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THE ROLE OF MUSIC ABILITIES IN MUSIC EDUCATION OF PRIMARY SCHOOL TEACHERS

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Summary - Music education and teacher's skill in music communication are essential for the success of everyday educational practice, in other words, teacher's music communication is a product of synergy between several factors: basic music literacy, development of music abilities and skills, and degree of its musicality. What kind of musical habit is desired and socially acceptable in a teacher? Is there a possibility of its (re)adjustment in the present teacher education system? In order to provide an answer to that question, we have used students' music abilities and monitoring of their further development as a starting point. Research was conducted for that specific purpose, and it involved students from Faculty of teacher education in Osijek.

Key words: music abilities, Testing, Practical music teaching, Singing

INTRODUCTION

During the last decade teacher education institutions in Croatia have undergone significant changes: shift to the university programs of study, introduction of programs of study with specialization in one subject area, and finally the application of the Bologna process. It is unquestionable how the mentioned changes

reflected on the quality of music education of teachers and therefore rethinking ways in which they can be educated continues to be a trend.

Music education of teachers carried out according to the vertical-spiral model would undoubtedly improve or at least appease the current situation which is marked by a growing disproportion between background knowledge and students' abilities from previous levels of education (primary school and high-school) with respect to the necessary minimum for the basis of further education which will be evident in the creative knowledge of a musically competent teacher.

Considering that data on systematic observation of musical knowledge and evaluation of musical competence, particularly of future teachers are scarce in Croatian music-psychology and music pedagogy literature, the aim of this paper was the present some of the results of our research.

MUSIC EDUCATION OF TEACHERS

Music education of teachers encompasses theoretical and practical knowledge of music, competence in music reproduction (singing and playing music) and sufficiently developed music abilities as an assumptions for appropriate and quality work with young school-aged children. Practical music skills are conditioned by development of music abilities, music literacy, student motivation for consistent work, personal attitudes, teaching methods and types of work.

The traditional framework of the entrance exam which contained a test of elementary music abilities (candidates with developed music skills had an advantage when enrolling at the faculty of teacher education), at the Faculty of Teacher Education in Osijek was replaced in 2003 by a point-system which evaluates candidates only on the basis of their high school success.

As all students, regardless of their level of music skills, abilities and attitudes, must attend a course in music, the methodical model becomes very important in the sense that it must take into consideration the mentioned disproportion between expected and achieved elements of music education and simultaneously operate developmentally in formal and experiential knowledge.

MUSIC ABILITIES

Research in the area of musicality and musical talent resulted in different viewpoints on how to define the mentioned terms and the nature of the characteristic of a person which we would describe as musical or musically talented. We tend to define musicality as an ability to aesthetically experience music, and musical talent as a highly developed high quality abilities for music. "Both talent and musicality, imply the existence of particular elementary but also fundamental abilities. They are a necessary (but not sufficient!) condition of musicality, i.e. musical talent.

Those are above all the ability to discriminate pitch, rhythm, loudness, length, timber, melodic and rhythmic memory, etc.”. (Mirković-Radoš, 1983)

Dispositions are inherent, individual genetic bases for developing music abilities, i.e. musical ear. The development of musical abilities in an individual is the result of the influence of family, social and media environment, the music-pedagogy influence throughout formal and informal education but also of the internal factors such as desire and will for participation in musical activities. It is possible to achieve more significant results only through systematic, continuous and quality music work which has the following tasks: to develop music abilities and skills, acquisition of musical knowledge, development of musicality, formation and design of acceptable attitudes and behavior in music.

In order to achieve the above, music education should begin at a preschool age and continued throughout the entire educational vertical while at the same time encouraging personal activities of each child. That is the only way in which music development of children can be improved but also through which talented children can be spotted. The role of the primary school teacher is important given the fact that the process of developing basic music abilities which are present in each child although in varied intensity, ends at the early school age. (Gordon, 1998) The problem lies in the fact that the attention of the participants in the educational system is directed towards musically talented children, i.e. children who are attending music schools, while at the same time ignoring the music education of children with average music abilities. The reason behind that is justified by the existence of a parallel system of music education, i.e. shifting the emphasis to professional education. It is not our intention to lessen the value of professional music education, rather to point to the need for quality music education in primary school, considering that future teachers and preschool teachers coming from a professional musical background are but few. By neglecting their music education in primary education the cyclical pattern continues along the same road they have traversed, however this time not as students but in the role of teachers. Music education in higher education can improve music achievements, enable students for instrumental and vocal reproduction, broaden knowledge of music, while attitudes, beliefs and behavior of students are rather difficult to change within the existing program of study. A reform of the program of study is not a solution but a time frame which will recognize the logic of the profession and prepare teachers in a quality manner for intermediation between music and children in an encouraging and developing environment.

RESEARCH

Considering that the teaching process at the university is directed towards acquiring music competences of teachers of primary education (HNOS, 2006), and its success is determined by several different factors, the aim of the research was

to establish the success of the applied methodical model of music education of teachers (program and organization of the educational process), the efficiency of intermediation of theoretical and practical courses, factors, relationships and their influence on the achievement of the educational process.

For that purpose, a longitudinal study was conducted on 50 students (female) of the Faculty of teacher education in Osijek (developmental course) over the period of four years. Considering the magnitude, longevity and complexity, the research was conducted in several stages. In this paper we will present the first segment which covers music abilities within the framework of perception of the pitch, rhythm, melody, their reproduction and music memory. By testing music abilities of students we wanted to establish their intensity and confirm an improvement in achievement after applying a particular methodical model. The preliminary research was conducted in October 2004, at the beginning of the program of study, while the final research was conducted in October 2005 upon completion of the course Music performance and Music in the first year of study.

The mentioned research was conducted individually¹ with each student, and it covered singing a song by choice, singing the same song with the change of intonation, sound reproduction, melorhythmic motif and rhythmic phrases, and voice range. Considering the limitations that persons with “modest music education”² have and their possible inexperience, the values tested must be elementary³ and important for improvement in active music making/playing (singing and playing).

RESULTS AND DISCUSSION

Song singing

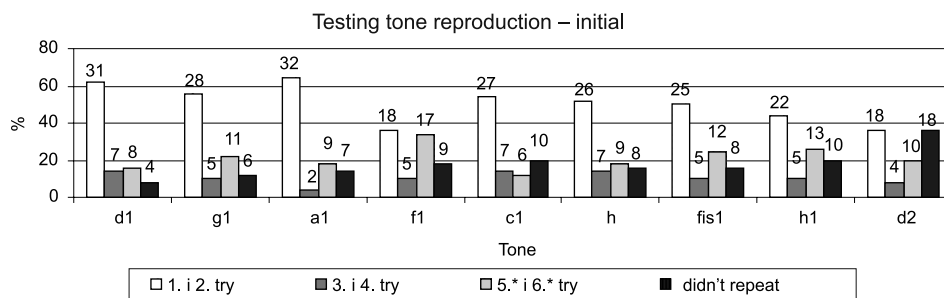
For the singing task students selected a well-known song. The choice was diverse, from popular, folk, spiritual songs to songs from animated films. It is indicative how 68% of the students did not know how to sing one children’s song. Only 42% of the participants sang the song relatively correct in intonation, and the same students were successful in singing the song in a different intonation. While describing the task, the majority of the students showed discomfort (Ruismäki and Tereska, 2008), and expressed their dislike and inability to sing which was evident in their hesitation while selecting a song. 58% of the students who were not suc-

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- 1 Development of abilities is only possible to observe through individual observation over a longer period of time.
 - 2 None of the participants had any formal music education besides regular music education in primary school and in high school.
 - 3 Task difficulty was determined by the level of music elements (frequent rhythmic patterns, specific motifs or phrases, frequent interval jump, and melodic movement) in songs which are suggested by the teaching curriculum for Music education from grades 1-3 in primary school.

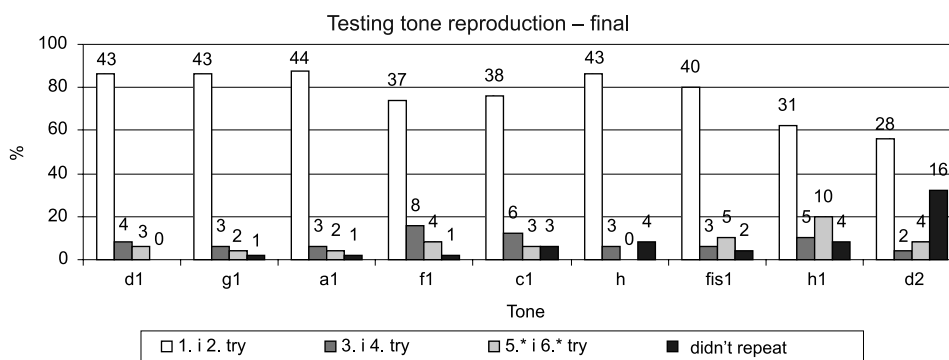
successful in correct intonation and did not achieve success in singing in a different tonality belong to the group of students without “singing” experience.

Tone reproduction

Tones are checked in a particular order (Graph 1) and are limited by the number of tries. The first four are set on the piano. Considering that musically inexperienced participants are better at observing the pitch if the tone is reproduced by a vowel, the 5th and 6th tries are given by voice. The task was to sing the set tone in a neutral syllable.



Graph 1⁴



Graph 2

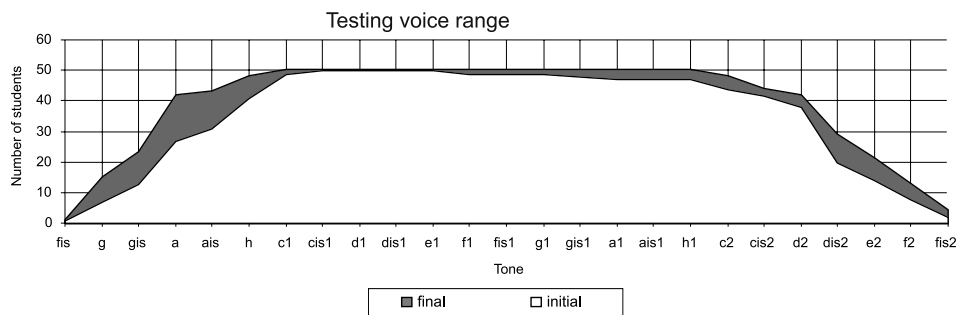
Initial testing (Graph 1) showed a success from 36% (d²) to 64% (a¹) in the 1st and 2nd try. Repetition of the tone was not successful with 8% (d¹) to 36% (d²) of participants even after the 6th try.

4 the number above the column represents the frequency

The final testing in tone reproduction (Graph 2) showed an improvement in results in the 1st and 2nd attempt for 18% (h¹) to 38 % (f¹). The results show better perception of pitch, faster reaction to tone demonstration on the piano and control over voice box in relation to the initial testing. The percentage of students who were not successful in repeating the individual tone was reduced by 4% (d²) to 16% (f¹). The most successfully repeated tone in both testings was tone a¹. The smallest improvement was shown in repeating tone d² which can be explained with the issue of voice range.

Voice range

The voice range of children at an early school age is from c¹-d². The same voice range was observed in the initial testing (Graph 3) with 39 students (78%), while in the final testing it was observed by 42 students (84%).



Graph 3

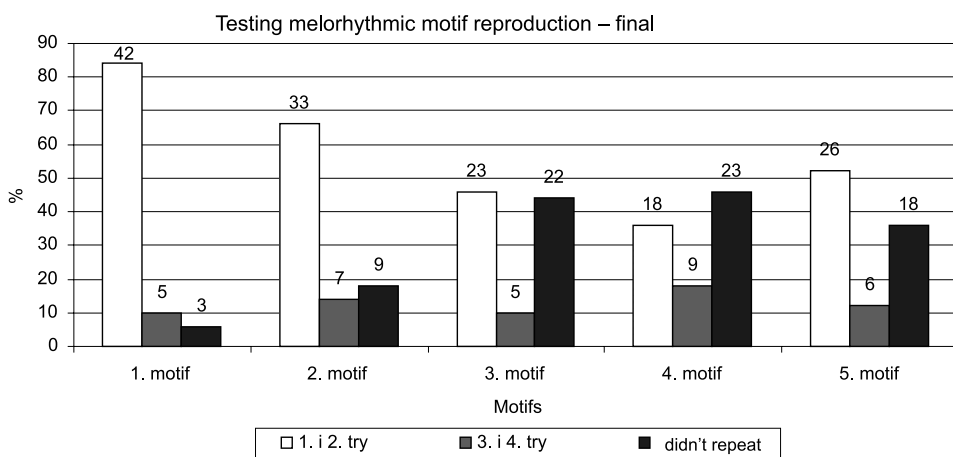
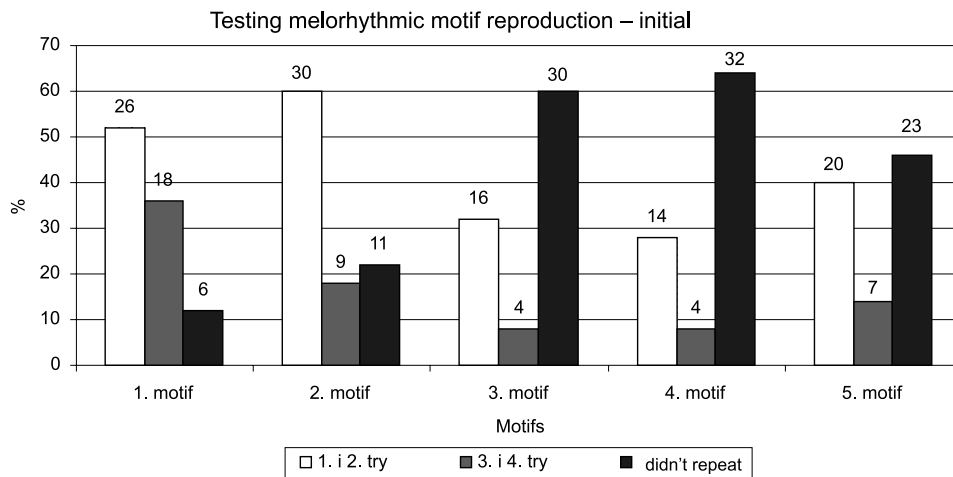
In comparing individual results of students in the first and second testing (Table 1) we have calculated the total advancement of an entire tone which is a satisfactory improvement of the voice range within the one year time period.

Table 1

Improvement in voice range from testing in 2004 to testing in 2005			
N = 50	TI = 0 – 5.5 cijelih tonova	M = 0.99 cijela tona	SD = 1.138

Reproduction of melorhythmic motif

The tester played the set melorhythmic motifs on the piano, and the student’s task was to repeat the motif by singing. The same motifs were played during both testings.



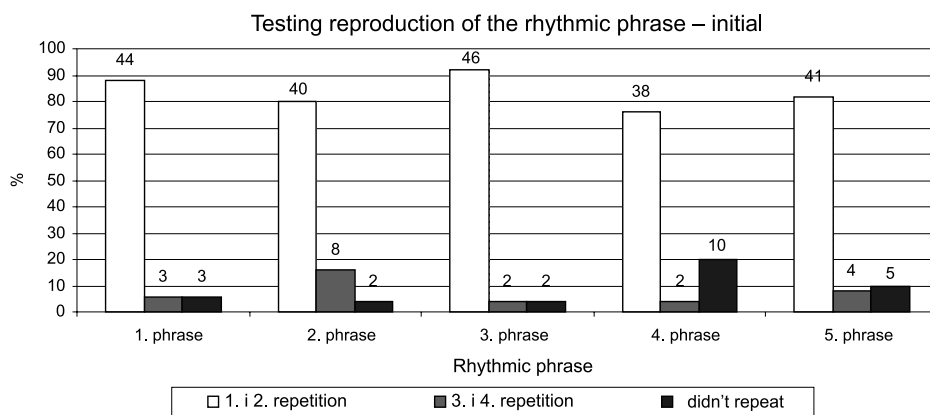
Initial testing (Graph 4) showed better results in the repetition of the 1st and 2nd motif. Therefore, we can conclude that the participants found it rather easy to sing melorhythmic motifs of the SO-LA-SO-MI structure and an ascending major quintachord if such motifs are set in the voice range. The third motif was unsuccessfully reproduced by 60% of participants, and it was structured as a rhythmical minor quintachord. The fourth motif had the smallest success (64%), and the structure of the motif is a melody in the range of a large sixth with a characteristic jump for the fourth. Forty-six percent (46%) of the participants did not repeat the fifth motif which could be due to the ascending jump of the small sixth.

The comparison of results (Graph 4 and 5) showed an improvement in the reproduction of all motifs by 6% (2nd motif) to 32% (1st motif). The improvement is evident in the speed of perception, music memory and reproduction. Failure was reduced by 16% (3rd motif) and 18% (4th motif – which was the least successful in both testings).

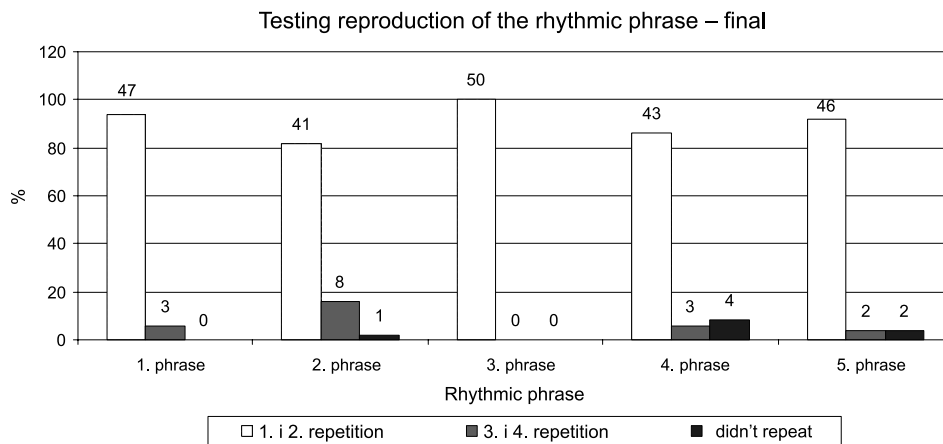
Reproduction of the rhythmic phrase

The tester set the phrases by clapping hands and the test taker had to repeat the set phrase in the same manner.

By analyzing the results of the reproduction of the rhythmic phrases (Graph 6) a relatively high degree of success is observable. This poses the question whether the tasks were very simple and therefore easy to reproduce, or is the sense for



Graph 6



Graph 7

rhythm, as part of the musical ear of the participants more developed and in that way resulted in better reproduction. The 4th phrase proved to be the most difficult one having a simple rhythmic structure, but the largest number of beats. We conclude that students have a developed sense of rhythm, however problems which occur are a consequence of insufficiently developed musical memory.

Considering the high results in initial testing, the results of the final testing (Graph 7) show a small improvement and reduction of students who were not as successful in this segment previously (from 4% to 12%).

In order to calculate the statistical value of the results we marked the tasks according to attempts. In comparing the obtained results in the initial and final testing using *Sandler's A-test*, we established a statistically significant difference between arithmetic means.

Table 2

Testing reproduction of	N	TI	Initial M	Final M	P=0.263
Tone	50	0 – 54	32.7	44.46	0.039
Melorhythmic motif	50	0 – 20	9.18	11.8	0.069
Rhythmic phrase	50	0 – 20	17.1	18.42	0.091

Table 2 shows the improvement mostly in the reproduction of tone (15.78%), and the smallest improvement in the reproduction of the rhythmic phrase (6.6%).

Individual comparison of the research results

Through free interpretation of individual results, 24 students (48%) showed a cumulative improvement in the realization of the testing conducted in three or four segments. Other students (52%) showed improvement in realization of set tasks of two segments.

The results proved the appropriateness and efficiency of methodical models and prompted an analysis by which we could establish which group of students showed more improvement. Is teaching oriented towards students with high results or does it encourage development of students with modest results?

Upon the initial testing, the participants' results were ranked according to groups. The result of one group was compared with the result in the final testing and the difference in arithmetic mean should show the difference in achievement after one year.

Looking at Table 3, it can be concluded that students belonging to groups II and III have achieved a significant move in successfully reproducing a tone. The success of students in groups IV and V is also increased, however, great dispersion of results does not indicate a representative arithmetic mean. Group I showed minimum improvement.

Table 3

Tone reproduction			2004 initial		2005 final	
groups	i = 11	N	M	SD	M	SD
I	44 – 54	16	50.81	3.037	52.18	1.895
II	33 – 43	10	39.20	3.047	48.00	6.944
III	22 – 32	10	27.80	3.669	44.40	7.530
IV	11 – 21	8	14.87	3.316	36.00	14.142
V	0 – 10	6	5.50	3.728	29.33	10.191

Table 4

Reproduction of melorhythmic motifs			2004 initial		2005 final	
groups	i = 5	N	M	SD	M	SD
I	16 – 20	15	18.20	1.698	17.60	1.901
II	11 – 15	5	12.60	1.673	15.20	3.820
III	6 – 10	13	7.23	1.422	13.07	5.440
IV	0 – 5	17	1.70	1.230	4.76	3.722

A significant improvement is evident with students who had achieved above average results in testing reproduction of melorhythmical motifs in the initial testing, while students in group I achieved approximately the same results (Table 4).

Table 5

Reproduction of the rhythmic phrase			2004 initial		2005 final	
groups	i = 5	N	M	SD	M	SD
I	16 – 20	37	19.02	1.190	19.32	1.258
II	11 – 15	11	12.90	1.446	17.27	2.239
III	6 – 10	1	8	0	7	0
IV	0 – 5	1	1	0	9	0

By analyzing the results of the reproduction of rhythmic phrases (Table 5) we can observe that only two student achieved below average results. The other 48 participants showed above average results, while the greatest shift in success was observed in group II.

CONCLUSION

The analyses of the research conducted among students at the Faculty of teacher education confirmed success in applying an appropriate teaching method in music education of future teachers but also pointed to several disturbing factors. In

comparing individual results of the initial and final testing of music achievement, improvement in all segments is observable, but students with low scores showed most significant improvement.

Although the development of music abilities ends in childhood (Gordon, 1998), and this research includes participants between the age of 18 and 20, quality work and effort from all participants in the teaching process can entice and move the music potential of a student. The existing model of study did not take into consideration the fact that with the end of primary school, practical music activities stop, and therefore students need extra time for refreshing their music potential, followed by work on the development and improvement of their reproductive music abilities.

Furthermore, in addition to the completed high-school education, the results show modest theoretical knowledge, but a significant absence of being exposed to classical music which is reflected in the attitudes that the participants have towards music. Continuous work throughout the first year of study which successfully bridges theory and practice with selected content and methods, requires exceptional effort from all participants in the teaching process due to the time limitation.

By accepting the Bologna model this problem is deepened and difficulties will be placed on students and their teachers. As such, will the aim of music education be quality and competence or will we be satisfied with realistically reachable achievements and in that way hand over the problem back to primary schools?

Changes in society are reflected on the educational system. Contemporary educational policies are directed on processes of acquiring professional competences and necessary need for life-long learning in which the teacher's role is becoming more demanding and responsible. Contrary to that, the perception that the Croatian society has towards the teaching profession is not of importance and is considered as economically unattractive; yet do to its "simplicity" secure and acceptable. A tendency to lean towards the general opinion can be recognized in pre-service teacher education (Bologna) which did not enable the implementation of the developmental music-methodical model focused on acquisition and development of creative knowledge and necessary future professional development.

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