

LEARNING DISABILITIES THROUGH A PROGRAM THAT IS BASED SINDELAR METHOD

KARLA PETER*, VASILE CHIS**

ABSTRACT. One of the problems facing more and more teachers, students and parents of students in learning during primary school are the difficulties which appear as obstacles in the learning activities which can prevent the student to achieve at the same school the other peers (the same age, intellectual level) without any a defect or disability visible and recognizable. In many cases these obstacles are due to not developing or disharmony development of instrumental functions, of which the most important seem to be: visual and acoustic perception, visual attention and the acoustic, visual memory and verbal-acoustic perception serial encoding intermodal motility verbal, visual-motor coordination and spatial-temporal orientation.

This paper aims at demonstrating how instrumental that features students with learning disabilities can be developed using a program that is based Sindelar method, but was adapted to the requirements of the Romanian education system.

Keywords: *learning difficulties, instrumental functions, development*

ZUSAMMENFASSUNG. Eines der Probleme die Lehrer, Schuler und Eltern die primär Schule besuchen sich mehr und mehr öfter konfrontieren, sind Lernschwierigkeiten, die als Hindernisse in der Lernentätigkeit erscheinen. Diese Hindernisse können den Schuler verhindern identische Leistungen mit den anderen Kollegen zu erhalten (im gleichen Altern, mit der selber intellektueller Niveau) ohne sichtbare Mängel zu haben. In sehr vielen Fallen, diese Hindernisse erscheinen wegen der Unterentwicklung oder der disharmonischer Entwicklung der instrumentallen Funktionen, von denen die wichtigste sind: visuelle und akustische Wahrnehmung, serielle Wahrnehmung, intermodale Verschlüsselung, verbale Motilität, visuelle Koordination, Koordination der Bewegung und räumliche und zeitliche Orientierung.

Diese Schreibearbeit schlägt sich vor die Weise vorzuführen, dass instrumentallen Funktionen der Schuler mit Lernschwierigkeiten. Diese Funktionen werden entwickelt, durch die Verwendung eines Programmes, der an der Grundlage die Sindelar Methode hat, aber der angepasst war entsprechend den Problemen der rumänische Erziehungssystem.

Schlüsselwörter: *Lernschwierigkeiten, instrumentallen Funktionen, Entwicklung.*

* Lect.drd., University of Oradea, Faculty of Socio-Human Sciences, Department of Educational Sciences, Oradea, Romania, kpeter@uoradea.ro

** Professor PhD, Faculty of Psychology and Education Sciences, Education Sciences Department, Babeş-Bolyai University, Cluj-Napoca, Romania, vasile.chis@ubbcluj.ro

1. Introduction

Concerning the definition, characterization and recognition of students with learning difficulties dating from the early 60s, is relatively recent. The term "learning difficulties" was introduced into Anglo-Saxon literature, in 1963. In our country, research concerns learning difficulties were started in the '70s. In studies published in that period, were treated, especially difficulties encountered characteristics of normal and disabled students from various disciplines, the various stages of schooling. Years following definitions were based on comprehensive and generalized learning disorders, as well as comprehensive range of learning difficulties and have made numerous researches on this field. Of all the definitions analyzed it can be concluded that a student has learning difficulties if:

- there is a significant difference between capacities and educational performance achieved;
- progress in learning it is minimal or insignificant, for a period of time;
- it has a disability / incapacity which prevents him to use the educational facilities are made available to children of same age;
- working in schools at a lower level peers;
- it has persistent difficulties in learning in literacy and numeracy;
- it has emotional and behavioral difficulties that prevent frequent and considerable learning of the child or the whole class;
- it has sensory and mental disabilities that require more specialized equipment or services;
- it has ongoing communication and interaction difficulties that it prevents the development of balanced social relationships and form obstacles in the learning process.

2. Objectives

- to assess the main instrumental features that may cause learning difficulties;
- to design / design and implementation of intervention programs for children with learning difficulties to develop their instrumental functions affected;
- to record, monitor and compare the results obtained by students in the experimental group and control pretest, posttest and retest.

Assumptions

- Suppose that by introducing a program to stimulate cognitive processes instrumental functions of children with atypical development (learning difficulties), a program that is based Sindelar method, they will improve visible;
- Null hypothesis (Ho): development of instrumental functions of students with learning difficulties are due to chance;

- Independent variable:
A - type of intervention (cognitive stimulation instrumental functions);
a0 - control group without intervention;
a1 - the experimental group cognitive stimulation program under Dependent Variable: X-function tool developed.

Subjects

The experiment included a total of 60 students with learning difficulties, 30 part of the experimental group and 30 in the control group. All subjects are students in grade III of traditional education, aged between 9 and 10 years, belonging to both sexes, from rural and urban schools.

3. Methods

Psychosocial observation is considered one of the fundamental methods because it requires direct contact with reality and ensures high reliable data, which will then be subject to mandatory processing and interpretation. This observation is recommended to be made by the teacher / tutor, as are people prepared psycho-are co-participants in the collective life, their presence not altering phenomena and events subject to observation. Observation was used during both of educational activities and in the intervals to see how students relate to each other, how to play and how each part in the games offered, willingness to cooperate and help colleagues who have difficulties in both learning and leisure activities, their attitude towards each other, etc..

The method call is used both to see the students experience, belief, feelings, motivations, level of the culture GENERAL. Call can be free, spontaneous or controlled being followed by data processing and interpretation. We used the call in the following situations:

- the relationship with the teachers of the classes in which the experiment was conducted to inquire how much information about students with learning disabilities, about the relationships established in the classroom, how students with learning disabilities are accepted or rejected by group, aided by colleagues in their school work, etc.

- the students in general, people with learning difficulties in particular to find out as much information about them, about their feelings and how they relate to the question facing Color Progressive Matrices Test (CPM) is designed to allow a more accurate measure of the intellectual processes of children aged 4-12 years (i.e. non-verbal intelligence), mentally retarded persons and the elderly. Intelligence test was applied individually to each child with atypical development processes involved in the experiment, the experimental group and control group. Purposes were to exclude mental deficiency of which causes underlying poor school results obtained by these students and we diagnosed as having learning difficulties. Researcher who has applied and interpreted Color Progressive.

Matrices test

Sindelar method (small instrumental identification and treatment disorders in preschoolers and schoolchildren). Instrumental functions are those functions psychic elementary underlying complex mental functions such as language, thinking, etc.. In the second stage of development it is the writing, reading, calculation and adaptive behavior.

Battery of tests developed by Brigitte Sindelar evidence consists of oral and nonverbal. The sample does not show the gender differences, which are administered individually. It is a paper and pencil method which does not require many tools. Sheets, cards and forms are the help in assessing and interpreting the answers.

The sample consists of 19 subtest relating to:

- Differentiation pairs of images - visual differentiation - examining perceived similarities and differences, with 10 pairs of images.
- Differentiation of forms - visual differentiation - measuring sentiment for abstract forms by comparing pairs of images.
- Identify hidden forms - visual discrimination - discrimination ability as follows-fund, in case of abstract forms.
- Differentiation pairs of words - differentiate verbal / acoustic differentiation measure hearing ability of pairs of identical or similar words. The child is charged with discrimination of small differences (When adapting this evidence it should be considered in accordance with the original group of words, phonetic rules of the Romanian language).
- Differentiation pairs of syllables - differentiate verbal / acoustic differentiation measure hearing ability of pairs of identical or similar syllables. As word of syllables, meaning can help children to distinguish sound.
- Identify hidden syllable - discrimination verbal / acoustic. Test measures the ability to hear the word spelling, and ability to find a date in a whole syllable of the word. The child must decide whether to hear a certain syllable in the 10 words heard.
- Making the connection between image and word - intermodal integration, verify that the integration of visual and auditory stimuli, as a result of learning situations. The examiner shows 5 images, and for each image tells the name of the creator, that animal who drew the picture. Child task is to remember to code the name of animal of each image, ie to link the two types of stimuli.
- Making the connection between word and image - intermodal integration. Sample verify that integration of visual and auditory stimuli, as a result of learning situations.
- Save the order of the images - serial visual memory, memorizing check order images.
- Store order geometric forms - serial visual memory, check memorizing order of abstract geometric shapes, unknown.
- Memorizing words - verbal memory / sound. Test checks the memory verbal serial short-Dual, for familiar words.

- Storing syllables - verbal memory / acoustic check verbal memory, short serial Dual, where words (syllables) meaningless.
- Playback of images with words - Memory intermodal serial verbal revocation verifies that a number of images stored in short-term memory.
- Playback of images with words - Memory intermodal serial verbal test verifies that the revocation of a series of images stored in short-term memory. To avoid interference is not intended to be administered immediately after sample 13.
- Repeating words - traction articulator. Phono-articulator motility test measures the child. Since the aim is to examine the pronunciation is not important if the child does not know the meaning of most words.
- Draw lines - visual-motor coordination.
- Identification of forms - visual attention. Test measures the visual focus and shape constancy.
- Identification of a word in the text - acoustic attention, visual attention measure the concentration, if a word that appears several times in a text.
- Imitation of movements - this body / spatial orientation. Sample checks on their body orientation in space by the repetition of simple movements.

The final evaluation is performed using the tree diagram. The color number of correct answers on the branches which are divided by the number of points the student can achieve within each subsample. This can mean all the capacities of the child. Branches "short", are fully colored areas requiring therapeutic intervention. In this case the sample was applied and interpreted by the researcher. We worked with each student individually.

Procedure

- inventory of data on students (observation, work product analysis, discussions with parents and teachers, medical records);
- analysis of school programs and inventory system minimum requirements that contribute to school success in primary;
- registration of students' school performance, expressed in grades, then transformed into points in the subjects Mathematics and Language Romanian previous year study to compare results from the application of intervention program;
- measuring the intelligence of students with atypical development processes via the Raven Progressive Matrices test Color to exclude causes of mental deficiency that could lead to learning difficulties;
- initial assessment of instrumental functions through Sindelar method to conduct cognitive development program initiated by Brigitte Sindelar, clinical psychologist and psychotherapist of Austrian origin;
- design development program of instrumental functions based on one created by Austrian psychologist Brigitte Sindelar, but adapted to the requirements of the Romanian education system students;

- implementation of the program to stimulate instrumental functions according to the needs of each student, for a period of six months (November 2010-May 2011).

Experimental design

The experiment was conducted during the 2010-2011 school year according to the following experimental design:

Table 1

A general experimental design

Lot \ Stage	Pretest	Experimental Stage	Posttest	Retest Folow-up
Experimental	<i>Experimental Sampling</i> The extent to which groups of subjects fall	Introduction measuring independent variables	Measuring dependent variables	Measuring time evolution of the characteristics analyzed
Control	<i>Diagnosis</i> The same evidence apply to both groups	Non-intervention	Identical in both groups	Apply the same evidence in both groups

Description of teaching experiment conducted

Pedagogical experiment conducted was conducted in 2010-2011, the following steps and sequences distinct:

- Ascertain stage completed pretest administration;
- Pedagogical intervention and application posttest phase;
- Retest.

Ascertain stage was conducted between May-November 2010 and held its end pretest administration. Pretest phase was organized and designed in such a way as to establish statistical comparability between experimental and control groups in terms of development of instrumental functions.

Formative experiment was conducted between November 2010 - May 2011 and considered the teaching and educational intervention in the experimental group, while the control group activity was conducted without being influenced by experimental variables expected. At the end of this period was administered posttest, with the main objective comparative monitoring of the evolution school students in the experimental group and control experiments to confirm hypotheses.

Retest phase took place in September and October of the school year 2011-2012, aimed at checking the stability while the experimental results obtained during surgery performed in the previous school year.

For the sake of testing the validity of the necessity imposed by assumptions made for the experiment we designed a formative intervention program held during the school year 2010-2011, applied classes involved in the experiment in the school program.

The experimental program consisted of designing and implementing development programs working poor instrumental functions which can be the basis for learning difficulties arise.

In order to perform optimal experiment was considered a collaboration with school teachers and especially teachers of classes which were samples of subjects, consisting of explicit conditions for achieving the purpose and research, requiring the support and cooperation from their proposed implementation program.

4. Results

Table 2

Comparing the results got with the experimental and control groups at the 19 subtest of the Sindelar sample in pretest and posttest

	Pretest		Posttest	
	Experimental Grup N=30	Control Grup N=30	Experimental Grup N=30	Control Grup N=30
Subsample 1	t = .298 p>0,10		t = -2,327 p<0,05	
Subsample 2	t = 1,099 p>0,10		t = 3,147 p<0,01	
Subsample 3	t = -1,652 p>0,05		t = -2,314 p<0,05	
Subsample 4	t = .482 p>0,10		t = -4,323 p<0,01	
Subsample 5	t = 1,347 p>0,10		t = -4,207 p<0,01	
Subsample 6	t = .000 p>0,10		t = -2,448 p<0,02	
Subsample 7	t = .355 p>0,10		t = -2,209 p<0,05	
Subsample 8	t = .149 p>0,10		t = .505 p<0,10	
Subsample 9	t = 1,504 p>0,10		t = -1,984 p<0,10	
Subsample 10	t = .229 p>0,10		t = -4,570 p<0,01	
Subsample 11	t = .971 p>0,10		t = -5,645 p<0,01	
Subsample 12	t = .602 p>0,10		t = -4,534 p<0,01	

	Pretest		Posttest	
	Experimental Grup N=30	Control Grup N=30	Experimental Grup N=30	Control Grup N=30
Subsample 13	t = .371 p>0,10		t = -1,891 p<0,10	
Subsample 14	t = .207 p>0,10		t = -4,680 p<0,01	
Subsample 15	t = -1,270 p>0,10		t = 3,659 p<0,01	
Subsample 16	t = .000 p>0,10		t = -13,340 p<0,01	
Subsample 17	t = .314 p>0,10		t = -1,458 p<0,10	
Subsample 18	t = .812 p>0,10		t = -1,756 p<0,10	
Subsample 19	t = .675 p>0,10		t = -2,379 p<0,05	

We note that the average difference obtained during the pretest subjects in experimental and control groups is statistically insignificant in all cases, materiality is greater than 0.05 or 0.10 so we can say that there are no significant differences between the two groups on the pretest stage subsamples method used for evaluating the development of instrumental functions.

In contrast, the posttest in 14 of the 19 cases the results are significant at lower thresholds than 0.05 or 0.01. The conclusion we draw is that in these cases the intervention was effective in children in the experimental group we have been developing instrumental functions affected.

We have but five cases in which materiality is greater than 0.05. It is subsamples 8 (intermodal integration, the connection between word and image), 9 (visual-memory-storing serial order of the images), 13 (intermodal memory-images play with words), 17 (note visual-identification form) and 18 (note sound - identify a word in the text). The explanation for that in these cases no significant differences between the two groups would be a simple and specific activity is probably derived from the I-IV school years, tooth types of exercises students solve them almost daily in various subject areas. Both the Romanian language and in mathematics and science but also in other activities students are placed in a position to make connections between image and word, to identify words in text, identify shapes, images to convey through words. In fact all they are still in kindergarten, for example, have special activities "Story of the images" as based on a series of pictures or text form "Identification information form" that having learned to name and to recognize different types have their identification tasks. At school, during pre-literacy these activities continue and go on throughout the primary. Therefore, although the group never

gained control of specific activities to develop their instrumental functions, they benefited indirectly in school activities. Being independent samples (control group-experimental group) and pairs (same sample pretest and posttest) ANOVA was used to interpret results.

The results of variance analysis are shown in the table below.

Table 3

Differences between pretest and posttest between the two groups subsamples of the Sindelar method

	df	F	p
Subsample 1	1-58	13,139	,001
Subsample 2	1-58	18,227	,000
Subsample 3	1-58	28,609	,000
Subsample 4	1-58	9,257	,004
Subsample 5	1-58	36,679	,000
Subsample 6	1-58	24,788	,000
Subsample 7	1-58	10,038	,002
Subsample 8	1-58	22,071	,000
Subsample 9	1-58	26,673	,000
Subsample10	1-58	38,781	,000
Subsample 11	1-58	33,840	,000
Subsample 12	1-58	50,091	,000
Subsample 13	1-58	,533	,010
Subsample14	1-58	19,975	,000
Subsample 15	1-58	14,810	,000
Subsample 16	1-58	136,856	,000
Subsample 17	1-58	4,015	,050
Subsample 18	1-58	3,082	,050
Subsample 19	1-58	9,063	,005

We note that for all samples grouped for differentiation-visual discrimination (subsamples 1,2 and 3), results in the intervention are significant at a threshold lower than 0.01. It follows therefore that in these cases, the perception of differences between images, comparing pairs of images, form-background discrimination, was a successful intervention, students in the experimental group was able to obtain significantly better in the posttest. This will help in the activity of learning to read

If you examine the differentiation-discrimination verbal subsamples (subsamples 4,5 and 6) the results are significant at $p < 0.05$ or $p < 0.01$ for the where we can state that the intervention had effect, subjects in the experimental group had net obtained scores superior to those in the control group. As a result, in

the case of these students we should observe the school results generally improved, particularly those in the area curricular area language and communication.

For intermodal integration we took into account evidence that verify that the integration of visual and auditory stimuli, as a result of learning situations (the connection between image and word - subsample 7) the ability to integrate visual and auditory stimuli, as Following a learning situation (the connection between word and image - subsample 8). In both cases the significance thresholds are lower than 0.02% and 0.01% and hence the intervention had the desired effect, in the course of program development functions experimental instrumental group recorded significant increases compared to the control group even if there where 8 subsample pretest and posttest differences between when the same group.

If evidence for visual memory: remembering the order of images (check the student's ability to retain a number of pictures) and save geometric order forms, similar to the previous test, the difference being that this time using abstract geometric forms, unknown, intervention was effective, the results are significant at $p < 0.01$. It follows that in order to memorize the pictures or geometric figures, with practice, student achievement improves. This ability helps students throughout the learning activity, much of the knowledge they have acquired them by memory, the first concrete knowledge or evidence-based and later more abstract information.

The results obtained for subsamples on verbal memory are sound in both cases significant at a threshold lower than 1%. We can say therefore that we believe the specific hypothesis and refute the null hypothesis that the chance of error is less than 1%.

If materiality subsample 13 is greater than 10%. Following intervention for this test has the desired effect in this situation is due to hazard. These results might be due to the very characteristics of the sample, aimed at a greater capacity for abstraction that children who have not worked. It is much harder to remember the images without naming them (known in law that the individual remembers memorizing easier what he sees and calls) and then to provide their name and in a certain order. The association is made more difficult in this case than in other situations when hearing some words to recognize and arrange images that are represented.

If 14 subsample results are significant at a threshold lower than 1%, which shows that the performance of students in the experimental group is due to the intervention program introduced by the researcher.

The 15 test measures the motility of phono-articulator of the child, the peioric movements by repeating difficult words. Because the purpose is to examine the pronunciation is not important if the child does not know most words. And in this intervention had no effect, differences between the two groups, experimental and control was significant at a threshold < 0.01 . In other words, students in the control group were managed after development program introduced to repeat a word many more high-difficulty than children in the control group. It helps in all school activities because they must be able to differentiate and discriminate similar words spoken by the teacher or other students to understand the message sent to

them in order to gain information, to communicate. They also must correctly pronounce different words when communicating with those around them, so may be submitted only understood by them.

Sample to measure motor coordination STM resembles the Frostig test samples. The child has the task of drawing lines in a given space without touching the edges. The result for this test: $F(1.58) = 136.856$, is significant at $p < 0.01$, so we can say that the intervention had the desired effect, the exercises used to develop visual-motor coordination capacity have led to improved student achievement experimental group while no such exercise was that student achievement in the control group remain approximately the same level of development as in the pretest.

Ability to focus attention and visual shape constancy is measured by the subsample with number 17. The child has to find the form identical to that in the model (in our case stars). The result is: $F(1.58) = 4.015$, $p > 0.05$. It follows that in this case the intervention had the desired effect, differences between the two groups (experimental and control) beyond the threshold of significance of 0.05. Fact that we did not obtain significant results in these samples can be explained just by characteristics. This is a sample test visual attention, such a paper pencil test the student's task is to find identical shapes (stars) to model a number of other relatively known (squares, circles, triangles). Even if not as a test, the student encounters in everyday tasks such learning activity as early as first grade he must recognize a certain letter or number from a string that contains several such models, must recognize different figures geometry, etc.. Later you will need to recognize symbols, abstract forms. Every day at school the student is forced to find missing syllables or words, to arrange in a specific order to get syllable words with meaning, words to get meaningful results, etc.. At the same he must arrange the numbers in ascending or descending, to find signs to actualize equality, etc.. In activities outside of school children are always put in a position to observe, distinguish, recognize certain elements (from a simple walk in the park they have to recognize objects, persons). Therefore, every child, every time practices his visual attention. Perhaps because of this there is no difference between the two groups involved in the experiment.

Test measures the student's ability to focus sound is the number 18. We note that, in this case as in subsample 17 intervention had the desired effect, results from the two groups beyond the materiality of 0.05. Explanation would be like the previous case, every time, both at school and home or on the street, children use various forms of attention, especially on the visual and auditory (acoustic). They have to differentiate the voice of a family member to others, the voice teacher of children, favorite fellow voice of others, must "hear" approaching car when traveling on streets, etc.. And noise due attention is continually practiced. Perhaps this is why although the results of the experimental group students increased not we talk about a tremendous increase in student achievement compared with the control group.

Last subsample that was worked on was the body schema and spatial orientation. Child seems relatively simple task, he must execute the same movements that you perform an adult. Sample to be easier for small school children results from the application program intervention are significant at a threshold lower than 0.05.

5. Conclusions

In the literature (Bruner, 1970, Feuerstein 1979; Fodor and Spelke 1990, Nelson 1996, Geary 1998, Tomasello 2002, Sindelar 1992, 1994), we find quite often that the ideas:

- human beings are changeable, changing society is that people who compose it will be changed;
- an important role in cognitive development it has language that contributes to and transforming experience to meet the demands of society;
- based on learning and behavioral disorders, among other possible causes are found in relatively high percentage (less than 20% of cases) weak instrumental functions or operating disharmonic;
- instrumental functions that must take into account when we meet students with learning difficulties are different forms of auditory and visual perception and discrimination, forms of memory and visual and auditory attention, visual-motor coordination, body schema and spatial and temporal orientation, motility articulator.

If these problems occur when running the chance of learning difficulties occur is much higher. In research conducted on just the ideas I listed above, formulating a hypothesis based on their general and specific: Suppose that by introducing a program to stimulate cognitive processes instrumental functions of children with atypical development (learning difficulties), a program that Sindelar is based method, they will improve visibly. For this purpose we used for testing a very effective tool functions and relatively easy to use developed by Austrian psychologist Brigitte Sindelar.

Based on the pretest results we created a program to correct the instrumental functions, a program that contains both exercises and exercises undertaken by Sindelar adapted or created to achieve personal goals. The posttest and retest instrumental functions were evaluated again using the same method and analyzing the final results can be stated that in most cases the proposed program was effective (as illustrated by significantly lower thresholds than 0.05), improved student achievement for each subsample in part (subsample to test how the development of instrumental functions), except 5 namely subsample 8 (intermodal integration, the connection between word and image), 9 (visual-memory-storing serial order of the images), 13 (intermodal-play memory images of words), 17 (note visual-identification form) and 18 (note sound - identify a word in the text), which can be explained quite simply just by the specific school activities and types of exercises taking place daily in school activities

REFERENCES

- Bocoș, M. (2007), *Teoria și practica cercetării pedagogice*, Editura Casa Cărții de Știință, Cluj Napoca
- Buică, C. (2004), *Bazele defectologiei*, Editura Aramis, București
- Catalano, H.C. (2009), *Dificultățile de învățare transversale. Program de intervenție educațională pentru elevii cu părinți emigranți*, Editura Paralela 45, Pitești
- Chelemen, I. (2010), *Elemente de psihopedagogie specială*, Editura Universității din Oradea, Oradea
- Chiș, V. (2001), *Activitatea profesorului între curriculum și evaluare*, Ed. Presa Universitară Clujeană, Cluj-Napoca
- Chiș, V. (2002), *Provocările pedagogiei contemporane*, Editura Presa Universitară Clujeană, Cluj-Napoca
- Chiș, V. (2005), *Pedagogia contemporană – pedagogia pentru competențe*. Ed. Presa Universitară Clujeană, Cluj-Napoca
- Deci, E.L., Vallerand, R.J., Pelletier, L.G., Ryan, R.M. (1991), *Motivation and Education: the Self-Determination Perspective*, Journal of Educational Psychology, 26
- Drugaș, M., Roșeanu, G. (2010), *Analiza statistică pas cu pas*, Editura Universității din Oradea, Oradea
- Gerebenne Varbiro, K. (1995), *A tanulási zavar jelenségkörének gyógypedagógiai pszichológiai értelmezése*, in: „...önmagában véve senki sem...” Tanulmányok a gyógypedagógiai pszichológia és határtudományainak köréből, Szerk.: Zászkaliczky, P., BGGYTF, Budapest
- Hatzichristou, C., Hopf, D. (1993), *Students with Learning Disabilities: Academic and Psychosocial Aspects of Adaptation*, School Psychology International, 14:43
- Lerner, J. (1997), *Learning disabilities*, Houghton Mifflin CO, Boston
- Pinczesne Palasthy, I. (2008), *Tanulasi zavarok felleszto gyakorlatok*, Pedellus Tankonyvkiado, Debrecen
- Sindelar, B., Zsoldos, M. (1998), *Tréningprogram 1., 2., 3. (Vizuális és auditív differenciálás, alak-háttér differenciálás, emlékezet, intermodalitás, szerialitás, téri orientáció)*, BGGYTF, Budapest
- Vrășmaș, E. (2007), *Dificultățile de învățare în școală*, Editura V&I Integral, București
- Zsoldos, M., Ringhofer, J. (coord.), (2002), *De jó, már én is tudom! Óvodáskorú és iskolát kezdő gyerekek korai fejlesztése*, Bárczi Gusztáv Gyógypedagógiai Tanárképző Főiskola, Budapest