessed that one of the four children completed the tasks very well, and the other three well. Because in the used and followed literature we could not find other studies which dealt with this problem, no conclusions were made. This example could have practical implications for solfeggio teachers' teaching programs. It can encourage solfeggio teachers to analyze solfeggio plan and program for the first year of lower music school and its postulates for adaptation to the needs of children who still haven't mastered elementary literacy, but possess musical talent. With these activities we could avoid the situation in which children who have just started reading and writing become additionally frustrated by the music school program, which can negatively influence their motivation and self-confidence. This example can be used in the development of solfeggio teachers' motivation to direct their professional activity towards the search for ways to modernize and adjust the prescribed program for all children who want to be musically educated.

On the basis of the explained example it can be concluded that hypothesis C was not confirmed.

With the gender analysis of the participants it was concluded that among the children, who completed the tasks extremely well, very well and well, no gender domination could be noticed. On the basis of this it can be concluded that hypothesis D was confirmed.

In the concluding remarks it was noted that the reached results on the number of children who completed the tasks extremely well would be compared to scientific research which refers to the percentage of giftedness in the general population.

By following the research of Gabriela Kelemen (Kelemen, G. 2011:63), who indicated that the number of gifted children is equally distributed among the population of the planet and it is from 2% to 6% of the population, we conclude that our results are larger. These results can be explained by the selective character of the sample, i.e. that the children underwent musicality assessment at the entrance exam. The reached results cannot confirm that the indicated percentage identifies exceptionally musically gifted children, because the identification has been conducted only with music tests, but they can be used as an indicator which needs to be systematically followed in the continuation of the education of these children.

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