

**The Use of Puppets in Bibliotherapy Classes
in Order to Help Shape the Adaptive Behaviour of Pupils
with Mild Intellectual Disabilities
(Based on a Pedagogical Experiment Applying the
Parallel Groups Technique)**

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Abstract

The world of the social experience and expectations of children with mild intellectual disabilities is very diverse. Such children do not always know how to cope with social expectations. In such situations they tend to withdraw or, conversely, behave improperly, in this way trying to mark their presence.

The paper presents a pedagogical experiment, during which puppets were used in bibliotherapy classes. The method has already proven effective when working with children with mild intellectual disabilities. The main aim of the project was to develop adaptive behaviours in children with mild intellectual disabilities to include creative actions and the skills of social interaction in their upbringing and school environment and among their peers and to encourage them to seek effective ways to deal with their own difficulties.

Keywords: *mild intellectual disability, adaptive behaviour, puppets, bibliotherapy*

Introduction

“Intellectual disability (intellectual developmental disorder) is a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains” (Diagnostic and

Statistical Manual of Mental Disorders Fifth Edition DSM-5tm, American Psychiatric Association, Washington, DC, London, England, 2013, p. 33).

Individuals with mild intellectual disabilities experience difficulties at school. Their abstract thinking and executive functions are impaired. Another problem is poor short-term memory and difficulties with the appropriate use of school skills (Diagnostic and Statistical Manual of Mental Disorders Fifth Edition DSM-5tm, American Psychiatric Association, Washington, DC, London, England, 2013, pp. 33–34).

In the literature, numerous reports can be found relating to the use of puppets in activities with groups of children (cf., Arnold, R., Coulburn, N., 2012, pp. 20–21; Astell-Burt 2002; Bromfield, 1995, pp. 435–444; Carter, Mason, 1998, pp. 50–54; Dunst, C.J., 2012, pp. 451–457; Gendler, 1986, pp. 45–52; Gerity, 1999; Greaves, Camic, Richardson, Mylläri, 2012, pp. 251–261; Zelevansky, 2006, pp. 263–288).

Puppetry is a very old, traditional art form. With the help of puppets, the person teaching a class can easily focus children's attention on the goal to be achieved in the classroom (Naylor, Keogh, Downing, Maloney, Simon, 2007, pp. 290–292).

The advantages of working with puppets can be multiplied. "Now more than ever, puppetry has a role in building student motivation, providing opportunities to develop a love of language and literature, and so much more. Teachers should be excited by the possibility and the power of puppets" (Peck, 2005, p. 77), writes Helena Korošec (2012, p. 44). She says that "The puppet can be a teacher who gives lessons, guides the children, and their knowledge in a playful way, at the same time influencing mutual communication between the teacher and the children. Furthermore, the puppet is the child's friend that they trust and become very attached to. It helps them overcome fear in certain situations, e.g. at the dentist, and encourages them in moments of insecurity". Puppets stimulate the learning process, directly to the active learning in many areas (O'Hare, 2005, p. 234). At the same time, they communicate to children the rules and principles of good coexistence with others.

At a time when there are very many different and diverse toys, it could seem that children are not entertained by puppets and that working with such toys will not bring anything valuable to educational work. However, ongoing research into the use of puppets in the teaching process shows their high efficiency. An example of this is the study carried out by Renea Arnold and Nell Colburn (2012, pp. 20–21), who demonstrated that preschool children had a lot of fun when they read together with the puppet. Children said, among other things: "Lessons are a lot more fun"; "Thanks to the puppets I understand the world around me better" (Naylor, Keogh, Downing, Maloney, Simon, 2007, p. 294).

Results of other studies have been presented by Ronit Remer and David Tzuriel (2015, pp. 356–365). They carried out research on a group of preschool children, and their aim was to determine children's level of motivation and commitment to learning and achievements related to language learning.

Research Methodology

General Background and Research Sample

In the study, the method of pedagogical experiment using the technique of parallel groups was applied, during which puppets were used in the bibliotherapeutic intervention.

The aim of the research was to determine the effectiveness of activities during which puppets were used in the context of the adaptive behaviour of pupils with mild intellectual disabilities.

The aim was achieved by answering the question: "What is the effectiveness of activities where puppets are used, in shaping the adaptive behaviour of children with mild intellectual disability?"

In view of the above, the following research hypothesis was assumed: "Using puppets during bibliotherapeutic activities will positively influence changes to the adaptive behaviour of children with mild intellectual disability".

The empirical research referred to included the following variables: dependent variable, independent variable and intervening variable (respondents' age and gender). The consequence of establishing the research problems was determining the dependent variable as one which was considered as the level of adaptive behaviour of students with mild intellectual disabilities.

The results obtained by the students in the experimental and control groups, developed with the help of the Student Behaviour Chart by Barbara Markowska, were considered to be the efficiency indicators of classes conducted with the use of puppets.

The independent variable was a programme of activities in which hand puppets were used. The activities in class were based on rhymed fairy tales by Agnieszka Łaba (2008; 2010; 2013) and their subject matter was presented with the use of puppets. The puppets introduced various topics, including the most significant ones in the children's immediate environment, e.g.: not accepting the state of being different from others, being laughed at, their aversion to working in a group, not respecting generally accepted principles and decreasing positive attitudes to compulsory education.

The criterion for selecting children to be surveyed, both for the experimental and control groups, was being a pupil of grades 1–5 of primary school in the Subcarpathian Region. After analysing school documentation, 96 pupils from grades 1–5 were selected for the study. Two groups were created: the experimental group (27 girls, i.e. 56.25% of the respondents and 21 boys, i.e. 43.75% of the respondents) and the control group (29 girls, i.e. 60.42% of the respondents and 19 boys, i.e. 38.58% of the respondents). Each group consisted of 48 pupils aged 7–13.

Instrument and Procedures

In this study, the method of pedagogical experiment with the technique of parallel groups was used. In both groups initial (pre-test) and final (post-test) measurements were applied. The tool of measurement was the Student Behaviour Chart, by Barbara Markowska, which consists of five categories of behaviour: motivation (12 items), anti-social behaviour (12 items), inhibition (12 items), socialization (12 items) and sexual interests (2 items). For the purposes of the study, the category “sexual interests” was omitted as it was not the subject of research. Observation in the classroom was a supporting technique.

The pupils from both the experimental and control groups at the first stage of the study were tested by the Student Behaviour Chart by Barbara Markowska. Then, within eight months, 24 meetings were conducted (two teaching hours, i.e. 90 minutes per week) for each of the classes in the experimental group, based on the previously prepared curriculum with the use of puppets.

The second stage of the study involved re-examining the two groups with the Student Behaviour Chart by Barbara Markowska.

Data Analysis

The gathered empirical data was subjected to quantitative and qualitative processing with the use of the statistical programme STATISTICA 10. Data analysis and the probability of employing the statistical test was subordinated to accepted objectives and research problems. Regarding the quantitative data, arithmetic means and standard deviations were calculated. In order to specify the typical behaviours of the children with mild intellectual disability, tests of the significance of difference for independent pairs as well as for dependent pairs in the case of studying the differences between the pre-test and post-test results in the group, were also employed.

Research Results

Detailed data concerning the pre-test and post-test behaviour of the children with mild intellectual disability in the experimental and control groups, including arithmetic means and standard deviations and also the value of the test of differences of t-Student for independent pairs between the compared samples, on the basis of their level of statistical significance, are presented in Tables 1 and 2.

Table 1. Comparison of the experimental group with the control group – Pre-test of students' behaviour

Category	Pre-test of students' behaviour				Means Comparison	
	Experimental Group		Control Group		to	P
	M	SD	M	SD		
Motivation	30.89	9.54	31.77	8.79	-0.466	0.641
Anti-social behaviour	32.91	12.70	30.12	12.34	1.091	0.277
Inhibition	29.37	6.95	27.93	7.05	1.005	0.317
Socialization	34.83	7.89	35.56	6.91	-0.481	0,631

T-test for independent samples. M – arithmetic mean; SD – standard deviation; t° – t-Student (t-test); Marked differences are significant at $p < 0.05^*$; Marked differences are close to statistical significance between ($0.1 > p > 0.05$) ~Source: own research

Table 2. Comparison of the experimental group with the control group – Post-test of students' behaviour

Category	Post-test of students' behaviour				Means Comparison	
	Experimental Group		Control Group		to	P
	M	SD	M	SD		
Motivation	31.02	9.55	31.83	8.82	-0.432	0.666
Anti-social behaviour	32.87	12.67	30.08	12.31	1.094	0.276
Inhibition	29.31	6.96	27.89	7.04	0.990	0.324
Socialization	34.97	7.93	35.58	6.89	-0.397	0.691

T-test for independent samples. M – arithmetic mean; SD – standard deviation; t° – t-Student (t-test); Marked differences are significant at $p < 0.05^*$; Marked differences are close to statistical significance between ($0.1 > p > 0.05$) ~ Source: own research

The general conclusion of this analysis demonstrates comparable levels of output categories of behaviour of the pupils (cf., Table 1 and 2). The arithmetic means and standard deviations in both groups were more or less at the same levels.

This does not mean, however, that the results obtained here can be generalized and referred to the entire population of pupils from these classes. They provide justification to carry out further analysis in the case of using the experimental procedure to induce changes in pupils' behaviour.

Tables 3 and 4 summarize the arithmetic means, standard deviations, the value of the test of differences of t-Student for dependent pairs and their levels of confidence (on the basis of their level of statistical significance) for the result of the individual category of pupils' behaviour obtained by the participants in the experimental and control groups at the first and second stage of the research.

The comparison of assessment of the degree of results variation at the output level (pre-test) in the socialization category of the pupils participating in classes with the use of puppets with that at the final level (post-test) (cf., Table 3), i.e. after the implementation of the programme, leads to the conclusion that this category was at a statistically significant level ($p < 0.006$). The category of motivation was also at a statistically significant level ($p < 0.012$). This means positive verification of the adopted hypothesis. At the level of difference similar to a confidence level (at the level of difference close to the level of statistical significance) in the inhibition category ($p \sim 0.083$), differences in the arithmetic means between the pre-tests and post-tests favoured the latter. The anti-social category was non-statistically significant ($p > 0.159$) and its arithmetic means are characterized by a significant convergence on the overall results of the compared levels (cf., Table 3).

Table 3. Comparison of Pre-test of students' behaviours with Post-test – experimental group

Category	Experimental Group				Means Comparison	
	Pre-test		Post-test		to	P
	M	SD	M	SD		
Motivation	30.89	9.54	31.02	9.55	-2.591	0.012*
Anti-social behaviour	32.91	12.70	32.87	12.67	1.429	0.159
Inhibition	29.37	6.95	29.31	6.96	1.770	0.083~
Socialization	34.83	7.89	34.97	7.93	-2.832	0.006*

T-test for dependant samples. M – arithmetic mean; SD – standard deviation; t° – t-Student (t-test); Marked differences are significant at $p < 0.05^*$; Marked differences are close to statistical significance between ($0.1 > p > 0.05$) ~ Source: own research

Table 4. Comparison of Pre-test of students' behaviours with Post-test – control group

Category	Control Group				Means Comparison	
	Pre-test		Post-test		to	P
	M	SD	M	SD		
Motivation	31.77	8.79	31.83	8.82	-1.770	0.083~
Anti-social behaviour	30.12	12.34	30.08	12.31	1.429	0.159
Inhibition	27.93	7.05	27.89	7.04	1.429	0.159
Socialization	35.56	6.91	35.58	6.89	-1.000	0.322

T-test for dependent samples. M – arithmetic mean; SD – standard deviation; t° – t-Student (t-test); Marked differences are significant at $p < 0.05^*$; Marked differences are close to statistical significance between ($0.1 > p > 0.05$) ~ Source: own research

In the control group (cf., Table 4), all the categories of behaviour under examination show a lack of statistical significance. The arithmetic mean values are at a favourable level in the case of the final tests. These particular categories show a tendency towards minimum changes at the specific levels, although they lack statistical difference.

Summing up the results obtained which differentiate the levels of input and output related to the behaviour of the pupils in the experimental and control groups, as well as the relationships between the two groups, it is clear that they are comparable. However, at the first stage, the participants in the experimental group showed research higher values of arithmetic means in the following categories: anti-social behaviour and inhibition. The values in the categories: motivation and socialization at the pre-test stage in the experimental group were at a level similar to the level in the control group. In the experimental group, the intensive implementation of the bibliotherapeutic programme, both theoretical and practical, contributed to the positive changes in individual categories included in the general characteristics of the pupils' behaviour.

It is also an interesting fact that among the students in the control group, who did not participate in the programme with the use of puppets, there had been a positive change in the post-tests, which means that systematic schooling, curiosity connected with the cognitive experience and an increase in school maturity associated with age, contributed to positive changes.

Discussion

A willingness to participate in social contacts and the scope of ability to do this is very different among children with mild intellectual disabilities. The research presented in this publication only confirms this. The study was conducted with a group of insecure and over-sensitive children, who could not cope with failure and disappointment. Among them there were particular individuals with reduced motivation who rebelled against generally prevailing standards and principles. On the basis of the conducted observations, it was concluded that the problem mainly concerned issues of low socialization, reduced motivation, emerging anti-social behaviours and inhibition.

During the classes, an important element constituted learning coexistence and interaction with peers, cultural behaviour and respect for the work of others. The pupils' socialization, at a statistically significant level, was carried out with the help of hand puppets, which showed various forms of behaviour and their positive and negative consequences. The children listened to what the puppets said. The fact that the activities were carried out in a systematic way made the children wait for them from one week to the next. Following the work plan, clear guidelines of working in a group consistently led to the development of those behaviours that are socially desirable. Children with mild intellectual disabilities are not always interested in the experiences of others. Sometimes their behaviour is cruel to objects, animals and people. Here the inappropriate behaviour was limited by the awakening of social sensitivity.

Another category, the result of which was also at a statistically significant level, was motivation. This category includes those behaviours that define the duties of children towards the duties and tasks which are set down for them. The problem with the awakening of motivation in children with mild intellectual disabilities is not, as it turned out, an easy task. In the examined group of children, it was hard at the beginning to initiate a task and the children approached it very reluctantly. They generally did not understand why it was them who had to perform a certain task, much less what it was needed for. The classes helped to enhance motivation in the examined group of children. Efforts were made in a manner appropriate to the needs of the children in order to sustain the psychophysical state of experiencing, excitement and self-confidence.

In the category of inhibition, which was at a level close to being statistically significant, there was also a positive change – the children became less fearful. They became more self-independent and increased their confidence in the activities undertaken. They were able to control their anger better, and they behaved

differently when they experienced failure. It can be stated that timid children, who are afraid of speaking, develop self-confidence when working with puppets (cf., Lockey, 2007). In view of the above, it is not surprising that all teachers agree that puppets improve communication skills (Naylor, Keogh, Downing, Maloney, Simon, 2007, p. 296; O`Hare J., 2005, pp. 213–218).

It is important that in the remaining category, i.e. anti-social behaviour, even though the result is not statistically significant, some changes in behaviour were observed. One can even risk the statement that the children had become more sensitive to the presence of others in their environment.

The use of puppets in the bibliotherapy classes proved to be effective and the classes themselves were very enjoyable for both the children and the person who conducted them. The teacher prepared stories and arranged for a series of meetings. They were placed in special bags along with carefully chosen puppets (cf., Lockey, 2007). During the classes and reading aloud, each child held a hand puppet and in this way became the character from the story. Each story was read out loud (sometimes twice) and was followed by a discussion. The teacher asked questions related to the story that led the children to the main problem, in which the characters were involved. The pupils also asked their own questions, presenting them in a very vivid way, e.g., a puppet asked another puppet some questions. This was followed by a discussion on the characters and their behaviour. Sometimes the children together with the teacher made their own puppets, which were then used for their own productions.

Such productions facilitate memorizing content whereas standards and principles to be conveyed are more easily absorbed by children. It seems that children establish a dialogue with the puppets, listen to them more willing and even talk to them (cf., Lockey, 2007).

In future, research with the use of puppets while working with children with mild intellectual disability should be extended to include a greater number of participants.

Conclusions

Developing adaptive and mainly social skills is not simple because the very nature of intellectual disability includes a number of dysfunctions and disorders related to the senses, musculoskeletal system and psychological processes. It also affects the functions of intellect, and apathy and passivity appear, as well as a lack of developed higher feelings.

The aim of the research was to implement hand puppets to work with children with mild intellectual disabilities during bibliotherapeutic classes using rhymed fairy tales.

Through targeted activities and properly organised workshops with the use of puppets, as well as taking into account the child's mental and physical capabilities, children's adaptive behaviour can be influenced.

Despite some research on the usage of puppets in work with children – it is difficult to find many of those who would use both: rhymed fairy tales and puppets through bibliotherapeutic agenda in the group of children with mild intellectual disabilities. In literature, there are books which are based on therapeutic and psycho-educational help of children having different issues. None of them are based on rhymed stories– that is why they were created and reinforced by puppets in the group of children with mild intellectual disabilities.

It should be stressed that rhymed stories are more meaningful to the child and it is more likely that the plot would be more visualized and memorized.

It seems that every change of behaviour requires a certain community, certain conditions and most importantly – time. Changes in behaviour are not always immediately evident. It depends on the general suitability of the individual and possibly the person who carries out the project. Success sometimes means a tendency towards positive change.

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