

Journal Pre-proofs

Optimization of children's transition from preschool and family environment to the first grade of primary school in Slovakia by implementation of an Adaptation Programme

Tatiana Marcineková, Diana Borbélyová, Anna Tirpáková

PII: S0190-7409(20)31154-3
DOI: <https://doi.org/10.1016/j.chidyouth.2020.105483>
Reference: CYSR 105483

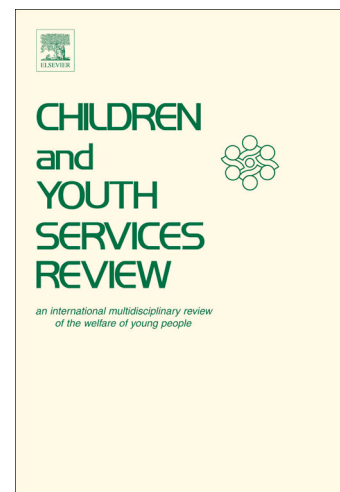
To appear in: *Children and Youth Services Review*

Received Date: 18 June 2020
Revised Date: 11 September 2020
Accepted Date: 11 September 2020

Please cite this article as: T. Marcineková, D. Borbélyová, A. Tirpáková, Optimization of children's transition from preschool and family environment to the first grade of primary school in Slovakia by implementation of an Adaptation Programme, *Children and Youth Services Review* (2020), doi: <https://doi.org/10.1016/j.chidyouth.2020.105483>

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2020 Published by Elsevier Ltd.



Optimization of children's transition from preschool and family environment to the first grade of primary school in Slovakia by implementation of an Adaptation Programme

Tatiana Marcineková^a, Diana Borbélyová^b, Anna Tirpáková^{c,1}

^a *Constantine the Philosopher University in Nitra, Department of Pedagogy, Slovakia*

^b *J. Selye University in Komárno, Department of Primary and Pre-School Education, Slovakia*

^c *Tomas Bata University in Zlin, Department of School Education, Czech Republic,*

^c *Constantine the Philosopher University in Nitra, Department of Mathematics, Slovakia*

Abstract

The presented contribution is devoted to the issue of children's transition from kindergarten and family environment to the first grade of primary school. This period is accompanied by several changes which bring about various adaptive difficulties for some children. An adaptation programme has been developed to mitigate or eliminate the difficulties, aimed at optimising the conditions in the transition period. In order to verify the effectiveness of the programme, a pedagogical experiment was carried out in selected primary schools in Slovakia. The results of the experiment were analysed using selected statistical methods. Experiments confirmed that the proposed adaptation programme had a statistically significant effect on the quality of the adaptation process. A significant improvement in pupils' adaptation occurred not only shortly after the application of the program, but the improvement also had a long-term effect.

¹ Corresponding author at: *Constantine the Philosopher University in Nitra, Tr. A. Hlinku 1, 949 74 Nitra, Slovakia*

E-mail addresses: diana.borbelyova@gmail.com (D. Borbélyová), tmarcinekova@ukf.sk (T. Slezáková), atirpakova@gmail.com (A. Tirpáková)

Keywords: adaptation process, adaptation difficulties, adaptation programme, optimization of school conditions, χ^2 - test, One sample Wilcoxon Signed Rank Test

JEL Classification Codes: I20, C10

Conflict of interest statement

Authors have no competing interests to declare.

Optimization of children's transition from preschool and family environment to the first grade of primary school in Slovakia by implementation of an Adaptation Programme

Conflict of interest statement

Authors have no competing interests to declare.

Abstract: The presented contribution is devoted to the issue of children's transition from kindergarten and family environment to the first grade of primary school. This period is accompanied by several changes which bring about various adaptive difficulties for some children. An adaptation programme has been developed to mitigate or eliminate the difficulties, aimed at optimising the conditions in the transition period. In order to verify the effectiveness of the programme, a pedagogical experiment was carried out in selected primary schools in Slovakia. The results of the experiment were analysed using selected statistical methods. Experiments confirmed that the proposed adaptation programme had a statistically significant effect on the quality of the adaptation process. A significant improvement in pupils' adaptation occurred not only shortly after the application of the program, but the improvement also had a long-term effect.

Keywords: adaptation process, adaptation difficulties, adaptation programme, optimization of school conditions, χ^2 - test, One sample Wilcoxon Signed Rank Test

1. Introduction

There are periods in an individual's life when their healthy development and stability may be jeopardised by not handling the various situations and requirements they face. These are mainly transitional periods or 'critical periods', according to psychologists also including children's transition from the intimate environment of their family and kindergarten to the formal environment of primary school (Vygotsky, 1976; Elkonin, 1988; Polivanova, 2009). This transition is also considered critical for children's academic and social development not only at the beginning of their schooling but also in its subsequent period (Bezrukich, Jefimovova, 2009; Hurrelmann, Bundel, 2003). Ensuring the conditions for a smooth course of the transition requires understanding the processes accompanying it. According to Elkonin (Elkonin, 1988), the personality of a child who passes from kindergarten and family to the first grade of primary school is characterised by reverberating characteristics typical of pre-school age and newly emerging characteristics typical of a younger school-aged child. The 'pre-schoolchild' is gradually becoming a schoolchild (Vekerdy, 2010), which means that a part of the child's newly evolving personality traits is its 'internal experience' (ability to reflect), which also affects their behaviour in relation to their role of a schoolchild as well as a classmate. In this context, children may reject the rules which they obeyed previously and 'test' the new limits of their possibilities and their own way of meeting the tasks and requirements of parents (Nekrasova, 2010). Parents' misunderstanding of these processes may indicate various problem situations.

Another characteristic of this period is the emerging social 'self', which is characterised by self-awareness and the person's place among other people. In order to identify with the new role, novice schoolchildren need to feel as a part of a new social group, receive recognition of their own activities from this group and find a decent place in it. The effectiveness of the adaptation process of children to initial systematic learning depends on both the level of school readiness and, last but not least, teachers' and school's readiness, including the readiness of the novice schoolchildren's parents (Martin, 2013; Slezáková, 2012; Chomenko, 2007). One means of regulating the process of school adaptation for the elimination of adaptation difficulties is to optimise the conditions in the school environment. Katreniaková, Madarasová Gecková and Sarková (2011, p. 83) state that school may be a significant health-supportive environment, while, on the other hand, it may present a health non-supportive and risk environment. We believe that early, intentional and well-considered prevention and precautions aimed at eliminating stress situations ought to be employed to prevent the undesirable phenomenon and the emergence of adaptation problems. One of the ways to solve this problem is to optimize school conditions through adaptation programs.

In Slovakia and the Czech Republic there are several development programmes that have been developed with the intention to enhance some of the children's competences prior to schooling, or intended for children whose schooling has been postponed. Teachers can implement for example 'Intervention Programme for Development of Prosocial Behaviour' (Kopasová, 2017), 'Programme for Effective Conflict Settlement' (Kopányiová & Smiková, 2013). Havlínová (1991) highlights the need to apply prevention programmes that promote the pupils' health. Havlínová's prevention program helps to support the healthy lifestyle of

pupils and to prevent the occurrence of various socio-pathological phenomena in the behavior of children and young people (drug addiction, bullying). However, not all of the above development programs are comprehensive, they focus only on a certain area of ability, competence, or rather skills (e.g. ability to empathize, assertiveness, mutual help, ability to deal with various conflict situations, etc.). According to Roľková (2014), however, it is necessary to implement comprehensive preventive and developing programs for beginning students, starting from kindergarten. At the same time, the focus of education should be placed mainly in the first years of primary school, i.e. at its 1st stage (Roľková, 2014, p.74). The same opinion is shared by psychologists who emphasize the need to apply adaptation programs such as prevention against stress and various stressful situations (Ooi, Nocita, Coplan, Zhu, & Rose-Krasnord, 2017; Huang, & Han, 2019).

Similarly Dockett and Perry (2001) recommend applying transitional programmes (transition-to-school programs) in school practice which are comprehensively intended to form a positive relationship between children, between parents and teachers (resources, facilities and space are defined at schools which enable carrying out joint meetings with children and parents), to support children and their ability to learn at their individual pace, acquire new knowledge based on their personal experience, to enhance the children's self-confidence in their own abilities, etc. In the transition period it is, according to the authors, important to actively involve all stakeholders in the process, i. e. the children, their parents, kindergarten teachers, primary school teachers as well as wider community.

Given the above facts, our effort was to create an adaptation program so that it is not only preventive but also suitable for eliminating stressful situations of pupils after entering the first year of primary school.

1.1. Objective of this study

Based on the above discussed facts and a thorough analysis of our educational reality, being inspired by foreign experience (Voroncov, 2009; Rumjanceva, 2012; and others), we decided to devise an adaptation programme entitled *'With a smile to school'*, which is intended for first-graders at primary schools in Slovakia, and also to test the effectiveness of the programme experimentally in practice. The main goal of the research was to experimentally verify whether the adaptation program created by us improves the process of pupils' adaptation to schooling. Another goal is to find out whether the effectiveness of the said adaptation program also has a longer-term effect. We monitored the mentioned long-term effectiveness of the adaptation program in three selected time stages, namely in September, October and February. We analyzed the results of pedagogical research using selected statistical methods.

2. Material and methods

The adaptation program "Smiling at School" is a complex of purposeful procedures that are focused on the beginning school-age child, especially on the development of his/her socio-

psychological skills. Part of the implementation of the program is also the control of the level of socio-psychological skills of each pupil through pedagogical diagnostics before and after the application of the program. The application of the adaptation program presupposes, among other things, the creation of suitable psycho - social and pedagogical-organizational conditions on the part of the school, teachers and educators in school clubs. Specifically, it is about accepting each pupil with his/her individual peculiarities, creating a safe supportive atmosphere and respecting the needs and interests of children in the form of play activities, activating methods and organizational forms. The benefit of the program is that the parents are also involved in the program. If necessary, school psychologists, special pedagogues and other experts are also involved.

2.1. Characteristics and methodology of the adaptation programme 'With a smile to school'

The adaptation programme '*With a smile to school*' consists of two modules which were implemented within one month. The first module '*Introducing a first-year pupil to school life*' was applied in the first week of September (the beginning of the school term). The second module '*A schoolchild already*' lasted three weeks (till the end of September). During the implementation of both modules, the first-grade teachers cooperated with the school club educators and with the first-graders' parents. School clubs for children are school educational facilities that provide school children with a place to prepare for classes and to relax outside school lessons and during school holidays. The cooperation with parents was carried out through parental meetings and individual consultations. The cooperation included activities intended to raise awareness and provide them with counselling. When the programme was completed, the school instruction followed the school standard practices. The teachers whose classes had been involved in the adaptation programme were allowed to include movement and drama games of their choice in the teaching process till the end of January.

The objective of the first-graders' teachers and the school club educators in cooperation with the first-graders' parents was, through an adaptation programme, to optimise the childrens' educational environment in order to strengthen their social and emotional competences (e.g. the first module: ability to make contact with the teacher and to cooperate with the teacher, cooperate with classmates; the second module: to establish an acceptable position in the classroom, be able to communicate effectively and deal with possible conflicts, to be aware of the importance of respecting rules related to proper behaviour etc.). By strengthening social and emotional competences, pupils were expected to learn gradually the most appropriate strategies to cope with the burden and comprehend the requirements and expectations arising from their new compulsory social role of schoolchildren.

The ultimate objective of the adaptation programme was to prevent or mitigate the first-graders' adaptation difficulties. The teachers' work with the adaptation programme was divided into two stages, which are described in following sections.

2.1.1. Stage 1: The first module of the adaptation programme 'Introducing a first-year pupil to school life'

Week 1: The implementation of initial diagnostics in order to determine the level of the pupils' school readiness, the implementation of pedagogical consultations for parents, and the implementation of the adaptation programme – Module 1 *'Introducing a first-year pupil to school life'*

The general objective of this module is to create appropriate psychosocial, pedagogical and organisational conditions allowing children's smooth and stress-free transition from their kindergarten (or family) environment to the first grade of primary school, and positively form their school motivation.

The operational (partial) objectives of the programme are to create an emotionally and educationally stimulating environment, to promote children's physical, mental and social health, to create and maintain positive contacts between children and teachers and between children and their peers, to shape children's appropriate behaviour and to prepare them for cooperation with classmates and teachers in the learning process. This stage covers gradual familiarisation of first-graders with school life through games, and adaptation to their new role as schoolchildren in the primary school environment. In this context, the programme is aimed at children's psychological and social grasp of the new life period and creation of certain adaptation mechanisms by which children can gradually restore their lost 'inner balance', and at the same time, the objective is to prevent or mitigate children's adaptation difficulties (e.g. low level of ability to make contact with other children, reluctance to respect classroom rules, low learning motivation, etc.). In new school conditions, through various activities and experiencing various situations, children are led to adapt smoothly and gradually to a new time structure, to new activities related to learning habits formation, and to the new character of teacher-pupil and classmate-classmate relations.

Specification of pedagogical and organisational conditions: During the application of the programme, the principle of gradual change of daily routines is applied, i.e. a gradual transition to learning activities is sought. In particular, this means that in the first week of the school term the periods of intentional learning are shortened (in the first three days, three shorter 30-minute lessons are organised). The changes also include the adjustment of the classroom so that frontal teaching, group and pair work can be performed. The classroom includes a relaxation corner and enough space for physical warm-ups. In the early days of schooling, the teacher uses organisational forms which the children should be familiar with, e.g. 'the morning session' (whole-class discussion about children's current feelings etc.), drama games which can help children get to know one another, various movement games and simulations. A school maturity test is carried out as part of a game (in Slovak it is referred to as 'pretend to be schoolchildren'). In the following days, a 'tour' of the school premises and gym is organised so that children can familiarise with them. This is followed by familiarisation with the teaching and learning process. Children are encouraged to respect the classroom rules (listening to others, safe behaviour, developing cooperation skills in groups and pairs, and the ability to work individually). Simultaneously, children are assisted to understand the meaning of 'you' and 'us'. At the same time, children get familiar with the principles of evaluation and are encouraged to grasp the meaning of positive and negative assessment, self-assessment, especially through various developing games and game-like activities.

The after school education continues in the school club, when frequent stay in fresh air is desirable. The school club educators apply, among other things, games aimed at establishing social contacts between children, and music-and-movement games. Similarly to the classroom activities, in the school club 'an afternoon session' is organised, comprising interviews with children aimed at discussing their current problems and queries. Individual 'consultations' for children are also provided. Active communication with parents is performed in form of parental meetings (once a week) and individual consultations. It also includes awareness-raising activities (leaflets, information brochures) and consultancy service. Parents are provided with the possibility of individual consultations every day in form of face-to-face meetings and telephone conversations. Work with children during school instruction and simultaneously in the school club during the first days of schooling is aimed at making children get to know one another, familiarising them with teachers, school premises, schedule and school equipment.

In the teaching process, we would take into account the need for gradual transition from playing to learning. With that was also consistent the choice of methods and organisational forms to enhance children's motivation to schooling and learning (use of movement games, learning through inquiry and discovery, use of fairy tales and drama games). The main organisational form, which was a lesson, was accompanied by organisational forms which the children had already been familiar with, such as 'the morning and afternoon sessions'. The teacher introduced various 'rituals' and signals such as 'the bell', 'the triangle', 'the fairy tale candle', etc. For example, before listening to a fairy tale, there was always a signal (the sound of a triangle) and a candle was lit. The bell announced the start of a session, whereas the tympani announced the start of social development games and 'alerted' children to focus on the assigned task. The drum signalled the start of work in workbooks, i.e. children were supposed to prepare their writing supplies and workbooks. These rituals and signals helped children gradually become familiar with the new rules, learn to handle various school situations, which differ from those in kindergarten.

2.1.2. Stage 2: The second module of the adaptation programme 'A schoolchild already'

September, weeks 2-4: Consultations for parents and awareness-raising, realization of the educational process through the adaptation programme, continuous diagnosis of pupils, analysis and evaluation of pupils' performance after the implementation of the adaptation programme.

The general objective of this module is to introduce children into the realm of school instruction, develop their emotional regulation, social competences and self-regulation skills. The point is to make children learn to cooperate, understand various social situations that emerge in the school environment, become able to behave properly and choose effective resolutions to problems, all this regarding their current abilities.

The operational objective of this module is to develop the various components of social competences and to gradually develop appropriate learning habits. The teacher leads pupils to show empathy in contact with others, teaches them to be attentive to others, their classmates, but also older schoolmates, adults, encourages children to communicate effectively, to become able to self-regulate their own behaviour and to perform objective evaluation and

self-assessment. Children gradually acquire learning competences and become aware of the social and educational aspects of the role of a schoolchild.

Pedagogical and organisational conditions: This module also makes use of games and sport activities, and children's cognitive activities are performed through inquiry and exploration. The module requires application of the principle gradual transition from game-like activities to intentional learning, which in practice means that within a 45-minute lesson at least 1-2 times a short (3-5 minutes) warm-up or game is included. There are longer breaks between lessons. The teacher continues to use non-traditional organisational forms and the classroom is adjusted to the pupils' needs. Similarly to the first module, the classroom comprises a relaxation corner and warm-up space. Pupils take their school supplies home only on Friday. The first lesson always starts with the morning session. In the middle of the week, the last lesson is organised in a non-traditional form, such as short walks and 'field trips'.

The development of children's social and emotional skills continues to receive great attention. This means knowing the importance of decent behaviour and courtesy in communication and in relationships, using 'magic words' and developing the ability to apologise and accept apology. The aim is to teach children to perceive positive human qualities and actions, express their own feelings and opinions, admit mistakes and learn to make contact appropriately. Applied games aimed at developing social competences were focused, for example, on the theme 'What should I do when I am angry?'. Our aim was to encourage pupils to control their anger, to recognise unacceptable forms of expression and their consequences, and to manage their impulsiveness, to become able to perceive others' feelings in conflicts and to try to resolve disagreements in a constructive and cultured way. The theme of the last week was the activity: 'Do I have any other option?'. We wanted children to avoid manipulation, to learn to prevent bullying and to receive help from others, and/or to learn to provide help to others in an appropriate way. The aim was to develop assertive behaviour, to teach pupils to reject unpleasant demands politely, to recognise a problem and to find a shared resolution. In doing so, we also wanted to promote the coherence of the group and to encourage children to understand that cooperation within the group is needed to achieve the objectives together and to succeed together. We also developed the skills of planning and taught to share work. By developing these skills, we helped children adopt strategies that will make it easier for them to cope with various situations during the adaptation period and help them cope with the role of a schoolchild.

The afternoon school club activities put emphasis on frequent stay in fresh air, and other games aimed at developing children's social competences are applied. An important role also plays the afternoon session, a discussion with children during which they have the opportunity to talk about their current difficulties and receive answers to their questions. The possibility of individual 'consultation' for children ensures intimacy and promotes emotional security. Individual consultations with parents are available daily.

Once the adaptation programme is completed, teaching follows standard school practices. The movement, music-and-movement and drama games according to the children's choice are frequently applied within lessons till the end of January. At this stage, the first-graders' parents are still provided with the educational and guidance activities of the teachers.

2.2. Experimental verification of the effectiveness of the adaptation programme

The adaptation programme was implemented in the school term 2017/18 in the first grade of urban and rural primary schools. As under current legislation compulsory education in Slovakia starts in the year when the child reaches the age of 6 before or on August 31, the research sample consisted of 106 pupils of six first-grade classes from three primary schools in Western Slovakia region, more specifically four classes from village schools and two classes from town schools. By means of random selection (drawing), the classes were divided into two groups: experimental (henceforth EXG) and control group (henceforth CG), with one EXG (21 pupils) and one CG (20 pupils) in the town, and two EXGs (35 pupils) and two CGs (30 pupils) in villages. In the EXGs (a total of 56 pupils), the adaptation programme was implemented, whereas in the CGs (a total of 50 pupils) education was conducted in a rather traditional way. Indicators of the successful course of children's adaptation to the school environment were the fulfillment of the teacher's requirements, positive motivation to learn, respect for the behavior rules, the ability to communicate with the teacher and classmates, the ability to regulate their behavior, etc. Based on this, we established the following research hypothesis for our pedagogical research:

H: The adaptation program *A schoolchild already* improves the process of adapting pupils to Schooling.

2.2.1. Methods of new data collection

Within the experiment, from a number of explorative methods and data collection a questionnaire was opted for, which served to map the level of socio-psychological adaptation of each pupil and the occurrence of adaptation difficulties. It contains 46 questions and is described in detail in Rumjanceva (2012). The questionnaire was administered for each pupil three times, in time intervals in September (immediately after the implementation of the adaptation program), then in October and February.

The questionnaire was completed as follows. If the teacher observed a certain manifestation in the pupil's behavior, which was characterized by the question, it assigned the pupil a positive answer "yes" to this question, otherwise it recorded the answer "no". Points were assigned to the individual answers as follows: positive answers ("yes") to questions no. 1, 2, 5-9, 12-14, 17-19, 22-27, 31-36, 41, 42 were assigned one point and positive answers to the other questions were assigned 2 points. No points were assigned to the negative answers to all questions. The maximum score that the pupil could get in the questionnaire was 70 points. The adaptation coefficient K (in %) was calculated by the formula $K = b/70 \times 100$, where b is the number of points obtained by the children in questionnaire (Rumjanceva, 2012). A higher questionnaire score indicated a higher occurrence of various adaptation difficulties and hence a lower level of pupil's adaptation. Based on the calculated adaptation coefficients, each pupil was assigned in a zone that expressed his level of socio-psychological adaptation. Based on the calculated adaptation coefficient (adaptation success indicator) in

percents, the pupil's adaptation level was determined and the pupil was assigned to one of the four following levels (Rumjanceva, 2012):

- Level 1 – up to 14.99% - very high adaptation level; score 0-10 (low occurrence of adaptation difficulties);
- Level 2 – ranging from 15 to 29.99% - medium adaptation level with some difficulty; score 11-20;
- Level 3 – ranging from 30 to 39.99% - risk adaptation level; score 21-27;
- Level 4 – more than 40% inclusively – problem level of adaptation (small adaptation - inability to adapt to school requirements)- score 28-70.

The questionnaire's questions were divided into areas revealing the nature of children's adaptation difficulties in the school. The first area concerns parents' refusal to cooperate with school. Other questionnaire areas are addressed as follows: pupils' school unreadiness - low learning motivation, underdeveloped elementary learning habits, lack of curiosity and spontaneity in learning, a weak will and little effort to overcome obstacles, inability to concentrate, etc. Another area of children's unreadiness concerns low level of their intellect, the absence of elementary competences related to linguistic and mathematical literacy, laterality (underdeveloped fine motor skills, left-handedness, etc.). A specific set of items in the questionnaire were questions identifying the occurrence of neurotic symptoms in children's behaviour (stuttering, nail biting, pen sucking), emotional immaturity (requiring physical contact, need for cuddling with the teacher, increased need to play during lessons), hyperkinetic syndrome (motor restlessness during learning, during breaks tendency to join noisy movement games, high distractability etc.), inertness of the nervous system (inability to cope with failure, inability to respond quickly and promptly to unexpected teacher's question, the need for slower transition from one activity to another), low intentionality of mental functions (inability to repeat teacher's instructions, even if the child has a good memory; clamouring for constant teacher's attention, high distractability by external stimuli), low learning motivation (bringing toys to school, unwillingness to do homework, low interest in new knowledge), asthenic syndrome (the child is often tired, cries a lot if something 'goes wrong', is unable to work within time limits).

The last set of questionnaire items consisted of questions aimed at identifying children's intellectual passivity (difficulties to understand teachers' instructions, inability to answer untraditionally asked questions, inability to perform tasks according to teachers' instructions, etc.).

Based on the results obtained by the questionnaire method, the teacher can assign pupils to the following four groups:

The first group includes children who are very well adapted to school life. They are mostly children who come from 'problem-free' families, where the parents are interested in what is going on at school. These pupils have the necessary knowledge and are well prepared for school. Also, they are responsible, but have a hard time coping with success.

The second group includes children with a medium level of adaptation. These children get often distracted and are therefore not able to complete all the tasks on time nor are they able to answer questions correctly. They require teachers' attention, they need to communicate with the teachers frequently and they need to have the instructions repeated over and over again. These children are insufficiently independent. Most of them expect informal behaviour

from the teachers (very sweet and cordial). Some children's fine motor skills are underdeveloped.

The third, risk group includes children who have greater adaptation difficulties. Plenty of adaptation problems are reported in these children in various combinations. The most common shortcomings are the following: Low intentionality of mental function, hyperkinetic syndrome, low motivation levels, reduced intellectual activity and school unreadiness. For children with these disabilities it is very hard to learn, as they get easily distracted by external stimuli. They can only concentrate on the tasks they are interested in. They often do not understand the teachers' instructions. During classes and breaks, they are often noisy. They perform their tasks very quickly, regardless the quality of their performance. Also, they refuse to do some activities. They, seemingly, cope easily with failures. These schoolchildren do not like to make efforts to overcome obstacles. They do not answer questions that require creativity. They often seek support in external stimuli.

The last, fourth group consists of children with serious problems, with a problem level of adaptation (maladaptation), who, as in the third group, have a large number of problems in various areas and high adaptation coefficients exceeding 40%. The children have learning difficulties, they get easily distracted by various external stimuli. They can only concentrate on the things they are interested in. They can not perform simple tasks according to the teachers' instructions, they can not understand the tasks, nor respond quickly. The distinctive thing is that the children all come from families where the parents are not interested in what is going on at school, do not cooperate with the school and only communicate with the teachers when it is absolutely compulsory. For these children, the adaptation difficulties also persist in the second half of the school year.

We analyzed the results of pedagogical research using selected statistical methods. In order to examine the statistical significance of the observed differences, χ^2 - test of independence was employed for a $k \times m$ contingency table (Markechová, Stehlíková, & Tírpáková, 2011). The testing hypothesis is the null hypothesis H_0 : variables A, B are independent; against the alternative hypothesis H_1 : variables A, B are dependent. The testing criterion is χ^2 which is defined as

$$\chi^2 = \sum_{i=1}^k \sum_{j=1}^m \frac{(f_{ij} - o_{ij})^2}{o_{ij}},$$

where f_{ij} are empirical frequencies and o_{ij} are expected frequencies. The tested null hypothesis H_0 is rejected at significance level α if the value of the testing criterion H_0 exceeds the critical value χ^2_{α} .

The test was performed by means of the programme STATISTICA. Having provided the software with input data, the following results were obtained for the selected χ^2 - test: a contingency table with frequencies of all the $k \times m$ combinations of variables A, B , the value of χ^2 - criterion and the p value. If the p value is small enough ($p < 0.05$ or $p < 0.01$), the tested hypothesis H_0 about the independence of variables A, B is rejected (at significance level

0.05 or 0.01). Otherwise, the hypothesis H_0 cannot be rejected, i.e. the observed differences are not statistically significant.

2.3. Research results

2.3.1. Comparison of adaptation process evaluation results in EXG and CG

Within the educational experiment, in September, October and February data were obtained which are summarised in Tables 1 to 3.

Table 1 Frequencies of CG and EXG pupils' levels of adaptation (September)

Group	Levels of adaptation (September)			
	Level 1	Level 2	Level 3	Level 4
CG	27	8	7	8
EXG	29	9	10	8

$$\chi^2 = 0,321, p = 0,956$$

Table 2 Frequencies of CG and EXG pupils' levels of adaptation (October)

Group	Levels of adaptation (October)			
	Level 1	Level 2	Level 3	Level 4
CG	24	11	9	6
EXG	41	13	2	0

$$\chi^2 = 14,775, p = 0,002^*$$

Table 3 Frequencies of CG and EXG pupils levels of adaptation (February)

Group	Levels of adaptation (February)			
	Level 1	Level 2	Level 3	Level 4
CG	34	8	7	1
EXG	49	6	1	0

$$\chi^2 = 8,183, p = 0,042^*$$

The obtained results, summarised in tables 1 to 3, show that the numbers of pupils in EXG and CG from September to February differ in levels of adaptation. We further examined if the differences were also *statistically significant*, i.e. *if the level of pupils' adaptation (measured in September, October or February) is related to the the pupils placement in CG or EXG. In other words, whether the adaptation behaved differently in CG and EXG.*

As already stated, χ^2 - test of independence for contingency table $k \times m$ was applied to verify if the pupils' adaptation level in September depends on the pupils' placement in CG or EXG. In this reserach, the observed variables are two qualitative variables A, B , where

* *Statistically significant values*

A refers to the groups of pupils and B refers to the adaptation level. The null hypothesis H_0 about the independence of variables A, B is tested at significance level $\alpha=0.05$. The obtained value of the testing criterion was $\chi^2=0.321$ and the value of probability was $p=0.956$. Since the p value exceeds 0.05, the hypothesis H_0 about the independence of the observed variables cannot be rejected at significance level $\alpha=0.05$. The test has shown that EXG and CG pupils do not significantly differ in their adaptation level in September. The obtained results are clearly recorded under Tables 1 to 3.

An analogous procedure was applied in verifying the statistical significance of adaptability level differences in EXG and CG pupils in October and February. The obtained results are summarised under Tables 2 to 3. Based on the obtained results we argue that EXG and CG pupils significantly differ in their adaptation levels in October. (In other words, the pupil's placement in EXG or CG significantly influences their adaptation level in October.). Table 2 also illustrates that frequencies of EXG and CG pupils (in %) differ in the adaptation levels. While Level 1 was reached by about 73% of EXG pupils, in CG this level was reached by as few as 48% of pupils. Similarly, while 12% of CG pupils reached Level 4, none of the EXG pupils reached this level.

Furthermore, based on the results which are shown in Table 4, at significance level $\alpha=0.05$ the hypothesis H_0 about the independence of the variables is rejected in another period – February. The test has shown that EXG and CG pupils do significantly differ in their adaptation levels in February. Table 3 illustrates that the frequencies of EXG and CG pupils (in %) in the adaptation levels are different. While Level 1 was achieved by about 88% of EXG pupils, this level was only achieved by 68% of CG pupils. Also, Level 4 was achieved by 2% of CG pupils, whereas none of the EXG pupils achieved this level. Based on the above results, obtained by statistical methods, it was confirmed that the adaptation program 'A schoolchild already' is effective. This confirmed the validity of the research hypothesis H.

2.3.2. Comparison of the results of the pupils' adaptation in EXG (also CG) in terms of the time course (periods September – October; October – February)

As we have already stated, another goal was to find out whether the effectiveness of the adaptation program also has a longer-term effect. We monitored the mentioned long-term effectiveness of the adaptation program in three selected time stages, namely in September, October and February.

A) Comparison of the results of the EXG pupils' adaptability level in terms of the time course

The subject of further statistical analysis was to determine whether the adaptation program we proposed has a long-term effect. So we found out *in which time periods significant changes took place in EXG pupils under the influence of the adaptation programme*. The mean values of scores achieved by EXG pupils in the adaptation assessment in the assessed periods are summarised in Table 4.

Table 4 Mean values of adaptation levels in given periods

Group	September	October	February
CG	13.36	12.82	9.64
EXG	13.66	7.50	4.57

Since there is no considerable reason to assume the observed variables to have a normal distribution, in order to verify the statistical significance of differences in the pupils' adaptation level in given periods a non-parametric one-tail one sample Wilcoxon Signed Rank Test (Markechová at all., 2011) was applied, which is a non-parametric analogy of the parametric paired t -test. The observed variables are X, Y , where X are the results of EXG pupils' adaptation level in September and Y are the results of EXG pupils' adaptation level in October.

The null hypothesis H_0 : *the medians of variables X, Y are equal* was tested against the one-tailed alternative hypothesis H_1 : The test was performed by means of the programme STATISTICA, which provided us with the following results: the value of testing criterion Z of the one sample Wilcoxon Signed Rank Test ($Z = 5.711$), and the p value ($p = 0.000$). The test can be evaluated based on the p -value. Since the obtained p -value is a very small number, the tested hypothesis H_0 is rejected at significance level $\alpha = 0.01$. This means that the EXG pupils' adaptation level assessment was significantly better under the influence of the adaptation programme (the scores were smaller). It can be stated that a statistically significant improvement was identified as early as in the first period, in October. While in September the mean score of EXG pupils' adaptation level was 13.66, in October it was only 7.5.

An analogous procedure was applied to compare the EXG pupils' adaptation level in October to the one in February. The obtained values were as follows, the testing criterion $Z = 5.820$, and the probability value $p = 0.000$. Since the p -value is smaller than the significance level $\alpha = 0.01$, the hypothesis H_0 is rejected at this significance level in favour of the alternative hypothesis H_1 . This means that the EXG pupils' adaptation level assessment under the influence of the adaptation programme significantly improved in this period (the mean score of EXG pupils' adaptation level in February was 4.57). Based on the above results, obtained using statistical methods, it was confirmed that the adaptation program '*A schoolchild already*' has a long-term effect. The long-term effect of the adaptation program '*A schoolchild already*' presupposes an improvement in the level of adaptation in the selected time horizon (from September to February) for those pupils who achieved a lower level of adaptation in the previous period. More precisely they had adaptation difficulties.

B) Comparison of the results of the CG pupils' adaptation levels in terms of the time course

Similarly to the part A), the subject of the statistical analysis was to examine *in which time periods significant changes took place in CG pupils*. The mean values of scores achieved by CG pupils in the adaptation assessment in the assessed periods are summarised in Table 4. For this purpose, the one-tailed one sample Wilcoxon Signed Rank Test was applied, which provided us with the following results: the value of the testing criterion $Z = 1.729$, and the

probability value $p = 0.083$). Since the p -value is greater than 0.05, the tested hypothesis H_0 cannot be rejected. This means that the CG pupils' adaptation levels assessment in October did not improve significantly compared to September. It can be stated that, unlike in EXG pupils, any significant improvement was not identified in CG pupils in the first period, in October. The mean score of CG pupils' adaptability in September and October was 13.36 and 12.82 respectively.

An analogous procedure was applied to compare the CG pupils' adaptability in October to the one in February. Applying the one-tailed one sample Wilcoxon Signed Rank Test in the STATISTICA programme provided us with the value of the testing criterion $Z = 5.302$ and the probability value $p = 0.0000$. Since in this case the p -value is smaller than the significance level $\alpha = 0.01$, the hypothesis H_0 is rejected at the significance level in favour of the alternative hypothesis H_1 . This means that the CG pupils' adaptation levels assessment in the second period improved significantly (the CG pupils' mean score in February was 9.64).

In conclusion, the use of statistical methods has been successful in demonstrating the effectiveness of the chosen adaptation programme for novice first-graders at primary school, also in terms of time factor. Whereas the CG improved the questionnaire scores first in the second stage, the EXG improved the questionnaire scores as early as in the first stage as a result of the implementation of the adaptation programme. In other words, the chosen adaptation programme was effective and helped speed up the children's adaptation to schooling.

3. Discussion

Based on the statistical analyses, it can be inferred that the effectiveness of the adaptation programme has been proven, and our hypothesis concerning the educational and psychological particularities of adaptation has been confirmed.

The analysis confirmed that the pupils of EXG and CG differed significantly statistically in the level of adaptation already in October. While approximately 73% of pupils from the EXG achieved the 1st level of adaptation, in the CG only 48% of pupils reached this level. Where e.g. 12% of CG pupils had the 4th level, but no EXG pupils reached this level. This means that in the experimental group due to our adaptation program, selected skills were strengthened in pupils (eg positive motivation for learning, ability to communicate with teachers and classmates, ability to adequately regulate their behavior, independence, etc.), which helped shape their socio-psychological status. Educators also worked with pupils in school clubs after school lessons. Part of the work on the program was the cooperation of teachers with parents. As a result, it was easier for pupils to identify with the role of pupil and classmate.

Similarly, based on the analysis of the results of the experiment using statistical methods, it was confirmed that the adaptation program '*A schoolchild already*' also has a long-term effect. This is evidenced by statistically significant changes in the dynamics of adaptation (achieved level of adaptation) in children from the experimental group, in whom adaptation difficulties were found after the implementation of our adaptation program. These were eliminated in October. In February, we found persistent difficulties in only one case. While in

the control group in 2% of children, signs of maladaptation (inability to adapt to new conditions) persisted. Our research have led us to the same results as the results of scholars who within researches conducted in their countries as well as internationally have proven that for a considerable amount of children the transition from kindergartens or from family environment to primary schools brings about various problems (Babajevova, 1990; Vágnerová, 2001; Řezáč, 1998; Slezáková, 2012; Hartl, Hartlová, 2009 etc.).

An optimized educational environment through an adaptation program may activate the adaptation potential of each pupil and establish their internal balance. In this case, the pupil is ready to successfully start his/her school career and achieve academic success not only in the beginning, but also in the following years of schooling. Many studies have shown that there is a link between the child's achievements in their early schooling, their school career and social realization later on (Perry, Dockett, 2003; Slezáková, Tírpáková, 2006; Rumjanceva, 2012; Gennadevna, 2012. According to Micheline (2012), innovation must have a positive social impact. Nemes (2001), Slezáková and Tírpáková (2006), Kósáné Ormai (2012), Masanskaja and Samsonova (2013), Slezáková (2012), Sergejevna (2008) and Jánošová (2008) came to the conclusion that the prime determinant of school adaptation and acceptance of the role of a schoolchild is the children's school readiness, which has also been proven by our experiment. The adaptation program created by us also helps to reduce the differences in children's school readiness and enables them to integrate into the new environment without major difficulties. Also, our findings achieved by means of the analysis of the experiment's results are in accordance with the results of Kovalevoj and Tarasenko (1990) who consider the following to be the most common determinants of school maladaptation: low learning motivation, insufficient intentionality of mental functions, neurotic and hyperkinetic syndrome, intellectual passivity, children's inadequate family background and their school unreadiness. Our finding are also in line with the findings of Sergejevna (2008) who came to the conclusion that the most common causes of school maladaptation are school unreadiness, insufficient mental functions, hyperkinetic syndrome and disorders of intellectual competences.

Based on the results of the experiment, we can state that the teachers experienced similar symptoms, which indicated possible problems in the above areas. As many as 25 children (23.58%) could not find their way into the tasks, they could not carry out the task according to the instructions provided by the teachers. Furthermore, it was observed that 35 pupils (33.01%) often did not respond to the essentials, they could not grasp the substantial and most important facts required in the tasks. As many as 38 pupils (35.84%) had difficulty in comprehending the teachers' instructions, they did not understand various terms. From the above it is possible to deduce that pupils did not have a sufficient level, developed elementary learning habits, intentionality of mental processes, insufficient level in the intellectual field, etc. These high percentages in problem areas at the beginning of the school term indicate that increased attention needs to be paid to this issue.

During the experiment, it was noted that the symptoms described above had largely resolved in the EXG as early as in the first stage. This improvement has also been demonstrated by the presented statistical method. As described above, in the CG the improvement in the first stage was not statistically significant. A significant improvement in the CG occurred only in the second period, but the rate of the improvement was lower than in

the EXG. Finally, the following problems were removed in the most significant way — that is to say, the frequency of these claims was significantly reduced:

- *'The schoolchild liked to play in classes.'* Based on the analysis of post-test results, out of a total of 30 pupils who had had problems in this area at the beginning, in 17 of them this problem was reduced within the adaptation programme. The problem persisted in only 13 children (4 from EXG and 9 from CG). Overall, 56.66% improvement rate was recorded. While the EXG improvement rate was 75%, the CG improvement rate was 64.28%, i.e. the improvement was significant in favour of EXG children.
- *'To unexpected teachers' questions, the child was not able to give a quick response. If provided time to think, the child was able to give the right answer.'* Significant improvements were also achieved in this area. Of the total number of children (63) at the end of the study, only 31 (12 from EXG and 21 from CG) still had this symptom. In 32 pupils (50.79%), the symptoms had vanished by February. In this case, too, there was a more pronounced improvement in the EXG. While the CG improvement rate was 30%, in EXG it was up to 63.63%.
- *'Very often the schoolchild gave the wrong answer if the question was non-standard. The child needed a more detailed explanation.'* Of the 51 pupils, the symptom persisted in only 21 children in February (7 from EXG and 14 from CG). The overall improvement rate was 58.82%. The improvement was significantly higher in the EXG. Whereas the EXG improvement rate was 75%, in the CG it was only 39.13%.
- *'The schoolchild's answers were more correct if the child had an external support, e.g. they could count on their fingers and so on.'* In February, only 19 pupils (4 from EXG and 15 from CG) experienced the above symptom compared to September (52 children). The overall improvement rate was very high (63.46%). However, the improvement was again higher in the EXG. Whereas the EXG improvement rate was 85.71%, in the CG it was only 37.5%.

In conclusion, based on the analysis of the results of the experiment, we would like to note that the benefits of the application of our adaptation program are, among other things:

- targeting pupils at the beginning of compulsory education in order to close the gap between children in their level of school competence. This significantly indicates the successful start of the school career and academic success not only at the beginning of schooling, but also in the following years of schooling;
- systematic and purposeful stimulation of pupils' psycho - social skills, which will enable them to integrate into the new community and find a suitable position in it, i.e. to eliminate 'exclusion' in the future;...
- creating an inclusive environment (respecting the possibilities and abilities of each pupil, creating individual conditions);
- teamwork of all stakeholders (teachers, parents, educators, school psychologists, special educators). These strategies are innovative in allowing all students to successfully adapt to their possibilities and abilities without having to create any specific conditions - they do not interfere with the normal running of the school;
- the program is flexible - it is available to teachers and teachers can adapt it or be inspired when creating their own programs.

4. Conclusion

It can be concluded that the application of the adaptation programme was successful in significant reduction of the specific symptoms of novice schoolchildren's adaptation difficulties.

It is important to note that if the symptoms of adaptation difficulties persist in the second half of the school year, there is a high risk that these children are unable to successfully start their school career and achieve academic success. If that is the case, expert advice is essential.

We are aware that currently the issue of transition of children from family and kindergarten to the first year of primary school requires attention from all stakeholders - teachers in pre-primary and primary education, children's parents, school psychologists, special educators, paediatricians, including employees of the Ministry of Education. The current government of the Slovak Republic has included among its contributions in the field of education, among other things, to increase the school success of all groups of children, especially children from vulnerable groups and children of national minorities. At the same time, it calls on educational institutions to be more sensitive to these children. We believe that it would be appropriate to focus pedagogical diagnostics on the identification of risk factors in education and their elimination by increasing the participation of these children in pre-primary education. We want to add that the adaptation program designed and experimentally verified by us can significantly help eliminate or reduce the adaptation difficulties of at-risk groups of children, help them successfully start their school career and achieve academic success according to their abilities and abilities not only at the beginning but also in subsequent years of schooling. .

Funding: This work was supported by the KEGA project no. 007 UKF - 4/2020 entitled The topic of the family in the system of training future teachers

References

- Babajevova, T. L. (1990). *Soveršenstvovaniye podgotovky detej k škole v detskom sadu*. Leningrad, 1990.
- Bezrukich, M. M., Jefimovova, S. P. (2000). *Rebjonok idjet v školu*. Moskva: Akademia, 2000. 146 p., ISBN 5-7695-0684-9
- Chomenko, I. (2007). *Osobnosti adaptaciji rebjonka k škole*. Available at: http://adalin.mospsy.ru/1_0400//1_04_01o.shtml
- El'konin, D. B., & Venger, A. L. (1988). *Osobnosti psichičeskogo razvitija detskej 6-7 letnego vozrastu*. Moskva: Prosveščeniye, 1988, ISBN 5-09-004193-8
- Gennadevna, S. N. (2012). *Puti uspešnoj adaptacii pervoklassnikov k škole*.(online). [Cit 2020-01-02] Available at: <http://nsportal.ru/nachalnaya-shkola/dlya-kompleksov-detskii-sad-nachalnaya-shkola/puti-uspeshnoy-adaptacii>
- Hartl, P., & Hartlová, H. (2009). *Psychologický slovník. (Psychological dictionary)*. 2.vyd. Praha: Portál, 776 p., ISBN 978-80-7367-569-1

- Havlíková, M. (1991). Školství a zdravý vývoj žáka (Education and healthy development of the pupil). *Pedagogika*, 41, 1991, č. 2, pp. 165 – 178 ISSN 0031-3815 (Print), ISSN 2336-2189 (Online)
- Huang, C-C., & Han, K. (2019). Social Innovation in Child and Youth Services. *Children and Youth Services Review*, vol. 103, pp. 173-177, ISSN: 0190-7409, Available at: <https://www.journals.elsevier.com/children-and-youth-services-review/special-issues>
- Hürrelmann, K., & Bründel, H. (2003). *Einfrührung in die Kindeitsforschung*. 2. akt. Auflage. Weinheim, Basel: Beltz Verlag, 219 p., ISBN-13:978-3407252821
- Jánošová, P. (2008). *Dívčí a chlapecká identita. Vývoj a úskali (Girl's and boy's identity. Development and pitfalls)*. Praha: Grada, 288 p., ISBN 978-80-247-2284-9
- Katreniaková, Z., Madarasová Gecková, A., & Sarková, M. (2011). Škola (School). In Baška, T. a kol. *Sociálne determinanty školákov*. HBSC –Slovensko 2009/10. Košice: Equilibria, pp. 83-90, ISBN 978-80-89284-73-3
- Kopányiová, A., & Smiková, E. (2013). *Riešenie konfliktných situácií v školách a školských zariadeniach (Resolving conflict situations in schools and school facilities)*. (Online) [cit. 2020-01-02], Available at: http://is.komposyt.com/pre-odbornikov/psychologicka-cinnost/preview-file/smikova-kopanyiova_riesenie-konfliktov-438.pdf
- Kopasová, D. (2007). *Intervenčný program rozvíjania prosociálneho správania žiakov ZŠ a špeciálnych ZŠ (Intervention program for the development of prosocial behavior of primary school and special primary school pupils)*. Vydavateľ: Metodicko-pedagogické centrum, Bratislava, 38 p. ISBN 8080522588
- Kósáné Ormai, V. (2012). *A mi iskolánk. Nevelépszichológiai módszerek az iskola belső értékelésében*. Győr: Széchenyi Nyomda Kft., 1998, 245 p., ISBN 963 8323 248
- Kovalevoj, L.M., & Tarasenko, N. N. (1190). Psychologičekij analiz osobennosti adaptacii pervoklassnikov k škole. In: *Načalnaja škola*, 2001, n. 2, pp. 271-281
- Markechová, D., Stehlíková, B., & Tirpáková, A. (2011). *Štatistické metódy a ich aplikácie (Statistical methods and their applications)*. Nitra, UKF, 534 pp., ISBN 978-80-8094-807-8
- Masanskaja, A. D., & Samsonova, M. V. (2013). *Problema adaptacii rebjonka – pervoklassnika k uslovijam školnovo obučenija*. Metodičeskij material. Krasnojarsk, 2013. 56 p.
- Michelini, L. (2012). *Social Innovation and New Business Models: Creating Shared Value in Low-Income. Markets (SpringerBriefs in Business) 2012th Edition*, 80 p., ISBN-10: 9783642321498 ISBN-13: 978-3642321498
- Nekrasova, N. N., & Nekrasova, Z. V. (2010). *Ty učis a my pomožem. Dlja roditelej a detej ot 5 do 10 let*. Sankt - Peterburg: Piter. ISBN 978-5- 49807-582-2
- Nemes, L. (2001). *Pszichogén tünetképződés a kisiskolás korban*. Budapest: Akadémia Kiadó, 2001, 140 p. ISBN 963-05-0119-8
- Ooi, L.L., Nocita, G., Coplan, R. J., Zhu, J., & Rose-Krasnord, L. (2017). Beyond bashful: Examining links between social anxiety and young children's socio-emotional and school adjustment. *Early Childhood Research Quarterly*, 41, pp. 74-83, ISSN 0885-2006, Available at: <https://www.sciencedirect.com/science/article/pii/S088520061730217X>,
- Polivanova, K. N. (2009). *Šestiletki. Diagnostika gotovnosti k škole*. Moskva: EKSMO. ISBN 978-5-699-33609-6
- Perry, B., & Dokett, M. (2003). *Starting school: perspectives of Australian children, parents and educators*. Edinburg: Heriot-Watt University, British Education Research Association Annual Conference.
- Roľková, H. (2014). Realizácia intervenčných rozvíjajúcich programov v podmienkach školy. In Gajdošová, E. (Ed.) *Psychológia-škola-inklúzia - 1. vydanie*. Fakulta psychológie

- Paneurópskej vysokej školy v Bratislave, 334 p. ISBN 978-80-89453-05-4, EAN 9788089453054, pp. 71-76.
- Rumjanceva, L. N. (2012). *Psychologo-pedagogičeskoje soprovoždenie adaptacionnovo perioda pervoklassnikov. Učebno-metodičeskoe posobie*. Južno-Sachalinszk: Izdatel'stvo achalinskij Gasudarstvennij Universitet, 2012, 136 p., ISBN 978-5-88811-425-4
- Řežáč, J. (1998). *Sociální psychologie (Social psychology)*. Brno: Paido, 268 p., ISBN 80-85931-48-6
- Sergejevna, A. N. (2008). *Adaptacija pervoklassnikov k školnym uslovijam*. Komplexnaja programma psihologičeskovo soprovoždenija detej dlja profilaktiki i korekcii školnoj dezadaptacii. [online]. [cit. 2020-04-15]. Available at <https://festival.1september.ru/articles/314289/>
- Slezáková, T., & Kurincová, V. (2013). Modelovanie edukačného prostredia v začiatočnom vyučovaní v kontexte adaptácie dieťaťa na rolu školáka (Modeling the educational environment in initial teaching in the context of the child's adaptation to the role of a schoolboy). In *Integrowanie dzialan dydaktyczno-wychowawczych w edukacj elementarnej*. Praca zbiorowa. Katowice, pp. 10-19, ISBN 978-83-92881-9-9
- Slezáková, T., Tirpáková, A. (2006). *Adaptácia dieťaťa na školu (Adaptation of a child to school)*. Nitra: Vydavateľstvo Michala Vaška, 2006. 191 p., ISBN 80-8050-968-9
- Slezáková, T. (2012). *Spoločne do školy*. Bratislava: Iris, 108 p., ISBN 978-80-89256-81-5
- Vágnerová, M. (2001). *Kognitivní a sociální psychologie žáka základní školy (Cognitive and social psychology of a primary school pupil)*. Praha: Karolinum, 306p., ISBN 80-246-0181-8
- Vekerdy, T. (2010). *Az óvoda és az első iskolai évek*. Budapest: Saxum Kiadó Kft., 207 p., ISBN 97-896324-810-2-9
- Voroncov, A. (2009). *Systema El'konina - Davydova. Pedagogičeskije uslovija realizacii adaptacionnogo perioda v pervom klasse škol razvivajučšeho obučenija*. [online]. [cit. 2019-08-23]. Available at: <http://nsc.1september.ru/articlef.php?ID=200801308>
- Vygotskij, L.S. (1976). *Vývoj vyšších psychických funkcí (Development of higher mental functions)*. Praha: SPN, 363 p., ISBN 80-7178-943-7

1. Elaboration and implementation of an adaptation program to eliminate adaptation difficulties of children in the transition from kindergarten and family environment to the first year of primary school.
2. Implementation of a pedagogical experiment to verify the effectiveness of an adaption program for selected primary schools in Slovakia.
3. The implementation of selected program has significantly accelerated the process of adapting children to initial education.
4. The adaptation program has strengthened the social and emotional competencies of pupils and improved their school motivation.

Conflict of interest statement

Authors have no competing interests to declare.