EFFECTS OF ORFF SCHULWERK CONCEPTION ON MUSIC ABILITIES OF PUPILS WITH MENTAL DISORDER

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Abstract: Special primary schools are the most frequently used education institutions for pupils with mental disorder in Slovakia. A frequently discussed topic is the question of integration these pupils into an intact society. It is necessary to respect the specific needs of pupils, which precondition is a thorough knowledge of them. Pupils with mental disorder have deficiencies in cognitive functions, emotional abilities and motor skills. The development of music abilities contribute to their improvement. Positive approach in these domains is an important part of the aims in music education of pupils with mental disorder. As specified in the National Programme of Education, the teaching of music education at special primary schools for pupils with mental disorder is focused on developing competences within the Arts and cultural education and preparing pupils for practical life. In the research we used the conception of Orff Schulwerk which is mainly focused on the process of learning, communication and social integration. The development of music abilities such as music perception, sensory-auditory abilities as well as sensory-motor skills, creativity are more significant.

Keywords: mental disorder, Orff Schulwerk, music abilities, cognitive abilities, motor skills, social integration

1 Introduction

As determined in the National Programme of Education, the teaching of music education at special primary schools for pupils with mental disorder is focused on developing competences within the Arts and cultural education and preparing pupils for practical life. The conception of Orff Schulwerk is based on the process of learning, communication and social integration (Osvaldová, 2015, 2018). The development of music abilities such as music perception, sensory-auditory abilities as well as sensory-motor skills, creativity are more significant. The aim of the conception is to gain supportive experience in the group, improve not only music abilities but also in the field of cognitive and motor skills (Vančová, 2005, 2010). Positive approach in these domains is an important part of the aims in the education of pupils with mental disorder. Inclusion of Orff Schulwerk into effective music conceptions extends the base of the theoretical scope of special education (Vančová, 2014).

2 Theoretical Background

Getting to know the true level of pupils' cognitive, motor and emotional abilities is an important starting point for planning appropriate teaching methods, using appropriate aids, and is also important for the integration of these pupils into mainstream schools, which has recently been greatly accentuated (Osvaldová, 2018). Music activities can give an opportunity for pupils with intellectual disabilities to achieve similar results as intact pupils. At the same time, we help to integrate them and prevent their social exclusion and its´ negative impact on the integrated pupils (Zikl, 2012).

But even in music activities, there are limited options of pupils with mental disorder, especially in activities where intellectual performance is needed. It is mainly a disrupted perception and to it related imagination disorder. Based on Orff Schulwerk (Orff, 1974), for the correction of disrupted perception and to it related imagination disorder we use the principle of multi-sense involvement. Pupils receive simultaneous mixing of sounds, colors through movement, speech, singing, body percussion, playing the instruments, using various props (Dunlap, 2008). We also integrate arts and dramatic activities into the music process.
Motor skills of pupils with mental disorder demand the development of locomotion, balance, and manual skills.The fundamentals of Orff Schulwerk, based on the principle of activation through playing the music instruments we find efficient. Orff's instruments are motivating because by simple manipulation they can create interesting sound effects that stimulate to music activities and help to develop rhythmic feelings, fine and gross motor skills (Blaženková, 2009, Nordoff, P., Robbins, C. 2003).

The principle of unity of movement, speech and music is one of the most important of these fundaments of Carl Orff. As Keetman (1974) states, the unity of movement, speech and music is based and conditioned on rhythm. This rhythmically related unity is the resource for learning, developing skills and abilities in the area of movement, speech and music (Tichá, 2005, 2007, Procházková, 2007).

By applying the Orff´s principle of learning in a group, social competences and their gradual application in society are significantly developed (Darrow, 2011). According to Jungmair (2003), in music group, the acceptance and observance of the game rules, the interplay, the ability to be in harmony with others in music improvisation, conditions for social behaviour, adaptation, mutual listening and empathic behavior can be created.

3 Method and Methodology

In his progressive music education method, Carl Orff designed activities with words, music, movement, playing the instruments. Inspired by the ideas of C. Orff and other music educators who, in the basis of reform education, emphasized the music activation of pupils with mental disorder, we realized experimental research in a special primary school in Bratislava, focusing on elementary music improvisation. The aim of the research was to find out the impact of music motion through music activities on development of music abilities of pupils with mental disorder at middle school age.

In the research, we have specified the following hypothesis: pupils doing group creative music activities in music lessons will better improve their music abilities compared to pupils completing collective music-reproductive activities in music lessons.

The target group of the research were pupils of special primary school at middle school age. Equivalent groups (experimental and control group) were organized from age-different groups of second and third year pupils. In consideration of the age criterion and the results of the entrance tests we arranged experimental and control group. The number of pupils has established to eight in both groups (Table 1.)

Table 1: Basic experimental data

Experimental group	Control group
Second year class: 4 pupils	Second year class: 4 pupils
Third year class: 4 pupils	Third year class: 4 pupils
Gender: 3 boys, 5 girls	Gender: 4 boys, 4 girls
Number of hours: 24	Number of hours: 24
Input and output tests inspired by musical abilities test of E. E. Gordon	Input and output tests inspired by musical abilities test of E. E. Gordon
Test of short tasks of musical abilities	Test of short tasks of musical abilities

We used the modified E. E. Gordon Melody and Rhythm Test (a test for mental disorder), the so-called A-test to determine pupils' music abilities and Test of Music Skills B-test (Table 2.). Individual A-test subtests have determined the sensory-auditory abilities of the pupils and the B-test subtests of the sensory-motor skills of the pupils: a sense of rhythm, stroke, and pitches with which the ability for imagination and memory is naturally associated. The tests were based on the auditory distinction between two melodic and rhythmic patterns, and the ability to

motorically reproduce pre-recorded music examples focused on rhythm, stroke and melody.

Table 2: Testing

Sensory-Auditory A-test: Auditory distinction between two themes: 1. melodic motifs - sense of pitch 2. rhythmic motifs - sense of rhythm Sensory-motor skills B-test: Reproducing pre-recorded music examples aimed at: 1. rhythm patterns 2. melodic patterns 3. stroke

Teaching program of each lesson of music is in methodological sheets. In the E-group (experimental group) and the C-group (control group) we considered the following criteria: vocal intonation, music perceptual, music instrumental and music movement activities were represented in both groups. In the E-group, music-dramatic activities have also been added to these activities. Methods and forms of work were significantly different (Table 3.). While in the C-group we focused on the music reproductive activities, in the E-group we emphasized the creative approach of music activities.

Although the music activities in the E-group presupposed an individual approach, our aim was to preserve the principle of the group form of teaching in music education.

Table 3: Differentiated activities, methods and forms of work in E-group and C-group

Experimental group Emphasis on creative approach of music activities	Control group Emphasis on music-reproductive activities
Music activities: Vocal intonation Motion in music Music instruments Music perceptual Drama in music	Music activities: Vocal intonation Motion in music Music instruments Music perceptual
Methods and Forms: Vocal imitation based on creative forms of improvisation Communication through vocal activities Elementary improvisation (free music improvisation using melodic and rhythmic instruments) Playing the melodic instruments based on improvisation Playing simple chidren songs on melodic instruments Dramatized fairly-tale with music and motion activities	Methods and Forms: Vocal imitation Collective rhythm playing by using Orff instruments Learning the basics of how to read sheet music using coloured music notation Using the melodic instruments for reading coloured music notation Listening to music along with drawing Music motion activities based on simple choreography
Group form of teaching with emphasis methods on creative approach	Collective teaching with emphasis on demonstration methods

4 Results and Discussion

The results of research exit tests compared to entrance test of the same group were following:

Table 4: Mean values - Gross score of input and output testing results of experimental and control group

Tests	B_Reproduction of melody_input	B_Reproduction of_melody_output	B_Reproduction of_stroke_input	B_Reproduction of stroke_output	B_Reproduction of rhythm_input	B_Reproduction of rhythm_output	A_Distinguishing two melodic patterns_input	A_Distinguishing two melodic patterns_output	A_Distinguishing two rhythmic patterns_input	A_Distinguishing two rhythmic patterns_output
EG	5,50	10,25	6,00	11,38	5,38	10,13	6,50	12,25	6,50	12,00
CG	5,00	7,00	5,50	7,50	5,13	7,38	5,25	7,63	5,25	7,63
C	5,25	8,63	5,75	9,44	5,25	8,75	5,88	9,94	5,88	9,81
P	0,792	0,152	0,781	0,049	0,869	0,091	0,382	0,010	0,428	0,010

Key: EG - Experimental group, CG - Control group, C – Cohere, P - P-value

Table 5: T-test values for both files together

	M	N	SD	SEM
Input	5.6000	16	3.01552	.75388
Output	9.3125	16	3.71661	.92915

Key: M – Mean, SD - Std. Deviation, SEM - Std. Error Mean

Table 6: T-test values within the input and output tests of each group

Group		N	M	SD	SEM
Input	Experimental	8	5.9750	3.21147	1.13543
	Control	8	5.2250	2.97502	1.05183
Output	Experimental	8	11.2000	3.35687	1.18683
	Control	8	7.4250	3.19184	1.12849

Key: M – Mean, SD - Std. Deviation, SEM - Std. Error Mean

Results in (Tables 4.,5.,6.) show that the average measured values in the Mann-Whitney test and the T-test in both groups at the final tests are statistically significantly higher than the average measured values achieved by the entrance tests.

Figure 1: Test profile for the entire file

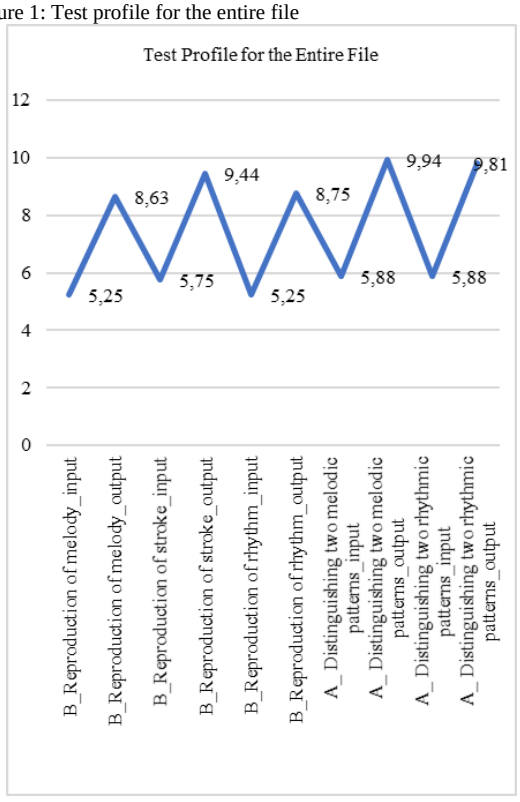


Figure 2: Tests in the control group

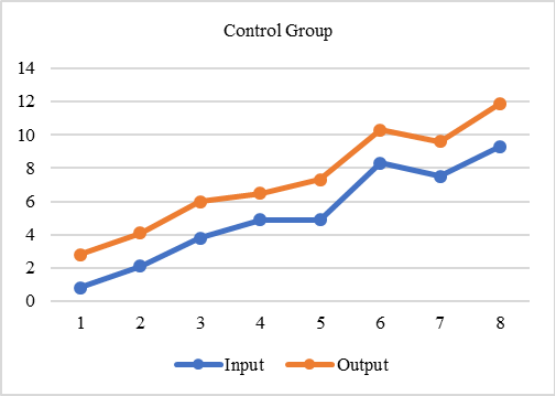
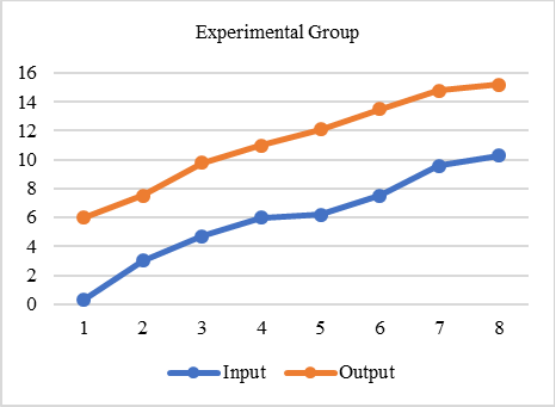


Figure 3: Tests in the experimental group



If we compare the average measured values in the gross score of the E-group and C-group final tests (Figures 1., 2., 3.), we find that the C-group achieves a low level in the final tests. The experimental group with its average measured values far outweighs the measured values in the control group.

Table 7: Mean values - gross score comparing experimental and control group improvements in individual tests relative to their previous results

Group		B_Reproduction of melody	B_Reproduction of stroke	B_Reproduction of rhythm	A_Distinguishing two melodic patterns	A_Distinguishing two rhythmic patterns
E1	input	5,50	6,00	5,38	6,50	6,50
E2	output	10,25	11,38	10,13	12,25	12,00
C1	input	5,00	5,50	5,13	5,25	5,25
C2	output	7,00	7,50	7,38	7,63	7,63
PE		0,000	0,000	0,000	0,000	0,000
PC		0,000	0,000	0,000	0,000	0,000

Key: E1 – Experimental, E2 – Experimental, C1 – Control, C2 – Control, PE - P-value, Experiment, PC - P-value, Control

Figure 4: Comparison of experimental group improvement in individual tests relative to their previous results

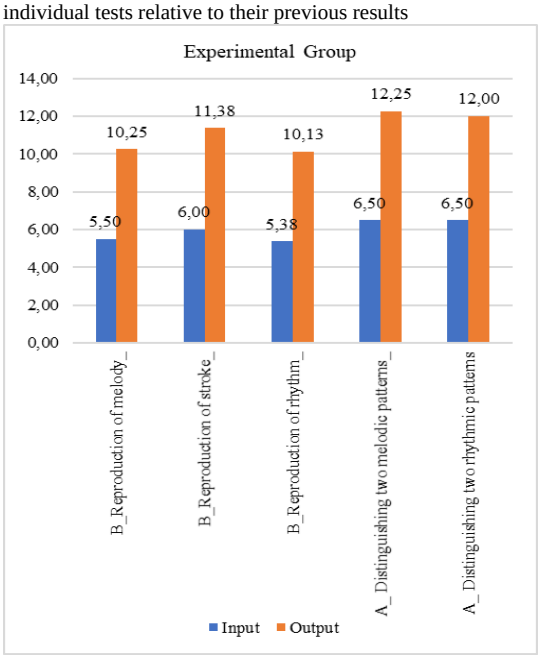


Figure 5: Comparison of control group improvements in individual tests relative to their previous results

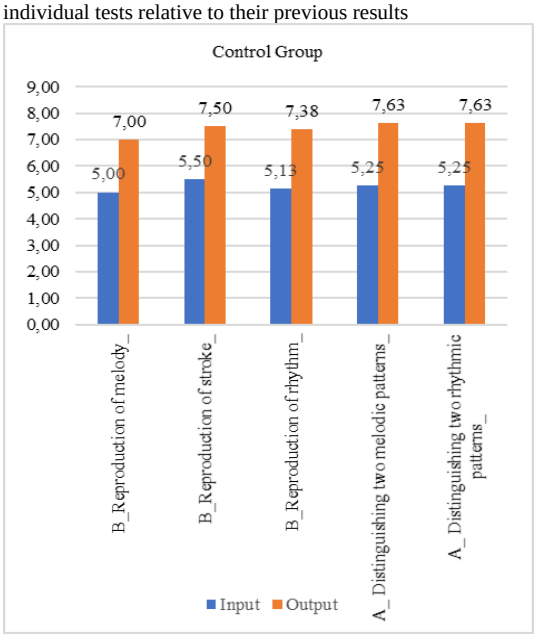


Table 7. and Figures 4., 5. present a comparison of E-group and C-group results in both tests. The B-tests realized in individual form, aimed at reproducing melody, stroke and rhythm - both groups achieved the highest score in the stroke reproduction subtest, the lowest score in the rhythm reproduction. Low values in the rhythmic activities of pupils can be due to the limited ability of motor skills, in which locomotion, balance and manual dexterity deficiencies occur. However, the level of music perception has improved in both groups. In particular, E-group improved in intonation and singing compared to entrance tests.

We can also deduced from the above data that higher values were recorded in the overall result of the A-test carried out in the group form than in the overall B-test result for both groups. It should also be pointed out that the A-test aimed at the auditory differentiation of musical patterns (melodic and rhythmic) was not as demanding as the reproduction of melody, tempo and rhythm. The overall result could also be influenced by the group form of the A-test and the individual form of the B-test.

Table 8: Average values - Gross score comparing individual group pupil improvements due to their previous results

Group gender	Group gender	Pupils	Gender	B_Reproduction of melody_input	B_Reproduction of melody_output	B_Reproduction of stroke_input	B_ Reproduction of stroke_output	B_ Reproduction of rhythm_input	B_ Reproduction of rhythm_output	A_Distinguishing two melodic patterns_input	A_rozlisovanie_dvoch_melodickyc A_Distinguishing two melodic patterns output	A_Distinguishing two rhythmic patterns_input	A_Distinguishing two rhythmic patterns_output	Cohere	Input	Output
1	1	1	1	0	4	0	5	0	6	3	8	0	7	1	0,60	6,00
1	1	2	1	1	4	3	8	3	7	5	10	3	8	1	3,00	7,40
2	1	3	2	4	8	4	9	3	8	6	11	7	12	1	4,80	9,60
2	1	4	2	5	10	7	12	5	9	6	12	7	12	1	6,00	11,00
1	1	5	1	5	11	6	12	7	12	5	12	8	14	1	6,20	12,20
2	1	6	2	8	14	7	14	7	12	8	14	7	13	1	7,40	13,40
2	1	7	2	10	15	10	16	9	13	9	15	10	15	1	9,60	14,80
2	1	8	2	11	16	11	15	9	14	10	16	10	15	1	10,20	15,20
3	2	1	1	0	2	0	2	1	3	2	4	1	3	1	0,80	2,80
3	2	2	1	1	2	3	5	3	5	1	3	3	6	1	2,20	4,20
4	2	3	2	5	7	3	5	3	5	4	7	4	6	1	3,80	6,00
4	2	4	2	5	7	6	7	4	6	6	8	4	6	1	5,00	6,80
3	2	5	1	4	6	5	8	6	8	4	6	6	8	1	5,00	7,20
4	2	6	2	9	11	9	11	8	10	9	12	8	10	1	8,60	10,80
3	2	7	1	6	8	8	10	8	11	6	8	8	11	1	7,20	9,60
4	2	8	2	10	13	10	12	8	11	10	13	8	11	1	9,20	12,00

From the above we reached the following conclusions: in the overall result of the A-test the hypothesis was confirmed, The E-group improved compared to the C-group. The B-test results also confirmed the hypothesis. In all B-tests, the E-group had significantly better results than the C-group (Figures 4., 5., Table 8).

5 Conclusion

These results confirm the fact that music education, which creates space for creative group activity of pupils, significantly improves their musical potential. This thesis confirms the ideas of C. Orff, who emphasizes the group's creative approach in music activities. In music lessons, pupils in experimental group performed their music activities in groups in a creative-working atmosphere based on Orff´s conception.

In research, we could also evaluate the behaviour of individual pupils. Based on the observation, we can conclude that other variables, such as low concentration, absence of motivation, tension of some pupils from entry and final tests, have reduced the validity of overall research.

Thus, the test results point to the value of a group form of music education process with an emphasis on the music activation of pupils with mental disability respecting the principles of C. Orff.

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