Viera Šilonová[1], Vladimír Klein[2], Petra Arslan Šinková[3]

# Effects of a Stimulus Programme for Socially Disadvantaged Children of Preschool Age in the Slovak Republic

## *Učinki programa za stimulacijo socialno prikrajšanih predšolskih otrok na Slovaškem*

**Povzetek**

Prispevek predstavi potenciale presejalne diagnostike socialno prikrajšanih otrok predšolske dobe v Slovaški republiki. Cilj diagnostike je identifikacija in posledična stimulacija osnovnih kognitivnih funkcij otrok, ki so prikrajšani zaradi nizkega socialnega statusa. Poudarek je na preventivi vzrokov učnih in vedenjskih težav v skladu s sodobnimi trendi inkluzivne pedagogike (specialne pedagogike) in psihološke diagnostike. Avtorji predstavijo rezultate pilotskega ocenjevanja učinkov programa za stimuliranje v okviru nacionalnega projekta Odprta šola, ki je bil izvajan od januarja 2016 do novembra 2019 v 120 osnovnih šolah in 50 vrtcih na Slovaškem. Poglaviten cilj pričujoče študije je bila ocena rezultatov na področjih okvirne diagnostike in posledične stimulacije socialno prikrajšanih vrtčevskih otrok, starih od pet do šest let. Na podlagi presejalnih ocenjevalnih pol je bil izdelan ocenjevalni instrument, namenjen ugotavljanju učinka stimulativnega programa pri 69 otrocih. Rezultati pilotske ocene prepričljivo potrjujejo pomembnost okvirne diagnostike in na njej temelječe stimulacije pet- in šestletnih otrok v vrtcu.

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Ključne besede: presejalna diagnostika, predšolski otroci, program za stimulacijo, nacionalni projekt Odprta šola

**Abstract**

The paper presents possibilities for the screening diagnostics of socially disadvantaged children of preschool age in the Slovak Republic. The goal was to enable the most accurate identification and subsequent stimulation of the basic cognitive functions of children disadvantaged by their low socioeconomic status. Emphasis is placed on the prevention of the causes of learning disabilities and behaviour disorders in line with current trends in inclusive education and inclusive pedagogical (special-pedagogical) and psychological diagnostics. The authors present the results of a pilot assessment of the effectiveness of the stimulus programme within the School Open to All (SOA) national project realised from January 2016 to November 2019 at 120 elementary schools and 50 kindergartens in Slovakia. The main goal of the present study was to evaluate the results in the area of indicative diagnostics and the subsequent stimulation of socially disadvantaged five- to six-year-old children from selected kindergartens. An evaluation instrument built on the screening evaluation sheets was used to identify the effectiveness of the stimulus programme in 69 children. The results of the pilot evaluation clearly confirm the significance of indicative screening diagnostics and the subsequent stimulation of five- to six-year-old children in kindergarten.

Keywords: Screening diagnostics, preschool age children, stimulation program, national project School Open to All (SOA).

## Introduction

Childhood socio-economic status is an important predictor of neurocognitive performance, particularly language and executive function, and it is associated with cognitive achievement throughout life (Hackman & Farah, 2009). According to Slovak law, a socially disadvantaged child or pupil is an individual who is living in a social, family, economic or cultural environment that does not sufficiently encourage the development of the child's cognitive and emotional qualities, and does not create sufficient conditions for the child's socialisation and adequate incentives for the development of the child's personality. In order to create better opportunities for socially disadvantaged children, the Slovak educational system currently requires positive efforts directed towards inclusive education.



An inclusive education system removes the barriers limiting the participation and achievement of all learners, respects diverse needs, abilities and characteristics and eliminates all forms of discrimination in the learning environment (UNESCO). It is obvious that in addition to the advantages of inclusive education, there are of course some disadvantages. Yet the findings of research into a comprehensive assessment of inclusion confirm that its benefits significantly outweigh the associated difficulties (Kochhar, West & Taymans, 2000).

Despite the fact that the law of the Slovak Republic does not support segregation related to either national minorities or ethnic groups, many cases confirm that an inclusive educational environment in schools has not been largely established yet (Šilonová & Klein, 2018; Vančíková, Sabo et al., 2018). Hence, the implementation of the School Open to All (SOA) national programme at 120 elementary schools and 50 kindergartens in Slovakia provides an opportunity with regard to the application of progressive innovative methods contributing to the positive changes and outcomes of involved subjects (SOA).

The School Open to All (SOA) national programme builds on the national Project of Inclusive Education (PRINED) realised in 2014. The SOA project aims to stimulate and support children from marginalised (mainly Roma) communities in Slovakia by educational staff in elementary schools and kindergartens. There were 150 educational professionals recruited and trained within the project, thus creating new placements for professional staff in the participating elementary schools and kindergartens. Booth and Ainscow (2002, p. 7) claimed that inclusion is an "…ideal to which schools can aspire but which is never fully reached". Moreover, the authors highlighted that inclusion happens as soon as the process of increasing participation starts. "Inclusion and exclusion are explored along three interconnected dimensions of school improvement: creating inclusive cultures, producing inclusive policies and evolving inclusive practices" (ibid., p. 8). The SOA national project can be seen as a good practice of this third dimension, by supporting staff in the process of identifying the resources within each other, students, parents/carers and local communities that can be mobilised to support learning and participation.

## Screening and School Preparedness

Screening is a method dedicated to the investigation of specific partial parts of the development of children attending kindergarten. Moreover, to prepare the preschool age children for elementary school, screening aims to propose additi-

onal development techniques required at this stage of education. It presupposes that the early identification of children with special educational needs, a relevant health condition or a socially disadvantaged background will significantly improve and optimise their position within the school environment and thereby eliminate the threat of delaying their school preparedness. In a study conducted by Wilson and Lonigan (2009), preschool children at risk of later reading difficulties were identified by using and evaluating two screening tools. They claimed that it is important for teachers to accurately identify children at risk for later reading difficulty in order to provide effective emergent literacy interventions.

Accordingly, the screening procedure should be performed within the initial four month period of the official school (and pre-school) year established in Slovakia – from September to December - in order to be followed by the stimulation part of the programme. If this requirement is not sufficiently achievable, it is recommended that it be conducted at least before elementary school enrolment (usually by the end of April). This still provides sufficient time for the identification of weakened areas of the child's development before the child actually starts school, or consideration of the need for an expert evaluation of school preparedness. In the first phase, screening is conducted in groups, for which the optimum number is 10 children per screener. The second phase of screening is individual, whereby experts monitor specific areas for each of the children separately.

As the screening identifies the areas that need to be stimulated, it should not be misunderstood as an evaluation tool for the delay of school attendance. The standards of the updated part of the *Screening Manual* and the innovated part of the *Stimulation Programme Manual* (Šilonová, Klein, Arslan Šinková & Souček Vaňová, 2018a; 2018b) aim to achieve the most precise identification and subsequent stimulation of the basic functions of the child. This is in line with the ECEC (Early Childhood Education and Care) programme offered by the OECD in the framework of the identification of key elements and approaches to education and care in early childhood. The content of the programme identifies and stimulates the areas which focus on school maturity and partial functions that are crucial for the school preparedness of children of preschool age. It is comprehensively implemented in the main strategic goal of the School Open to All (SOA) national project: "[Aim] *is to provide equal access to quality education and to improve the results and competences of children and youth by supporting inclusive education and improving the professional competences of educators and specialized staff*."

Innovation and updating of the mentioned manuals is based mainly on the innovation of manuals created in the PRINED (Project of Inclusive Education)



framework. The authors of the publication underline the prevention of the causes of learning and behavioural disorders in line with the current trends of inclusive education, inclusive educational (including special education) and psychological diagnostics up until the confirmation of the diagnosis by a child psychiatrist (Šilonová & Klein, 2018).

It is widely acknowledged that a large part of the emphasis in the preschool training of children must be placed on prevention and early intervention. Therefore, the diagnostic method, instead of focusing on knowledge gaps, primarily concentrates on the children's acquired knowledge. In case of a suspicion that a child might suffer from a partial function deficit, the presented method recommends examination by a certified Sindelar coach using the method of the Austrian psychologist Brigitte Sindelar. The purpose of this approach is to allow children to reach the appropriate level of development. It means that weakened functions should be improved to reach the level of the child's strengths or the non-weakened functions (Sindelar, 1998). The Sindelar method is thus a complete programme consisting not only of a diagnostic part, but also a training part (stimulation programme created individually for each child with diagnosed deficits of partial functions). As the evaluation is not performed using standardised methods and intelligence quotient (IQ) assessment is beyond the scope of the evaluation (unlike in various other psychological tests), it is called inclusive diagnostic. The Sindelar method is used to identify deficits of partial functions in order to efficiently help a specific child and thereby help the child's family (Sindelar, 2014).

## Research Methodology

The purpose of this pilot evaluation was to obtain information about the results of informative screening examinations and the application of the stimulation programme in kindergartens.

The main evaluation question of the pilot evaluation was: Is there a difference in the results of children that completed the stimulation programme in the entry and final informative screening examinations? The conclusions are drawn from the comparison of the test results of the same group of children before and after attending the stimulation programme.

The following steps can be identified:

1. The implementation of the SOA national project started in September 2017 with the creation of two screening and stimulation manuals. The final version

of the manuals was approved as late as mid-December 2017.

2. In the meantime, the recruitment process for SOA project subjects started. All involved elementary schools and kindergartens entered the project on a voluntary basis; the programme providers worked and attended workshops with enthusiasm as well as appreciation for the newly created jobs.
3. In February 2018, the authors of the manuals trained 150 professionals from elementary schools, represented by professional staff in education (school psychologists, special educators, social educators) who applied and were subsequently recruited for the 150 job positions newly created withing the SOA national programme.
4. During March 2018, the entry screening diagnostics were performed by recruited professionals for five- to six-year-old children in kindergartens participating in the SOA project. The parents of the children participating in the project were not directly involved in the stimulation programme. However, they provided an informed consent with the children´s involvement in the process as well as the consent with the processing of the required personal data.
5. During the period of April and May, daily stimulation of the children was performed by kindergarten educators and assistant teachers in kindergartens (in some cases, a school professional performed the stimulation of the children in elementary schools with kindergartens). Some of the selected kindergartens had no five- to six-year-old socially disadvantaged children at all in the school year 2017/2018.
6. In June of 2018, the output/final screening diagnostics of five- and six-year--old children in kindergartens participating in the SOA project took place.
7. The pilot evaluation was focused on measuring the effectiveness and efficiency of the stimulation programme. The process of the evaluation of the results of entry and final diagnostics in the SOA project was as follows:

- Evaluation of the contents of outputs (results from entry and final screening examinations of five- to six-year-old socially disadvantaged children in kindergartens),
- Specification, proposal and creation of pilot evaluation instrument for the evaluation of results from entry and final diagnostics, accentuating the efficiency of the stimulation programme,

Tables 1, 2 and 3 below show the areas and items of the evaluation instrument which were identical to the areas of the Screening Manual for Children of Preschool Age from Socially Disadvantaged Environments. While the Group Screening was applied to all selected socio-economically disadvantaged children, Screening 1 and Screening 2 focused on different areas and were applied



to the individual cases according to the children´s specific needs. As Screening 1 focused on the area of deficiencies, Screening 2 was dedicated to the area of symptoms.

Table 1

**Areas and Items of Evaluation Instrument – Group Screening**

| | | |
|---|---|---|
| **Group screening** | **Figure drawing (max. five points)** | Overall quality |
| | **Behaviour during group screening (max. five points)** | Unable to be separated from relatives/known individuals |
| | | (max. five points) |
| | | Lacks independence/ confidence |
| | | Emotionally ill-tempered |
| | | Negativistic |
| | Is the child from a disadvantaging social environment? | Yes/No |
| | Has the child been stimulated using the stimulation programme? | Yes/No |

Table 2

**Areas and Items of Evaluation Instrument – Screening 1**

| | |
|---|---|
| **Screening 1** | Visual differentiation of figure and background (max. six mistakes) |
| | Visual differentiation (max. six mistakes) |
| | Visual memory (max. six mistakes) |
| | Auditory differentiation of figure and background (max. 12 mistakes) |
| | Auditory differentiation (max. six mistakes) |
| | Auditory memory (max. seven mistakes) |
| | Tactile – kinaesthetic perception (max. six mistakes) |
| | Body scheme (max. four mistakes) |
| | Visual – auditory intermodality (max. nine mistakes) |
| | Auditory – visual intermodality (max. nine mistakes) |
| | Visual seriality (max. five mistakes) |
| | Auditory seriality (max. five mistakes) |

Table 3

**Areas and Items of Evaluation Instrument – Screening 2**

| | | |
|---|---|---|
| **Screening 2** | **Knowledge about oneself** (max. four points) | Name and surname of child |
| | | Age of child |
| | | Permanent address |
| | | Names of parents |
| | **Age, language and communication** (max. four points) | Pronunciation |
| | | Articulation |
| | | Intensity of speech |
| | | Problems understanding instructions in literary language |
| | **Vocabulary size** (max. 12 points) | Vocabulary size |
| | **Classification** (max. four points) | Classification |
| | **Mathematical skills** (max. four points) | Counting from one to 10 |
| | | Counting from 10 to one |
| | | Determination of quantity up to 10 |
| | | Basic geometric shapes |
| | **Dimension, quantity, order** (max. 10 points) | Dimension, quantity, order |
| | **Behaviour during individual screening** (max. five points) | Unable to be separated from relatives/known individuals |
| | | Lacks concentration/focus |
| | | Lacks independence/ confidence |
| | | Emotionally ill-tempered |
| | | Negativistic |

## Research Results

The concept of the evaluation instrument enabled us to identify several categories we used to perform the analysis of the collected data from the entry and final screening of socially disadvantaged children from kindergartens participating in the SOA project. We selected two specified criteria from the results of entry and final screening, considering the possibility of quantitative measurement. The analysis of the results of the diagnostic and stimulation process is displayed



below in the context of the following criteria:

1. Criterion K1: descriptive statistics of the sample.
2. Criterion K2: results of entry and final screening diagnostics.

The research testing of the results of the diagnostic process focusing on the efficiency of the stimulation programme implemented for socially disadvantaged children in kindergartens took place according to the time frame shown in the following table.

Table 4

**Time Frame of Testing the Results of the Diagnostic and Stimulation Process**

| Period | Tasks performed |
|---|---|
| January 2018 – February 2018 | Analysis of contents of the SOA national project manual and the screening and stimulation manuals. |
| February 2018 – March 2018 | Preparing the pilot evaluation instrument and instructions for the editing thereof. Specification of the selection criteria of the research sample. |
| March 2018 | Sending instructions for elementary school professionals for editing screening data. |
| April 2018 | Editing and adjustments of data collected during entry screening (made in March 2018 by elementary school professionals) by processing recording sheets titled Group Screening, Screening 1 and Screening 2. |
| May 2018 – June 2018 | Editing and adjustments of data collected during final screening (performed in March 2018 by elementary school professionals) by processing recording sheets titled Group Screening, Screening 1 and Screening 2. |
| June 2018 | Specification of comparison criteria and analysis of data collected during entry and final screenings diagnostics. Selection of statistical methods necessary to process the results. |
| July 2018 – August 2018 | Statistical processing of the results. Analysis of results and interpretation of findings. |

## Research Sample Characteristics

### Criterion K1: Descriptive Statistics of the Sample

Goal: Identify statistical characteristics that provide basic information about the analysed statistical file.

A total of 50 kindergartens participated in the SOA national project. The pilot evaluation included 13 kindergartens and 69 socially disadvantaged children.

The following criteria were required for the inclusion of kindergartens in the pilot evaluation:

- School professionals in the kindergarten perform entry and final screening examinations of socially disadvantaged five- to six-year-old children.
- The existence of at least a partial stimulation programme for the diagnosed children.

## Criterion K2: Results of Entry and Final Screening Diagnostics

Goal: Identify whether there is a statistically significant difference between the entry and final screening results of children in the research sample.

The recorded results of the entry and final screening examinations were evaluated using a holistic approach. The results of the entry and final screening comprised two parameters related to each subject (child) of the statistical sample. **A paired t-test** was used for items with other than binary scoring. **A Pearsons chi-squared test** (for a four-field table) was used for items with nominal scoring. One group of tests is designed only for four-field contingency tables (2x2) with two dichotomous (nominal) variables; our sample corresponded to this in two measurements with nominal values (yes – no). For a four-field table, the chi-critical is 3.841 as the number of degrees of freedom equals 1.

The research sample consisted of all diagnosed children (69) who completed the entry and final screenings. Thus, we had a single sample with n pairs of measurements, n = 69. The statistical results of the pilot evaluation confirmed that the overall results of the final screening were statistically significantly better than the results of the entry screening in several areas.

A total of 16 items were measured using the t-test, eight of which were statistically significant (Table 5). The areas of Screening 1 focused on the deficits of partial functions. The average number of errors is statistically significantly lower in the final phase – i. e. after stimulation programme. A statistically significant improvement occurred in areas included in Screening 2, especially in two areas: Classification and Dimension, quantity, order.



Table 5

**Results of Binary Scored Items Using T-test (N = 69)**

| Item | Input | | Output | | T-test | p |
|---|---|---|---|---|---|---|
| | AM | SD | AM | SD | | |
| Figure drawing | 2,99 | 1,06 | 2,71 | 1,14 | 1,47 | 0,145 |
| **Visual differentiation of figure and background** | **1,09** | **1,46** | **0,59** | **1,00** | **2,31** | **0,023** |
| Visual differentiation | 1,96 | 1,74 | 1,55 | 1,79 | 1,35 | 0,179 |
| Visual memory | 2,17 | 1,84 | 1,67 | 1,75 | 1,66 | 0,100 |
| **Auditory differentiation of figure and background** | **5,29** | **3,09** | **4,13** | **3,23** | **2,15** | **0,033** |
| Auditory differentiation | 2,13 | 1,72 | 1,77 | 1,69 | 1,25 | 0,215 |
| Auditory memory | 1,96 | 1,72 | 1,41 | 1,68 | 1,90 | 0,059 |
| Tactile – kinaesthetic perception | 1,43 | 1,67 | 1,09 | 1,39 | 1,33 | 0,185 |
| **Body scheme** | **2,45** | **1,32** | **1,83** | **1,35** | **2,74** | **0,007** |
| Visual – auditory intermodality | 1,61 | 2,33 | 1,06 | 1,86 | 1,53 | 0,127 |
| **Auditory – visual intermodality** | **1,87** | **2,21** | **1,19** | **1,61** | **2,07** | **0,040** |
| **Visual seriality** | **2,10** | **2,24** | **1,32** | **1,74** | **2,29** | **0,023** |
| **Auditory seriality** | **1,58** | **1,84** | **0,80** | **1,29** | **2,89** | **0,004** |
| Vocabulary size | 10,45 | 2,16 | 10,80 | 1,61 | -1,07 | 0,286 |
| **Classification** | **2,62** | **1,53** | **3,14** | **1,28** | **-2,17** | **0,032** |
| **Dimension, quantity, order** | **5,99** | **2,61** | **7,06** | **2,47** | **-2,48** | **0,014** |

Notes: p – significance level

Table 6

**Results of Nominally Non-Scored Items Using Pearsons Chi-Squared Test (N = 69)**

| Item | chi-squared | p |
|---|---|---|
| Group screening, unable to separate from relatives/known individuals | 1.465 | 0.226 |
| Group screening, lacks concentration/focus | 1.425 | 0.233 |
| **Group screening, lacks independence/confidence** | **4.328** | **0.038** |
| Group screening, emotionally ill-tempered | 1.465 | 0.226 |
| Group screening, negativistic | 0.487 | 0.485 |
| Knowledge about oneself, name and surname | 0 | 1 |
| **Knowledge about oneself, age** | **7.07** | **0.008** |
| **Knowledge about oneself, permanent address** | **8.348** | **0.004** |

Notes: p – significance level

| Item | chi-squared | p |
|---|---|---|
| **Knowledge about oneself, names of parents** | **5.088** | **0.024** |
| **Speech, language and communication – pronunciation** | **5.682** | **0.017** |
| **Speech, language and communication – articulation** | **5.109** | **0.024** |
| Speech, language and communication – speech intensity | 2.044 | 0.153 |
| Speech, language and communication – problems understanding instructions in literary language | 0.029 | 0.864 |
| Mathematics skills – counting from one to 10 | 0.049 | 0.825 |
| **Mathematics skills – counting from 10 to one** | **4.325** | **0.038** |
| **Mathematics skills – determination of quantity up to 10** | **4.381** | **0.036** |
| Mathematics skills – basic geometric shapes | 0 | 1 |
| Individual screening – unable to separate from relatives/ known individuals | 1.465 | 0.226 |
| Individual screening – lacks concentration/focus | 2.904 | 0.088 |
| **Individual screening – lacks independence/certainty** | **4.328** | **0.038** |
| Individual screening - emotionally ill-tempered | 1.082 | 0.298 |
| Individual screening – negativistic | 0.272 | 0.602 |

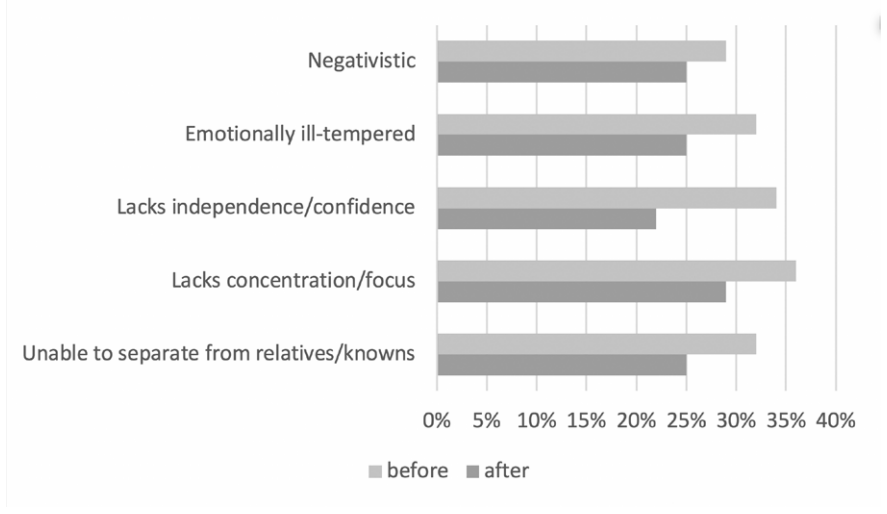
Notes: p – significance level

Of the monitored areas shown in Table 6, nine out of 22 were statistically significant. According to these results, the application of the stimulation programme was justified, even in this abbreviated pilot form.

The application of the stimulation programme had a statistically significant impact on the independence and certainty of children in group activities (chi-squared = 4.3; p = 0.038). The results showed that after the application of the stimulation programme, the number of children who lacked independence/ certainty decreased significantly (from 49.3% of children in the entry phase to 31.9% of children in the final phase).

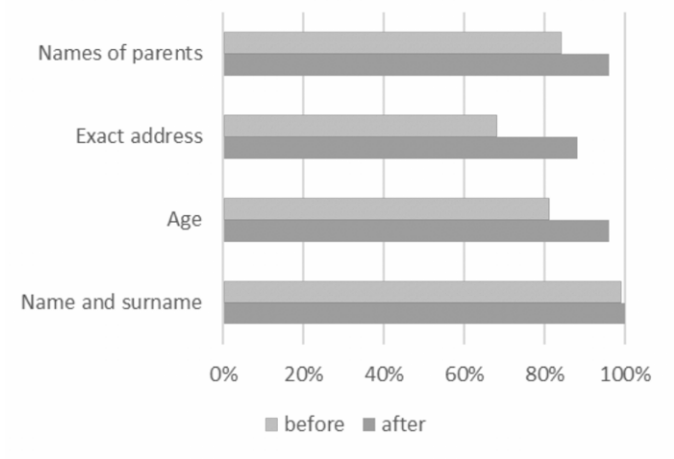


**Chart 1**
**Behaviour During Group Screening (Source: SOA national project)**




Concerning the knowledge of oneself – name and surname item- in the entry phase, there was only one child that did not know this information and this did not change after the pilot phase. Thus, this result was insignificant, but it can be concluded that the children already had this information at entry and thus it was not necessary to focus the stimulation programme on this area. Statistically significant shifts occurred in other areas of knowledge about oneself, specifically in the items age, address and names of parents. In knowledge about oneself – age (chi-squared = 3.8; p = 0.008), after the application of the stimulation programme, more children knew their age (from 81.1% at entry to 95.6% of children in the final phase). In the area of knowledge about oneself – exact address (chi-squared = 3.8; p = 0.004), after stimulation, more children knew their exact address (from 68.1% of children at the entry to 88.4% in the final phase). The last statistically significant item in the area of knowledge of oneself were the names of parents (chi-squared = 3.8; p = 0.024), which 84.1% of the children knew at the entry phase and as many as 95.6% in the final phase.

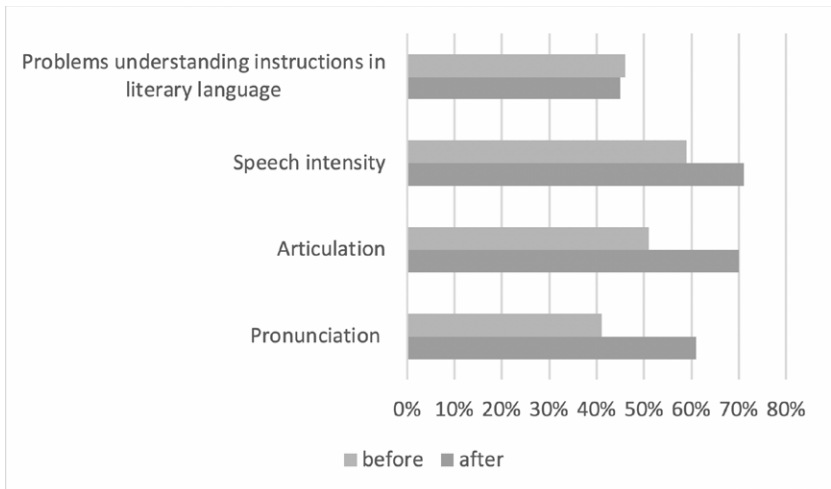
Chart 2
**Knowledge About Oneself (Source: SOA national project)**




In the area of speech, language and communication, the pilot evaluation found statistical significance in two items, specifically in pronunciation and articulation. Pronunciation (chi-squared = 3.8; p = 0.017) was correct for 40.6% of the children at entry and 60.8% in the final phase.

In the articulation item (chi-squared = 3.8; p = 0.024), 50.7% of the children were skilful in the entry screening and 69.5% in the final screening. A significant improvement was recorded in this area.

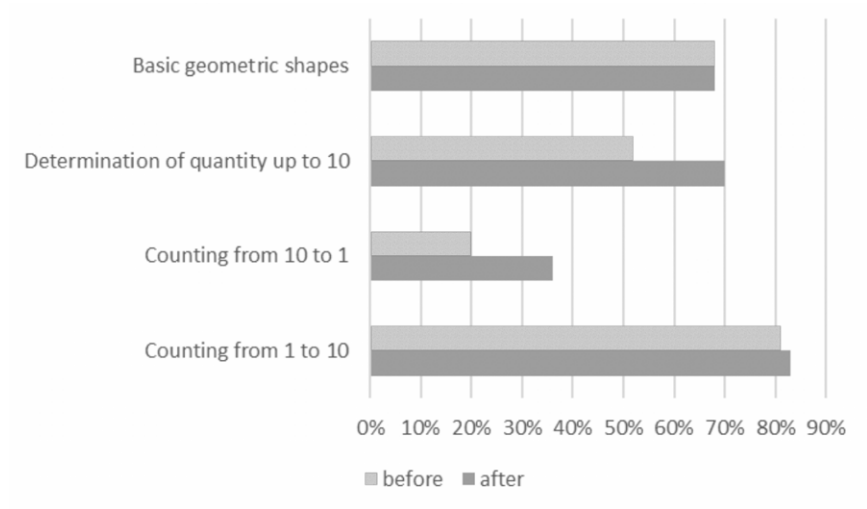
Chart 3
**Speech, Language and Communication (Source: SOA national project)**





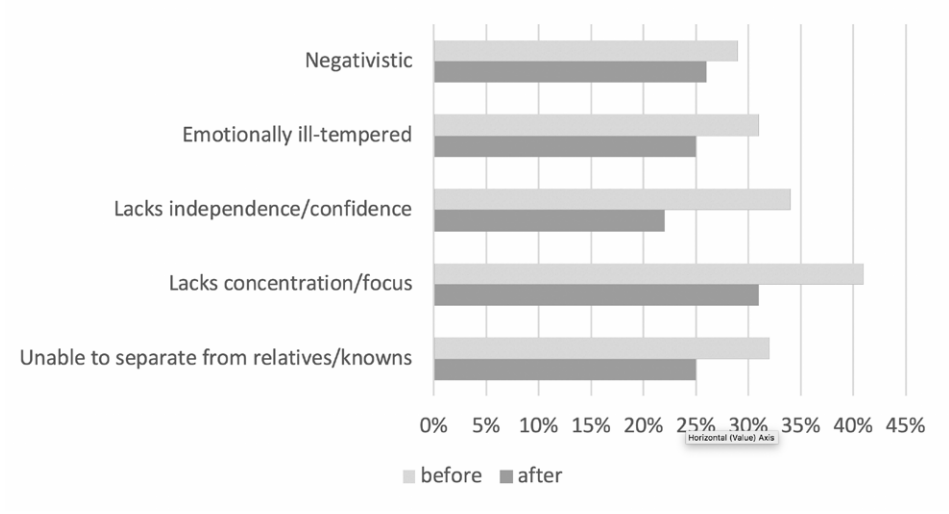

A statistically significant improvement occurred in mathematics skills in two items. The first item was counting from 10 to 1 (chi-squared = 4.3; p = 0.038) and the results showed that in the output screening, more children were positive (from 20.2% at the entry to 36.2% at the final screening). The second item – determination of quantity up to 10, significantly improved (chi-squared = 4.4; p = 0.036). In the final screening, more children were positive (from 52.2% at the entry to 69.5%).

Chart 4
**Mathematical Skills (Source: SOA national project)**




The application of the stimulation programme had a statistically significant impact on the independence and certainty of children in individual activities (chi-squared = 4.3, p = 0.038). The results show that after the application of the stimulation programme, the number of children that lacked independence/certainty during individual screenings decreased substantially (from 44.9% of children at entry to 36.2% of children in the final screening).

Chart 5
**Behaviour During Individual Screening (Source: SOA national project)**




## Conclusion

At this point, it is important to underline that the pilot evaluation in the entry and final screening measured 38 areas, of which 16 were statistically significant; this was a success rate of 42.1%. Concerning the other areas that were not statistically significant in the results, we state that the stimulation programme has been shown to be justified in enabling the children to make progress despite the short time of application during the pilot evaluation. The progress was not always statistically significant; however, this does not reduce its potential educational significance in the comparisons that are not negligible in practice. It does not necessarily mean the programme was not successful in these areas. The issue with insufficient statistical significance can be related to the low sample size. According to the results of this pilot testing of the stimulation programme, it is also possible to predict that a longer application would reflect the knowledge and skills of the children and statistically significant differences would appear in more areas in the final phase, compared to this pilot testing of the programme and the methodology.

The main goal of the pilot evaluation was to evaluate the results in the area of indicative diagnostics and the subsequent stimulation of socially disadvantaged five- to six-year-old children from selected kindergartens. We used an evaluation



instrument built on the screening evaluation sheets. The conclusion can only be generalised in the framework of the intentional selection of kindergartens subject to selection criteria characteristics relevant to the research and/or one of the key questions of the pilot evaluation related to the statistical significance of differences between the entry (informative) screening examination and final screening examination.

Moreover, we can conclude that, overall, the children from selected kindergartens received statistically significantly better results in the final informative screening examination than in the entry screening. Partial evaluation according to stimulated areas has also shown that children from kindergartens participating in the pilot evaluation achieved statistically significantly better results in the final screening measurement (16 areas out of 38) in comparison to the results of the entry screening. The overall success rate was 42.1%.

In the area of inclusive approaches to the diagnostics of socially disadvantaged children and pupils, the authors of this article recommend the following necessary tasks:

- Perform screening examinations and subsequent stimulation as early as preschool age for socially disadvantaged children and pupils, preventing the incorrect inclusion of children in the special education system.
- Accentuate the diagnostics and training of deficits of partial functions using the methodology of Brigitte Sindelar and focus on development of partial functions in socially disadvantaged children as early as preschool age.
- During informative screening and stimulation, use of the *Screening Manual for Socially Disadvantaged Children of Preschool Age* and *Stimulation Manual for Socially Disadvantaged Children of Preschool Age* that were created in the SOA NP.
- Strengthen the position of professional staff in kindergartens and elementary schools (school special educator or school psychologist – according to the needs of the school), e.g. by providing extensive professional training.
- Create a unified consulting system – '*one door system*' by merging centres of educational counselling and prevention.
- Ensure by law that if there is a suspicion of mental deficiency (as a diagnosis within the ICD 10), centres of educational counselling and prevention must recommend the diagnostic medical (psychiatric/neurological) examination in order to confirm the health disadvantage or disability of the child clinically. The child (pupil) will receive a recommendation to be educated as a child (pupil) with a mental disability – light mental deficiency.

The results of the pilot evaluation clearly confirm the significance of indicative screening diagnostics and subsequent stimulation of five- to six-year-old chil-

dren in kindergarten. This implies that the majority school system must accept inclusive orientation as an efficient approach to the education and socialisation of children and pupils by:

- Eliminating discriminating attitudes,
- Creating welcoming communities,
- Building an inclusive society,
- Achieving common education for everyone without differences (Šilonová & Klein, 2018).

By providing equal access to quality education, the SOA project not only supports the inclusive education of school age children, but also tries to improve the professional competences of expert employees in the area of education. The creation of an instrument for informative diagnostic screening and stimulation significantly contributes to the acceleration of the development of socially disadvantaged children of preschool age. Accordingly, the probability of their successful inclusion in the process of education on the next schooling level will significantly increase.

The presented pilot study has some specific limitations which need to be taken into account. For instance, the results could have been influenced by the effects of the natural maturation of the children involved in the research sample. Moreover, the conclusion cannot be generalised to all socially disadvantaged children of preschool age in the Slovak Republic. On the other hand, particular stimulation of involved children significantly increased the probability of their successful inclusion on the next schooling level. The long-term effect of the stimulation programme should be the subject of ongoing observation.

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