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EDITORIAL OFFICE: 7th Sindicatelor Str., Cluj-Napoca, ROMANIA, Phone: +40-264-405337
Web site: http://www.studia.ubbcluj.ro/serii/psychologia/index_en.html
Contact: studia_psiedu@ubbcluj.ro

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TESTING A MINDFULNESS-BASED PROGRAM ON A NON-CLINICAL SAMPLE OF ROMANIAN CHILDREN: THE EFFECTS ON THE LEVELS OF INTERNALIZING, EXTERNALIZING AND ATTENTION-RELATED PROBLEMS

ALEXANDRA C. NATANGA*, ALINA S. RUSU**

ABSTRACT. Mindfulness-based therapeutic interventions are used for a large area of physical and psychological problems in adult and elderly people, including anxiety disorders, personality disorders, chronic pain and anger. Recently, researchers have started to investigate the effectiveness of mindfulness-based programs on children. The aim of this study is to test the effects of a Mindfulness-based Program (MBP) on the levels of internalization, externalization and attention-related problems of children (41 participants, average age of 8.5 years, SD = 0.4), as compared to the effects of a standard procedure, i.e., Rational Stories program for children. The results revealed that the Mindfulness-based Program had higher effects than the Rational Stories program on the decrease of the attention-related problems, while no statistically significant differences were found at levels of internalizing and externalizing problems (i.e., both programs were associated with a decrease of the two types of problems).

Keywords: *attention-related problems, mindfulness, emotion regulation.*

KURZFASSUNG. Die therapeutische Interventionen durch Aufmerksamkeitstraining werden für ein breites Spektrum an physischen und psychischen Problemen der Erwachsenen und älteren Personen, wie Angststörungen, Persönlichkeitsstörungen, chronische Leiden und Aggression benutzt. Neulich haben Wissenschaftler ein Studium begonnen, um die Effektivität der Aufmerksamkeitstrainingsprogramme bei Kindern zu recherchieren. Ziel der Forschung ist das Testen der Wirkung von Mindfulness-based Program (MBP)/ Aufmerksamkeitstrainingsprogramme auf die Niveaus von Verinnerlichungs-, Äußerungs- und Aufmerksamkeitsproblemen bei Kindern zu ermitteln. Es wurden 41 Teilnehmer mit einem Altersmittelwert von 8,5 Jahre, SD = 0.4 in Betracht genommen, die verglichen wurden laut standardisierte Verfahren, mit dem Programm Rational-Stories für Kindern. Das Resultat zeigte, dass

* HR Intern, Smart Training & Recruiting, Cluj, Romania, email???????
** Department of Special Psycho-Pedagogy, Faculty of Psychology and Sciences of Education, "Babeş-Bolyai" University, Cluj-Napoca, Romania. Corresponding author: alina.rusu@ubbcluj.ro

das Aufmerksamkeitstrainingsprogramm bessere Resultate auf die Senkung der aufmerksamkeitsgebundenen Probleme hatte als das Rational-Stories-Programm. Es wurden keine erheblichen statistischen Unterschiede in den Bereichen Verinnerlichungs- und Äußerungsprobleme beobachtet, obwohl beide Programme mit einer Minderung beider Problemtypen beobachtet werden konnte.

***Schlüsselwörter**: Aufmerksamkeitsprobleme, Aufmerksamkeit, Gefühlsregulierung*

INTRODUCTION

The concept of mindfulness refers to a particular way to give attention to the present moment, with a receptive and nonjudgmental attitude (Kabat-Zinn, 1994). Mindfulness was often described as a state of mind that implies a clear awareness of the inner and outer world, at level of thoughts, feelings, emotions, and actions as they are in a given moment (Gunaratana, 1993; Chiesa et al., 2010). Mindfulness is a concept derived from Buddhism and has received an increased attention over the past 20 years from clinicians and researchers in psychology and medical areas (Bishop et al., 2004; Shapiro et al., 2006). Although mindfulness-based interventions are used for over a decade, the concept of mindfulness has started to be discussed as a psychological construct only recently. In this light, several authors have tried to establish a consensus on the operational definition, elements and processes involved (Kabat-Zinn, 2003; Gilbert & Waltz, 2010). Thus, mindfulness is considered "the degree of awareness resulted from intentionally paying attention, without judgments, to the experience of the present moment, and maintaining this state in time" (Kabat-Zinn, 2003). Mindful attention is seen as an inherent human capacity that can be developed and strengthened through practice (Kabat-Zinn, 2003).

Bishop et al. (2004) proposed a two-component model of mindfulness. The first component refers to *the self-regulation of attention,* which involves skills in sustained attention, attention switching and inhibition of some secondary elaborative processing. In this context, mindfulness can be considered a meta-cognitive skill, which requires both the control of cognitive processes and the monitoring the stream of consciousness. The second component involves the adoption of a particular *orientation toward one's experience* in the present moment, which is characterized by curiosity, openness and acceptance. Mindfulness is thus a process of adopting a decentralized perspective on thoughts and emotions by letting them to be experienced based on their subjective and transient nature (Bishop et al., 2004).

Mindfulness was introduced as a therapeutic practice by Kabat-Zinn (1990) and used in clinical psychology most often as an adjunct to cognitive-behavioral interventions. Generally, mindfulness techniques involve developing awareness and acceptance of constant change of the experiential phenomena such as cognition, emotions, bodily sensations and external stimuli. The main premise of mindfulness practice type is that the experience of the present moment in an open and non-critical can effectively counter the effects of stressors in daily life (Hoffman et al., 2010; Hayes & Feldman, 2004; Hayes, Strosahl & Wilson,1999). Mindfulness – based interventions (MBT) are used for the treatment of many physical and psychological problems, including generalized anxiety (Roemer & Orsillo, 2005), obsessive-compulsive disorder (Hannan & Tolina, 2005), depression (Kumar et al., 2008), PTSD (Follette & Vijay, 2009), borderline personality disorder, chronic pain, addictions and eating disorders, and anger (Borders et al., 2010). The use of mindfulness – based therapeutic interventions grows in popularity in reducing symptoms of anxiety and depression (Hofmann et al., 2010).

The efficiency of this new wave of interventions has been demonstrated empirically for a broad category of clinical disorders in adult population (Hoffman et al., 2010). However, there are only few research addressing the use of mindfulness techniques in the pediatric population. Recently, Burke (2010) aimed to provide a preliminary review of the current research base of mindfulness-based aproaches (MBT) with children and adolescents, indicating that these interventions were accepted and tolerated by the participants. Mindfulness practices for children are not much different from those for adults, in terms that most of the exercises can be adapted to suit several needs related to specific age categories (Hooker & Fodor, 2008).

First step in the way of introducing the concept of mindfulness to children is to direct their attention to things from the environment, i.e. objects of their own experience (Fodor & Hooker, 2008). After this phase, the next step is to switch attention toward an experience of the body and to introduce the attention on the mind. Specific exercises for each of these steps include: object awareness, awareness of self in the environment (environmental mindfulness), attending the sense, meditation on the breath, meditation on the bubble, meditation through visualization etc. Through the practice of mindfulness, children can be encouraged to become introspective, i.e. to look more closely at their experiences, and to differentiate between internal and external processes in the context of social and non-social events (Kaiser-Greenland, 2006; Goodman & Greenland, 2009; Semple et al., 2010). In a recent study, Semple et al. (2010) investigated the effects of a mindfulness-based cognitive therapy (MBCT) program on the attention, anxiety and behavioral problems in children, i.e., pre-/post-test study. The results suggested that after the completion of a 12-sessions MBCT program, the children (aged between 9 and 13 years) had fewer attention problems than they had at the beginning of the study.

In adult population, mindfulness-based programs are associated with promising effects in reducing stress and symptoms specific to anxiety disorder. Similar to cognitive-behavioral therapeutic programs, mindfulness practice can help individuals to recognize anxiety states, to clarify repetitive or dysfunctional thoughts, to minimize avoidance behaviors and to self-monitor their own coping strategies with different stressors (Semple et al., 2010). Recent studies have started to test the efficiency of mindfulness programs on the anxiety-related symptoms in children, such as internalization and externalization problems (Lee et al., 2008). Besides the positive effects of the mindfulness programs in reducing the symptoms of internalization and externalization, the study indicates a high rate of adherence and acceptability of the treatment (Lee et al., 2008). The results of another study (Liehr & Diaz, 2010) on the effects of MBCT intervention on depression and anxiety in children indicate that mindfulness can be a promising approach to help children to regulate their emotions, with implications in areas such as academic performance, social development and quality of life, in general.

When designing a mindfulness program for children, several assumptions are usually taken into account (Semple et al., 2010), such as: (a) compared to adults, children are more challenging and they have more difficulties to stay engaged in one activity for a long time; (b) children often require more individual attention than adults do, and (c) children have less developed attentional and memory capacity than adults. Based on these assumptions, programs for children are usually designed over shorter periods of time and include shorter sessions of mindfulness-based exercises, as compared to the programs for adults (Semple et al., 2010; Kaiser-Greenland, 2010). Moreover, since play behavior facilitates learning in children, several play-based activities are more and more incorporated in the mindfulness programs for this category of population (Kaiser-Greenland, 2010). In this direction, the "InnerKids" program (www.innerkids.org) is currently one of the most known mindfulness-based programs for children, that incorporates play activities with meditation exercises, in order to enhance the emotional and attentional skills of children (Kaiser-Greenland, 2010). The Inner Kids program uses games, activities and instructions to help children develop awareness and understanding of their emotions and the environment in order to reduce the level of stress they feel. In a recent study, this program was tested in a randomized trial, in which 64 school children participated (35 girls and 29 boys; Flook et al., 2010). Each intervention session lasted 30 minutes, twice a week, for a period of 8 weeks. Parents and teachers completed questionnaires evaluating the executive functions of children immediately before and after the eight week period. The results indicate that, compared to the control group, the participants who started out with poor executive functioning and

went through the mindfulness training, showed significant improvements in behavioral regulation, metacognition and global executive control, compared with the control group (Flook et al., 2010). These results are in agreement with other studies showing that the mindfulness based training programs have the potential to assist the children in reducing the negative effects of environmental stressors by focusing attention on the present moment and can therefore allocate more attention on learning and social activities (Napoli et al., 2005; Jha et al., 2007; Zylowska et al., 2008).

The objective of this study is to test the implementation of the InnerKids Mindfulness program on a non-clinical sample of Romanian children (age between 8-9 years). The aim is to identify the effects of this type of intervention on the levels of internalizing, externalizing and attentional problems of the children (mindfulness-based program; MBP group), in comparison to the effects on the same variables of a standard procedure, i.e. the reading of Rational Stories for children (control group; CG). Both programs were offered at group level.

The following hypotheses were derived: (1) In the post-test phase, the children from the MBP group will show a lower level of internalizing symptoms (anxiety, depression, somatization) than the children from the control group (CG); (2) In the post-test phase, the MBP children will have a lower level of externalizing symptoms than the CG; (3) In the post-test phase, the MBP children will have a lower level of attention-related problems than the children from the control group.

METHOD

Design

A quasi-experimental design was used for this investigation. The independent variable was the type of the program, with two modalities: (1) the mindfulness-based program (MBP) and (2) the Rational Story program (RSP), or the control condition. The dependent variables were: (1) the level of internalizing problems; (2) the level of externalizing problems, and (3) the level of attention-related problems.

Participants

The group of participants was initially composed of 41 children (17 girls and 24 boys, average age of 8.5 years, SD = 0.4), from a Primary School in Cluj-Napoca, Romania. The first stage of the recruitment of the participants consisted of sending a consent form to their parents, informing them about the research objectives and about the privacy of the data collected in the study. Three children were excluded from analysis because of missing more than half of the

sessions, and in one case, the parent refused to fill in the post-test questionnaires. The participants were distributed in two groups, i.e. 20 participants in the MBR group (11 boys and 9 girls), and 18 participants in the control group (11 boys and 7 girls).

Instruments

Child Behavior Checklist – Parent report form (CBCL; Achenbach, 1991). The CBCL scale consists of 113 items, measuring the following eight constructs: withdrawn, somatic complaints, anxiety/depression, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior. The instrument provides sub-scores for eight specific problem scales, three competence scales, a total problem scale, an internalizing problems scale, and an externalizing problems scale. The Internalizing Problems Scale is composed of three separate subscales: withdrawn, anxious/depressed and somatic complaints. The Externalizing Problems Scale is composed of two separate subscales: delinquent behavior and aggressive behavior. For the dichotomous classification of the children (i.e. normal and clinical ranges), total scores are used, i.e. values under 65 delimit the normal range, and values above 65 delimit the clinical range. CBCL is an inventory for parents, which was standardized for the Romanian population (Romanian Psychological Testing Services). The instrument was administered to one of the parents of each child (i.e. the mother of each child) in the pre-test phase (3 days before the beginning of the intervention) and in the posttest phase (3 days after the last session).

Procedure

Before the start of the study, the parents were asked to sign an informed consent form, stating that their child is allowed to participate in one of the two programs. The mindfulness-based program, as well as the rational stories program, consisted of 9 sessions of 20 minutes each, three times a week. Three days before the start of the programs, all the children were assessed for the dependent variables stated above, in order to establish the baseline levels. The same variables were measured in the post-test phase (i.e., three days after the end of the programs). All the sessions took place in the classroom where classes were held.

The mindfulness-based program (9 sessions of 20 minutes each; see Annex 1)

Each session was divided into three sections, as it follows: (1) the beginning section included a greeting game; (2) the middle section included games and activities focusing on a weekly theme (e.g., breathing awareness,

sensory awareness, attention control, awareness of thoughts etc.), and (3) the final section included a period of *sitting* practice. Simple sensory exercises were used to introduce the concept of mindfulness and to facilitate the understanding of the potential benefits of mindfulness in everyday life (Flook et al., 2010; Hooker & Fodor, 2008). The detailed structure of the program (adapted after the InnerKids Mindfulness program; Flook et al., 2010) is presented in the Annex 1.

The Rational Stories Program (9 sessions of 20 minutes each)

The protocol of this program consists in the reading of Rational Stories adapted for children (Waters, 1980; translated by David, Opre, & Petra, 2003). At the end of each story, children along with the experimenter, are stimulated to understand rational concepts while discussing and analysisng the theme of the story, and to make inferences about real-life situations. At the end of the session, children are asked to say what they have learned from each story, and what advice would they give to a friend who is in a similar situation to the one presented in the story.

RESULTS

Data were analyzed using SPSS version 17.0. Table 1 shows the descriptive statistics, i.e. demographics data of the participants.

Table 1. Demographic data of the participants, where MBP represents the experimental group (Mindfulness-based Program), and RSP represents the control group (Rational Story Program)

Group	N (gender)	Age (years; Mean)	Standard deviation
MBP	20 (11 boys, 9 girls)	8.41	.43
RSP	18 (11 boys, 7 girls)	8.65	.39

Preliminary data analysis was performed using t test for independent samples to check whether the baseline measurements for all the dependent variables in the experimental group (MBP) are significantly different from that of control group (CG). The dependent variables were: (1) the level of internalizing problems; (2) the level of externalizing problems, and (3) the level of attention-related problems. No significant difference were found between groups for the baseline measurements.

The results indicate a significant decrease of the CBCL total scores for the participants in the mindfulness group (MBG), t (19) = 6.32, p < .05, from pre-test (M = 27.9, SD = 15.04) to post-test (M = 13,8, SD = 6,87). Also, o decrease of the CBCL total scores was recorded for the children the control group, t (17) = 4.39, p < .05, from pre-test (M = 19.88, SD = 8.00) to post-test (M = 15.61, SD = 7.26).

Regarding the score on the *Internalizing Problems* Scale, a significant decrease for the children in experimental group, t (19) = 7.9, p < .05, from pre-test (M = 6.9, SD = 4.16) to post-test (M = 2.7, SD = 1.97) was observed (Table 2). A decrease in the level of internalizing problems was also observed for the children in the control group, t (17) = 3.01, p < .05, from pre-test (M = 5.50, SD = 2.87) to post-test (M = 4.77, SD = 2.51).

Regarding the scores on the *Externalizing problems* scale*,* there was a statistically significant decrease of the level of externalizing symptoms for the children in the MBP group, t (19) = 5.48, p < .05, from pre-test (M = 9.5, SD = 7.17) to post-test (M = 5.5, SD = 4.63). In the control group, the decrease was not statistically significant, t (17) = 1.80, p = 0.9 from pre-test (M = 5.61, SD = 2.42) to post-test (M = 4.44, SD = 2.59).

For the dependent variable *Attention-related problems,* there was a significant improvement for the children in the MBP group, t (19) = 5.89, p < .05, from pre-test (M = 3.25, SD = 2.75) to post-test (M = 1.1, SD = 1.48). In the control group, the decrease was not statistically significant, t (17) = 0.48, p = .48, from pre-test (M = 2.5, SD = 1.68) to post-test (M = 2.27, SD = 1.87).

Table 2. Pretest and posttest scores on the levels of externalizing problems, externalizing problems and attention-related problems for the children in the experimental group (N = 20) and control group (N=18)

	Mindfulness intervention Mean (Standard deviation)		**Control group** Mean (Standard deviation)	
Measure	Pre-test	Post-test	Pre-test	Post-test
CBCL total score	27.90 (15.04)	13.8 (6.87)	19.88 (8.00)	15.61 (7.26)
Internalizing	6.90 (4.16)	2.70 (1.97)	5.50 (2.87)	4.77 (2.51)
Externalizing	9.50 (7.17)	5.50 (4.63)	5.61 (2.42)	4.44 (2.59)
Attention	3.25 (2.75)	1.10 (1.48)	2.50 (1.68)	2.27 (1.87)

The magnitude of the intervention effect (i.e. Mindfulness-Based program and Rational Stories prowas was calculated using Cohen's *d* coefficient. The effect sizes are presented in Table 3. The Mindfulness-based Program had large effect sizes for all the variables (d > .66), whereas the biggest effect size of the Rational Stories Program was recorded only for the variable Externalizing Problems (d = .48; Table 3).

Table 3. Effect sizes of the Mindfulness-based program (experimental group) and Rational Stories Program (control group) on the levels of externalizing problems, internalizing problems and attention-related problems

	Mindfulness-based Program		**Control group**	
Measure Scale	d	r	d	r
CBCL				
Internalizing	1.29	0.54	0.27	0.13
Externalizing	0.66	0.31	0.48	0.23
Attention	0.97	0.43	0.12	0.06

DISCUSSIONS AND CONCLUSIONS

Mindfulness-based interventions are used to treat a large area of physical and psychological problems, including mood disorders (Kumar et al., 2008), anxiety disorders (Roemar & Orsillo, 2005; Follette & Vijay, 2009), personality disorders, chronic pain and anger (Borders et al., 2010). While the literature on mindfulness abunds on studies on adult and elderly populations, only recently, researchers have started to investigate the effectiveness of mindfulness-based programs on children. In the present investigation we tested the effects of a mindfulness-based intervention program based on InnerKids Program (Kaiser-Greenland, 2010; Flook et al., 2010) on the levels of internalization, externalization and attentional-related problems of children (average age of 8.5 years, SD = 0.4), from a Primary School in Cluj-Napoca, Romania. The program took place over three weeks, three times a week (9 sessions) and had the general objective to increase the capacity of emotional, behavioral and attentional control, as compared to the effects of a standard procedure, i.e., Rational Stories program for children.

The results of this study revealed that the Mindfulness-based program was useful in terms of decreasing the levels of internalizing and externalizing problems, as well as the level of attention-related problems. The differences

between the pre- and post-test conditions, as well as the effect sizes (Cohen's) indicate that the Mindfulness-based program had significant effects on increasing the capacity of attentional control, emotional adjustment (internalizing problems), and behavioral control (externalizing problems), while the Rational Stories program had low to medium size effects on decreasing the levels of externalizing and internalizing problems. It appears that in this sample of Romanian children, compared to the standard procedure (i.e., Rational Stories program), the Mindfulnes-based program was effective in reducing mainly the problems related to attention. This results has important potential implications for designing therapeutic programs for children, because problems related to attention are present in various disorders, including anxiety disorders. In is generally known that the attentional bias toward negative stimuli can promote reactive emotional behaviors that might interfere with the development of skills that are crucial for the optimal development of the children, such as learning and social skills.

Besides these promising results on the effects of the Mindfulness-based program on children, there were also indications of a good acceptability of this type of intervention. Most of the children preferred the game *Hello / greeting* which, they said, helped them to get closer to the other children from the group. The second favorite activity was listed the *Sitting and Breathing activity*, which was perceived as a pleasant and quiet activity.

Even though the sample of this investigation is a small one, this study, to our knowledge, implements for the first time in Romania a Mindfulness-based program for children based on the model of InnerKids Program (Kaiser-Greenland, 2010; Flook et al., 2010). In order to increase the efficiency of this type of programs, as well to increase the level of the generalization and the consolidation of the effects of the program on the attention-related problems, we consider that, in the future programs, parents should be also included in the program. Thus, future studies could explore whether the inclusion of parents (and other family and social group members) and educators in the intervention program could help the families to better cope with environmental stress factors and to create an interactional environment wich is optimal for the social and emotional development of the children.

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ANNEX 1

The structure of the Mindfulness-based program, adapted after the InnerKids Mindfulness program (Flook et al., 2010)

Week one: the aim is to raise the awareness of the inner experiences and focus on the breathing.

Day 1:
Beginning section: Children were explained through a metaphorical statement how to deal with problems arising in their everyday lives: *Think of your mind as the surface of a lake or an ocean. There are always waves on the surface of the water, sometimes big, sometimes small. These waves are agitated by the wind, and are coming and going. So are the good or bad events in our lives; they produce waves in our lives and make us feel good or bad. We can not stop those waves, but we can learn to swim with them*.
Middle section: *Hello/Greeting* activity. Children and the therapist sat in a circle. To begin, the experimenter greets the child who is in his/her right side, makes eye contact and calls the pupil by his/her name. Then, the experimenter describes what color the eyes of the child appear to be. For example: *Good morning Alex, your eyes look blue to me today.* The child responds: *Good morning Mrs. Alexandra, your eyes seems to be green today.* The child then turns to the next person and repeats the exercise. The greeting moves around the circle, from person to person, until every one has had a turn. This activity aims to strengthen the objective to observe and not analyze. Once children are familiar with this exercise, the experimenter can move the focus from eye color to something else, e.g.: *Making eye contact, greet your neighbor and then tell the class something that you notice one of the five senses*. At the end of this activity, the children were asked to discuss their experiences.
Final section: *Sitting practice breathing awareness* activity – this section focuses on physical sensations of breathing in the present moment. Children sit in a circle with eyes focused on the object in the middle or with their eyes closed. They are guided to focus on breathing, being asked to feel the movement caused by the breathing on the whole body. If it helps, they can put their hand on the belly to focus on physical sensations of breathing (the up-down movements of the breath in their bellies). The experimenter tells children not to change their breath in any way just to see how it is and how it feels in the moment.

Day 2:
Beginning section: *Hello / Greeting* activity, as described above.
Middle section: *Breathing with a pinwheel* - the section focuses on physical sensations of breathing in the present moment by blowing a pinwheel and thus making connections between different types of breathing and related physical and emotional states. The child must take a long in-breath through his nose and blow on the

pinwheel, being encouraged to be alert to how his body feels when taking a big breath of air. Then the child takes a series of short in-breaths through their nose, blowing out with a series of short out-breaths through the mouth.
Final section: *One minute of stillness* activity - *For this type of exercise, begin by paying attention to your breathing. Must stand straight and relaxed, with your chin down and hands on the belly. Take a big breath of air, and then breathe*.

Day 3:
Beginning section: *Hello / Greeting* activity, as described above.
Middle section: *Breathing with a stuffed animal* activity - objective of this activity is to focus on the visceral sensations of the breath. Children are lying on their back with their arms and legs straight. Once they are comfortably seated, the therapist puts a stuffed animal on the belly of each child and encourages them to relax and pay attention to physical sensations of breathing: *Feel your head against the pillow. Your back against the floor. Your arms by your side. Feel the weight of the plush toy on your belly. Now imagine that you give your pet a gentle ride with your breath. As you inhale, your belly fills with air and the animal rocks up, as you let the air out of you, your belly empties and your pet goes down.*
Final section: *1 minute 15 seconds of stillness* – the same as in the second day, only that the time for the exercise increases to 1 minute and 15 seconds.

Week two aimed to raise awareness of the inner experiences (i.e., focusing on the senses). The objective of this week activities was to develop understanding of the changing nature of inner experience, seeing more clearly the inner experiences without biases and to promote compassion for others.

Day 4:
Beginning section: *Hello / Greeting* activity.
Middle section: *Mindfully eating* activity - children are asked to describe the food they have in their hand (in this case, fruits caramels) – the color, texture, the way it smells like, and what happens in their mouth while they look at it and smell it. Then, with their eyes closed, children are guided to take a bite and notice all the sensations they have, e.g., *Take a bite, notice what happens in your mouth, and sense the taste. Take your time*.
c) 1 minute 30 seconds of stillness – the same as in the second day, only that the time for meditation increases to 1 minute and 30 seconds

Day 5:
Beginning section: *Hello / Greeting* activity, as described above.
Middle section: *Friendly wishes* activity – aims to learn self-directed practices that evoke emotions to help calming and shoot the mind and to encourage compassion for self and others. When this exercise is used at the end of the session, the experimenter prepares the pupils for this exercise with a body scan or breathing awareness, while lying on the floor. Using conversational language, the experimenter guides the class to one or more friendly greetings. A child sends friendly wishes to himself the first time, imagining that he is happy and having fun, and/or that he/she is healthy and safe with

family and friends. Then he chooses someone he cares about, and imagines looking into the other person's eyes and says, *I want you to be happy, and I hope all your dreams come true, I want you to be strong and healthy. I want you to feel lots of love in your life, and I hope you feel peaceful and calm. I want you to be safe forever*. Then the experimenter tells the child to imagine that he sends friendly wishes to someone else, until finally he imagines sending friendly wishes to everyone and everything.
Final section: *2 minutes of stillness* – the same as in the second day, only that the time for the exercise increases to 2 minutes.

Day 6:
Beginning section: *Hello/ Greeting activity*, as described above.
Middle section: *Special Place* activity - Instructions given to children: *I want to share with you one of my favorite places. There is a place where you can't travel by car or train, or plane. It is a place within you that you can find closing your eyes. Let us find it now. Close your eyes and take a deep breath. See if you can feel a warm smile and happy inside your body. Do you feel it? This is your place. The best thing about this is that it is always within you. And you can visit anytime. It is helpful to visit this place especially when you are upset, angry or scared. When you are there and talk to your emotions, you can see that they aren't so big and strong as they seem*.
Final section: *2 min 30 s of stillness* – the same as in the second day, only that the time for the exercise increases to 2 minutes and 30 seconds.

Week three aims to raise awareness of the inner and outer experiences, focusing on thoughts and emotions. It develops an understanding of the changing nature of inner and outer experiences, awareness of thoughts and emotions and understanding that actions have consequences.

Day 7:
Beginning section: *Hello/Greeting activity*, as described above.
Middle section: An exercise to increase awareness that they are the producers of their own thoughts. The instructions are: *Close your eyes and say: I wonder what thought will be coming next. Then be very alert and wait for the next thought. Be like a cat lurking a mice hole. What thouthg will be coming from the mice hole?*
Final section: *3 min of stillness* – the same as in the second day, only that the time for the exercise increases to 3 min.

Day 8:
Beginning section: *Hello/Greeting activity*, as described above.
Middle section: *Meditation on the bubble***.** To further focus on awareness of the thinking process as well as on letting go and not engaging thoughts, the meditation of the bubble is a useful mindfulness technique (LeShan, 1974, cited in Hooker and Fodor, 2008). The purpose of this practice is to slow down, observe thoughts, and release them or let go without judgment**.** Begin the exercise by reading the following script slowly and in a calm voice. Then, allow the child to continue the meditation for a

few minutes in silence, setting his or her own pace. This exercise can also be adapted to feature thoughts on clouds drifting across the sky. *Begin by sitting in a comfortable position, with your back straight and shoulders relaxed. Softly close your eyes. Imagine bubbles slowly rising up in front of you. Each bubble contains a thought, feeling, or perception. See the first bubble rise up. What is inside? See the thought, observe it, and watch it slowly float away. Try not to judge, evaluate, or think about it more deeply. Once it has floated out of sight, watch the next bubble appear. What is inside? Observe it, and watch it slowly float away. If your mind goes blank, then watch the bubble rise up with blank inside and slowly float away*.
Final section: *3 min 30 sec of stillness* – the same as in the second day, only that the time for the exercise increases to 3 minutes 30 sec.

Day 9:
Beginning section: *Hello/Greeting activity*, as described above.
Middle section: *Vizualization - finding a safe haven* – it helps children to focus their attention after they have practiced awareness of the present moment by focusing on their breath, and then released their thoughts and feelings through the meditation on the bubble. This final exercise may be particularly helpful for children who are anxious, since it is related to visualization for relaxation: *Begin by sitting in a comfortable position, with your back straight and shoulders relaxed. Softly close your eyes. Allow the picture in your mind to become blank. You are going to imagine a place that feels comfortable, safe, and relaxing. Think of your place. It might be a beach, a lake, or even your own bed. Imagine it slowly appearing before you, becoming more clearer. Look to your left. What do you see? Look to your right. What is over there? Look closer. Breathe in. What do you smell? Walk around your place. Look closer at certain things. Stay focused on your place. How are you feeling? If you find your thoughts wandering, observe them, and then focus on bringing the image of your place back into focus in front of you (Allow some time). When you are ready, put your hand in front of your eyes. Open your eyes. Slowly spread your fingers to allow light in. When you are ready, slowly remove your hand*. Children may also choose to draw the scene they imagined. This drawing can be saved to remind them of their safe, relaxing place.
Final section: 4 min of stillness – the same as in the second day, only that the time for the exercise increases to 4 minutes.

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PSYCHO-PEDAGOGICAL INTERVENTION STRUCTURED ON COMPONENTS SPECIFIC TO READING AND WRITING ACTIVITIES

CLAUDIA-DOINA GREC*, OLGA CHIŞ**

ABSTRACT. This research aims to investigate the efficacy of the psycho- pedagogical intervention program structured on techniques that develop the organizational skills of students with attention deficit hyperactivity disorder who have reading and writing difficulties. The complex of manifestations specific to attention deficit and hyperactivity emerges and develops in the context of mainstream school and the psycho-pedagogical intervention depends, in any context, upon teachers' experience and knowledge. Customizing the intervention according to the learning difficulties encountered in the field of reading and writing, was a necessity in the development of the psycho-pedagogical intervention program, executive functioning deficits reflecting differently in the sphere of reading and writing, fact proven by the studies. Psycho-pedagogical intervention techniques can be implemented by the classroom teacher without disturbing students' educational program, through management techniques of the time for study / individual work in the classroom, planning techniques, prioritizing techniques, self-monitoring techniques, techniques for preparing the materials for school.

Keywords*: attention deficit hyperactivity disorder, lexical graphical disorders, psycho-pedagogical intervention program, customized intervention, organizational skills.*

ZUSAMMENFASSUNG. Die vorliegende Forschung untersucht die Wirksamkeit einer strukturierten psycho-pädagogischen Interventions Programms, das auf den Entwicklungsfähigkeiten der organisatorischen Fähigkeiten der Schülern, die Aufmerksamkeit- und Hyperaktivität Defizite, im Rahmen des Lesens und Schreibens haben, strukturiert ist. Der spezifische Ausprägungskomplex im Bereich Aufmerksamkeit- und Hyperaktivität Defizit entsteht im Rahmen der Bildung der Massen und die pädagogische Intervention hängt, in jedem Kontext, von der Erfahrung und vom Wissen der Lehrern. Angepasster Angriff abhängig von den

* Junior Lecturer Phd, Faculty of Psychology and Education Sciences, Education Sciences, Departament, Babeş-Bolyai University, Cluj-Napoca, Romania, claudiagrec@yahoo.com
** Lecturer Phd, Faculty of Psychology and Education Sciences, Education Sciences, Departament, Babeş-Bolyai University, Cluj-Napoca, Romania, olga_marcus@yahoo.com

begegneten Lernschwierigkeiten im Bereich des Lesens und Schreibens, war eine Notwendigkeit in der Entwicklung des pädagogischen Interventionsprogramms. Exekutive Funktionen Defizite, nach Studien, sind unterschiedlich in der Sphäre des Lesens und Schreibens verbreitet. Pädagogische Interventions-Techniken können durch Lehrern im Klassenzimmer umgesetzt werden, ohne den Bildungsprogramm der Schülern, durch Zeitmanagement-Techniken und individuelles Schulungsraumarbeit/Studium, Planung-Techniken, Priorisierung-Techniken, Self-Monitoring Techniken oder Schulungsmaterialien Vorbereitungs-Techniken zu stören.

***Schlüsselwörter**: Aufmerksamkeits-Defizit- und Hyperaktivitäts-Störung, Lexik-graphische Störungen, Pädagogisches Interventionprogramm, angepasste Anpassung, organisatorische Fähigkeiten*

INTRODUCTION

Existing literature indicates the association of attention deficit and hyperactivity with learning difficulties, difficulties which may lead to poor school performance in the case of students with above average intellect. The detailed study of the particular association between primary manifestations of the attention deficit and hyperactivity and the specific learning difficulties identified the difficulties faced by students with attention deficit and hyperactivity in reading and writing tasks.

Students with attention deficit and hyperactivity have poor results in various tasks involving verbal learning, memory, vigilance and complex problem solving. So, when they are combined with attention deficit and hyperactivity, learning difficulties have a specific role in school failure. The difficulties faced by students with attention deficit and hyperactivity affecting the learning process concern: vigilance or reflection processes, oral expression, written expression, coordination of fine movements, reading comprehension, long-term memory, short term memory and working memory. The types of learning difficulties that are commonly encountered in these students are problems of visual and auditory perception, language learning, hyperactivity, impulsiveness, distractibility, abstraction, problems that are reflected in the lexical- graphical performance.

Educational influences appropriate to the potential of each student, respecting the individual characteristics and needs, determine the compliance with the principle of differentiated education. Thus, a psycho-pedagogical intervention program applied in the case of students with attention deficit and hyperactivity disorder presenting learning difficulties may ensure equal opportunities for development.

METHODOLOGY

Research objectives

The objective behind the development of this research was to elaborate and investigate the efficacy of the psycho- pedagogical intervention program based on the component "techniques for the development of the organizational skills, associated with self-organization skills, in customized ways for learning difficulties (reading and writing) " in the case of students with attention deficit and hyperactivity.

Research hypothesis

Consistent application in students with attention deficit and hyperactivity disorder (grades II -IV), of a psycho-pedagogical intervention program structured on components of organization, self-organization, of general character and specific to reading and writing activities, in relation to the specific profile of the executive functions, contribute to efficient learning.

In this research we focused on the coordinate described as a specific hypothesis: the development and use of the organizational skills, self –organizational skills specific to reading and writing, support significantly the elimination process of lexical-graphical difficulties.

Research variables

The independent variable of the research was represented by the psycho-pedagogical intervention program, structured on the component regarding the formation of the organizing skills specific to reading and writing.

The dependent variables of interest in this research were represented by: the variables regarding school performance (reading automaticity, reading comprehension and written expression) and variables regarding the executive functioning (graphic and motor organization and visual- spatial skills, planning and visual- spatial memory, planning, monitoring, self-regulation and problem solving skills).

There were also categorical variables: the *grade* the student with attention deficit and hyperactivity disorder associated with learning difficulties comes from, the *drug therapy* received or not by these students and the *type of attention deficit and hyperactivity*.

Procedure

The research was conducted during the 2011-2012 school year, on a group of 42 students with attention deficit hyperactivity disorder, the inattentive, hyperactive / impulsive and combined types, integrated in the mainstream

education, who presented lexical – graphical difficulties. This study was a continuation of the psycho-pedagogical intervention program targeting the forming of the general character organizational skills in these students.

Description of the psycho-pedagogical intervention program

The intervention program was implemented by the teacher during 16 weeks, in the cased of students with attention deficit hyperactivity disorder and learning difficulties and consisted of: the consolidation of the general character organizing techniques, implemented in the first part of the psycho-pedagogical intervention program, routines to solve writing and reading difficulties, "We all make mistakes," "I have ten minutes to solve this task", "first of all..." "Homework in the contract" "I am a project manager", observation, recording behaviors.

The techniques that form the intervention were grouped into several categories dealing with other aspects of the organizational skills. Thus, there were proposed several techniques for the management of the time for study / individual work in the classroom, planning techniques, prioritization techniques, self-monitoring techniques, techniques for preparing materials for school.

Routines in solving reading and writing difficulties

Difficulties faced by students with attention deficit and hyperactivity in reading and writing tasks were different so that the intervention was individualized. There was done a general description of the intervention program according to the difficulties encountered and there were proposed ways of intervention for each difficulty. There was used a personal" Dictionary" to take notes about the problems faced by each student.

"We all make mistakes!"

The student learned to check his work at the end of each individual activity performed and correct it.

Initially, after completing a form, the teacher used to correct the paper and give a mark, without writing anything on student's paper. The student was instructed to correct his mistakes that he identified himself, and the mark was changed with a slight penalty.

Gradually, the teacher asked the student to correct the paper before handing it, in order not to be penalized.

"I have ten minutes to solve the task!"

This technique was applied in courses that do not raise performance difficulties. The student had to be confident in his ability to solve the task and finish the task in the given time. In order to help, we used a wall clock and periodically noted on the blackboard the remaining time.

"First..."

Students were taught to enumerate (make a list of) the tasks they had to perform, to name the ones they wanted to achieve first and those that seemed more difficult. There was established an order to solve the tasks

The homework in the contract

The role and importance of a contract were explained to the student, then the student and parent / teacher (in the case of the extended program) signed a contract which established the completion of homework in a certain period of time. The contract included several points (Appendix16): the object of the contract which consists in finishing homework in a certain time interval; there was an article for each exercise in which was mentioned the time limit. In the contract were mentioned student's and parent's obligations and the bottom of the page there was a space where the student and the parent signed.

I am a project manager!

The student was designated to coordinate a large group project, which was evaluated at the end of the semester. Coordinators were trained separately by the teacher on the responsibilities and steps they had to follow. They were handed a list of tasks and necessary steps. The project was conducted in the classroom over a period of three weeks. There was an objective to reach every week.

After the implementation of the intervention program, there were completed again, for each student, the behavior rating scales during the instructive - educative activities from the curriculum area *language and communication*.

After completing the entire psycho-pedagogical intervention program, students were assessed again, using instruments which tested reading and writing (l' Alouette test, reading comprehension tests and image composition) and neuropsychological tests: Rey - Complex Figure (copy -recall) and Tower subtest(NEPSY), establishing its efficiency.

RESULTS

The study investigating the effectiveness of the psycho-pedagogical intervention program, structured on components specific to reading and writing, is a continuation of the experimental study on the intervention program based on the organizational component of general character. In this study was continued the analysis of data resulted from the application of the second component of the psycho-pedagogical intervention program, based on techniques of developing organizational skills, associated with self-organizing skills specific reading and writing.

Correlation tests on the final post-test variables

The analysis consisted in performing the correlations in the mirror, for the variables from the final post - test to see if the correlation trends are maintained. There were strong correlations between all pairs of variables of interest in research:

- Significant positive correlation between the variables of graphical- motor organization and visual- spatial perception skills and those concerning school performance ($r = 0.70$, $p < 0.01$ reading automaticity, $r = 0.69$, $p < 0.01$ reading comprehension, $r = 0.70$, $p < 0.01$ written expression skills).
- Significant positive correlation between the planning variables and visual-spatial memory and school performance variables: reading automaticity ($r = 0.67$, $p < 0.01$), reading comprehension ($r = 0.72$, $p < 0.01$) and written expression skills ($r = 0.69$, $p < 0.01$).
- Significant positive correlation between the variables concerning planning, monitoring, self-regulating and problem solving skills and all school performance variables: reading automaticity($r = 0.66$, $p < 0.01$), reading comprehension ($r = 0.68$, $p < 0.01$) and written expression skills ($r = 0.72$, $p < 0.01$).
- Significant positive correlation between variables, on neuropsychological tests between themselves(e.g. planning, monitoring, self-regulating and problem solving skills and the graphical- motor organization $r = 0.58$, $p < 0.01$ and planning and visual- spatial memory $r = 0.69$, $p < 0.01$) and between the variables from the pedagogical tests between themselves: reading automaticity and all the other results at: reading comprehension ($r = 0.73$, $p < 0.01$) with the written expression skills ($r = 0.78$, $p < 0.01$).

The analysis of the correlation tests showed that all correlations are significantly higher than in the pretest or partial post- test. Absolutely all the pairs formed between the 6 variables of interest in the research are strongly correlated at a significance level $p < 0.01$. These correlations increased compared to the situation from the partial post - test. It can be said therefore that the psycho-pedagogical intervention produced positive changes in students' performance and, moreover, these changes have accentuated in time.

When controlling the variable year of study, at the analysis of the correlations between the variables of interest in research from the final post-test, was noticed that:

- At the level of the 2nd grade there are positive correlations between most variables, for example:
  - Planning and visual -spatial memory and the variables: planning, monitoring, self-regulating and problem solving skills ($r = 0.72$, $p < 0.01$), reading comprehension ($r = 0.70$, $p < 0.01$), written expression skills ($r = 0.71$, $p < 0.01$) and reading automaticity ($r = 0.57$, $p < 0.05$).

- Graphical- motor organization and visual- spatial perception skills, with the variables concerning school performance, at a significance level $p < 0.05$: reading automaticity $r = 0.65$, $r = 0.60$, reading comprehension and written expression skills $r = 0.60$.
- Planning, monitoring, self-regulation and problem-solving skills and the variables: planning and visual- spatial memory ($r = 0.72$, $p < 0.01$), reading comprehension ($r = 0.74$, $p < 0.01$) and written expression skills ($r = 0.73$, $p < 0.01$).

- At the level of the 3rd grade there is a positive correlation between all the pairs of variables of interest in the research, at a significance level <0.01, this class seems to be the most efficient from the point of view of the results' correlation.
- At the level of the 4th grade there is a positive correlation in most pairs of variables at a significance level < 0.05.

The situation certainly improved, not only compared to the pre-test, but also to the partial post- test, the improvements being clear at the level of each year of study.

In the case of the partial post-test there were positive correlations between the variables regarding the executive functioning and those regarding school performance, both in the group receiving medication and in the group not receiving medication.

This trend is maintained in the final post-test, and it became more obvious: improvements are obvious compared to the situation from the pretest, in what concerns the significant correlations at levels < 0.05 for both groups of subjects; there remains, however, a slight difference in favor of the group of those receiving medication.

Thus in the case of students with attention deficit and hyperactivity disorder receiving medication, there are positive correlations between:

- Graphic-motor organization with the results obtained at: l'Alouette test $r = 0.47$ (reading automaticity), reading comprehension test $r = 0.45$ (reading comprehension) and image composition test $r = 0.45$ (written expression skills).
- Planning and visual -spatial memory with the variables: Reading automaticity $r = 0.37$, reading comprehension $r = 0.46$ and written expression skills, $r = 0.41$.
- Planning, monitoring, self-regulating and problem solving skills with the skills involved in reading automaticity $r = 0.39$, reading comprehension, $r = 0.43$ and written expression skills, $r = 0.38$.

In the case of students with attention deficit and hyperactivity not receiving medication, there are positive correlations, but they are fewer: graphic-motor organization correlates at a level<0.05 with reading automaticity $r = 0.55$, with reading comprehension $r = 0.58$; planning and visual- spatial memory

correlate with reading comprehension ($r = 0.68$, $p < 0.01$), and the planning, monitoring, self-regulating and problem solving skills correlate with written expression skills ($r = 0.79$, $p < 0.01$).

There was performed a data analysis also in the case of the *variable type of attention deficit and hyperactivity*.

As to the correlations of variables in the final post-test, when controlling the type of ADHD it was observed:

- A clear improvement in the case of the predominantly hyperactive type, which, although has fewer correlations, shows clear progress compared to the partial post- test and the pretest where there is no correlation between variables at this category. The graphic- motor organization and visual- spatial perception skills correlate with reading automaticity skills ($r = 0.95$, $p < 0.05$) and written expression skills ($r = 0.99$, $p < 0.01$); planning, monitoring, self-regulating and problem solving skills correlate with reading automaticity skills ($r = 0.64$, $p < 0.05$) and with reading comprehension skills ($r = 0.96$, $p < 0.05$).
- In the predominantly inattentive type there are strong correlations, slightly lower than in the case of the combined type. Graphic-motor organization and visual- spatial perception skills correlated with the variables concerning pedagogical performance: reading automaticity ($r = 0.85$, $p < 0.01$), reading comprehension ($r = 0.73$, $p < 0.05$) and written expression skills ($r = 0.83$, $p < 0.01$). In addition, planning and visual-spatial memory correlate with all the variables concerning school performance: reading automaticity ($r = 0.79$, $p < 0.01$), reading comprehension ($r = 0.69$, $p < 0.05$) and written expression skills ($r = 0.70$, $p < 0.05$).
- Most correlations appear in the combined type, the category where all variables of interest in the research are strongly correlated; it is the category with the best results obtained at the applied tests. All the variables from the neuropsychological tasks correlate strongly at a level<0.01, with those from the pedagogical tasks.

  The variables from the Rey Complex Figure test:

a) Graphic- motor organization and visual- spatial perception skills correlate with reading automaticity ($r = 0.66$), with reading comprehension ($r = 0.66$) and written expression skills ($r = 0.64$) ;
b) Planning and visual -spatial memory correlate with reading automaticity ($r = 0.63$), with reading comprehension ($r = 0.73$) and the written expression skills ($r = .65$).

Planning, monitoring, self-regulation and problem-solving skills correlate with reading automaticity ($r = 0.62$), with reading comprehension ($r = 0.79$) and written expression skills ($r = .81$).

Significance tests: final post - test compared to the partial post - test

The Paired Samples Statistics table was repeated and were calculated the averages, the size of the sample, the standard deviation and standard error of averages, for each variable of interest in the research in the partial post- test and final post- test.

For all pairs of variables, the averages have increased between the partial post- test and final post- test. In other words, the results were different, as there were obtained better results in all the variables in the partial post - test, compared to the results from the final post-test (with the exception of the reading automaticity, where the difference between the averages is not a significant one at a level< 0.05).

Table 1 presents the value of the correlations between the variables and the level of significance, for each pair of tested variables. It was noted that there are strong correlations between paired variables (with the exception of the reading automaticity, whose coefficient is significant at a significance level <0.05), and that all these correlations are significant at a significance level <0.01. For example, the highest Pearson coefficients (0.84, in the case of the graphic -motor organization and visual- spatial skills; 0.85 in the case of planning and visual-spatial memory) showed a strong correlation between the two measurements.

Table 1. The coefficients of correlation between the variables and the significance level (final post - test compared to the partial post - test)

		Correlation	Sig.
Pair 1	Rey copy 2 – Rey copy 3	,840	,000
Pair 2	Rey recall 2 –Rey recall 3	,856	,000
Pair 3	Tower 2 – Tower 3	,465	,002
Pair 4	l'Alouette 2 –l'Alouette 3	,394	,010
Pair 5	Reading comprehension 2 - Reading comprehension 3	,605	,000
Pair 6	Image composition 2 – Image composition 3	,663	,000

Table 2 presents the *t test*. Considering that for all pairs of variables, the significance level is 0.000, it was concluded that better scores obtained by students in the final post-test compared to the partial post-test are not due to random variations, but may be clearly attributed to the educational intervention delivered between the two measurements (partial post-test and final post-test).

Table 2. *T* test (partial post-test compared to the final post-test)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Rey copy 2 – Rey copy 3	-26,071	8,940	1,379	-28,857	-23,286	-18,900	41	,000
Pair 2	Rey recall 2 – Rey recall 3	-26,310	10,064	1,553	-29,446	-23,173	-16,941	41	,000
Pair 3	Tower2 – Tower3	-4,238	1,973	,304	-4,853	-3,623	-13,920	41	,000
Pair 4	l'Alouette 2 – l'Alouette 3	-32,381	14,303	2,207	-36,838	-27,924	-14,672	41	,000
Pair 5	Reading comprehension 2 – Reading comprehension 3	-31,190	14,220	2,194	-35,622	-26,759	-14,215	41	,000
Pair 6	Image composition 2 – Image composition 3	-29,405	11,904	1,837	-33,114	-25,695	-16,008	41	,000

T-test was repeated on paired samples on these variables, controlling also the variable grade (students were in the 2nd, 3rd and 4th grade). All the differences between the averages on each pair of assessment tools, show STATISTICALLY SIGNIFICANT improvements, regardless of grade: the results were better in the case of most students at the final post-test compared to the partial post-test, regardless of the grade the students were in.

The same test was used in the context of controlling another variable, to see if there are differences in the performance of students who received medication and those who did not receive medication.

In the case of controlling this variable, the results are also conclusive (Table 3). Results have significantly improved in both groups of students (those who received drug treatment and those who did not receive drug treatment); this condition did not produce differences in the results of the final post-test compared to the partial post-test, neither on the neuropsychological tests nor in school performance tests.

Another attempt was repeating the test, controlling the variable type of attention deficit and hyperactivity.

Analyzing the results divided into the three types (hyperactive, inattentive and combined) one could say that in the case of students from the inattentive and combined groups, the psycho-pedagogical intervention was effective in terms of significantly improving the performance between the partial post- test and

the final post -test. In the case of the hyperactive students category, however, differences between the results were not significant at a significance level of <0.01 (for any variable), but most of them are significant at a level of <0.05 (planning and visual-spatial memory; planning, monitoring, self-regulating and problem solving skills; reading automaticity, reading comprehension, written expression skills).

Table 3. *T* test for students with / without drug treatment
(final post-test versus partial post-test)

Treatment			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
With treatment	Pair 1	Rey copy 2 – Rey copy 3	-27,143	9,664	1,826	-30,890	-23,396	-14,863	27	,000
	Pair 2	Rey recall 2 – Rey recall 3	-25,179	10,045	1,898	-29,073	-21,284	-13,264	27	,000
	Pair 3	Tower 2 – Tower 3	-5,107	1,499	,283	-5,688	-4,526	-18,027	27	,000
	Pair 4	l'Alouette 2 – l'Alouette 3	-38,500	12,149	2,296	-43,211	-33,789	-16,769	27	,000
	Pair 5	Reading comprehension 2 – Reading comprehension 3	-34,107	14,723	2,782	-39,816	-28,398	-12,258	27	,000
	Pair 6	Image composition 2 – Image composition 3	-33,571	10,528	1,990	-37,654	-29,489	-16,873	27	,000
Without treatment	Pair 1	Rey copy 2 – Rey copy 3	-23,929	7,119	1,903	-28,039	-19,818	-12,576	13	,000
	Pair 2	Rey recall 2 – Rey recall 3	-28,571	10,082	2,695	-34,393	-22,750	-10,603	13	,000
	Pair 3	Tower 2 – Tower 3	-2,500	1,653	,442	-3,454	-1,546	-5,661	13	,000
	Pair 4	l'Alouette 2 – l'Alouette 3	-20,143	9,836	2,629	-25,822	-14,464	-7,662	13	,000
	Pair 5	Reading comprehension 2 – Reading comprehension 3	-25,357	11,513	3,077	-32,005	-18,710	-8,241	13	,000
	Pair 6	Image composition 2 – Image composition 3	-21,071	10,224	2,733	-26,975	-15,168	-7,711	13	,000

Table 4. *T* test for students with ADHD- hyperactive, inattentive and combined type (final post-test compared to partial post-test)

ADHD			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
Hyperac-tive	Pair 1	Rey copy 2 – Rey copy 3	-21,250	14,361	7,181	-44,102	1,602	-2,959	3	,060
	Pair 2	Rey recall 2 – Rey recall 3	-26,250	13,769	6,884	-48,159	-4,341	-3,813	3	,032
	Pair 3	Tower 2 – Tower 3	-4,000	1,414	,707	-6,250	-1,750	-5,657	3	,011
	Pair 4	l'Alouette 2 – l'Alouette 3	-23,250	13,961	6,981	-45,465	-1,035	-3,331	3	,045
	Pair 5	Reading com-prehension 2 – Reading com-prehension 3	-31,250	10,308	5,154	-47,652	-14,848	-6,063	3	,009
	Pair 6	Image composi-tion 2 – Image composition 3	-21,250	10,308	5,154	-37,652	-4,848	-4,123	3	,026
Inattentive	Pair 1	Rey copy 2 – Rey copy 3	-30,000	7,071	2,236	-35,058	-24,942	-13,416	9	,000
	Pair 2	Rey recall2 – Rey recall3	-29,000	11,005	3,480	-36,873	-21,127	-8,333	9	,000
	Pair 3	Tower2 – Tower3	-3,400	1,647	,521	-4,578	-2,222	-6,530	9	,000
	Pair 4	l'Alouette 2 – l'Alouette 3	-22,400	13,858	4,382	-32,313	-12,487	-5,111	9	,001
	Pair 5	Reading com-prehension 2 – Reading com-prehension 3	-29,000	10,750	3,399	-36,690	-21,310	-8,531	9	,000
	Pair 6	Image composi-tion 2 – Image composition 3	-25,000	7,454	2,357	-30,332	-19,668	-10,607	9	,000
Combined	Pair 1	Rey copy 2 – Rey copy 3	-25,357	8,491	1,605	-28,649	-22,065	-15,803	27	,000
	Pair 2	Rey recall 2 – Rey recall 3	-25,357	9,421	1,780	-29,010	-21,704	-14,242	27	,000
	Pair 3	Tower2 – Tower3	-4,571	2,098	,397	-5,385	-3,758	-11,529	27	,000
	Pair 4	l'Alouette 2 – l'Alouette 3	-37,250	12,295	2,323	-42,017	-32,483	-16,032	27	,000
	Pair 5	Reading com-prehension 2 – Reading com-prehension 3	-31,964	15,948	3,014	-38,148	-25,780	-10,606	27	,000

ADHD			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
Hyperac-tive	Pair 1	Rey copy 2 – Rey copy 3	-21,250	14,361	7,181	-44,102	1,602	-2,959	3	,060
	Pair 2	Rey recall 2 – Rey recall 3	-26,250	13,769	6,884	-48,159	-4,341	-3,813	3	,032
	Pair 3	Tower 2 – Tower 3	-4,000	1,414	,707	-6,250	-1,750	-5,657	3	,011
	Pair 4	l'Alouette 2 – l'Alouette 3	-23,250	13,961	6,981	-45,465	-1,035	-3,331	3	,045
	Pair 5	Reading com-prehension 2 – Reading com-prehension 3	-31,250	10,308	5,154	-47,652	-14,848	-6,063	3	,009
	Pair 6	Image composi-tion 2 – Image composition 3	-21,250	10,308	5,154	-37,652	-4,848	-4,123	3	,026
Inattentive	Pair 1	Rey copy 2 – Rey copy 3	-30,000	7,071	2,236	-35,058	-24,942	-13,416	9	,000
	Pair 2	Rey recall2 – Rey recall3	-29,000	11,005	3,480	-36,873	-21,127	-8,333	9	,000
	Pair 3	Tower2 – Tower3	-3,400	1,647	,521	-4,578	-2,222	-6,530	9	,000
	Pair 4	l'Alouette 2 – l'Alouette 3	-22,400	13,858	4,382	-32,313	-12,487	-5,111	9	,001
	Pair 5	Reading com-prehension 2 – Reading com-prehension 3	-29,000	10,750	3,399	-36,690	-21,310	-8,531	9	,000
	Pair 6	Image composi-tion 2 – Image composition 3	-25,000	7,454	2,357	-30,332	-19,668	-10,607	9	,000
	Pair 1	Rey copy 2 – Rey copy 3	-25,357	8,491	1,605	-28,649	-22,065	-15,803	27	,000
	Pair 2	Rey recall 2 – Rey recall 3	-25,357	9,421	1,780	-29,010	-21,704	-14,242	27	,000
	Pair 3	Tower2 – Tower3	-4,571	2,098	,397	-5,385	-3,758	-11,529	27	,000
	Pair 4	l'Alouette 2 – l'Alouette 3	-37,250	12,295	2,323	-42,017	-32,483	-16,032	27	,000
	Pair 5	Reading com-prehension 2 – Reading com-prehension 3	-31,964	15,948	3,014	-38,148	-25,780	-10,606	27	,000
	Pair 6	Image composi-tion 2 – Image composition 3	-32,143	12,651	2,391	-37,048	-27,237	-13,444	27	,000

Significance tests: final post-test compared to final pre – test

There were compared the six variables (covered by the tests: Rey complex figure - Copy and recall, Tower subtest and those concerning school performance) before the intervention (pretest) and after the final intervention (final post -test).

In the final post- test there appear again, for each pair of tested variables, the value of the correlations between the variables and the level of significance. It could be observed that there are high correlations between the results of each pair of variables, and that all these correlations were significant, at a significance level < 0.05. For example, the highest Pearson r coefficients (0.62 for the variable *graphic- motor organization*, 0.60 for the variable *planning and visual -spatial memory*) indicate that there was a major difference for students between the two measurements.

The table below (Table 5) presents the *T* test. Taking into account the fact that the level of significance is 0.000 for all pairs of variables of interest in the research, it could be concluded that better scores obtained by students in the final post- test, were not due to random variations, but may be attributed clearly to the psycho-pedagogical intervention delivered between the two measurements (pretest and final post-test).

Table 5. *T* test (final post -test compared to pretest)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Rey copy 1 – Rey copy 3	-38,214	13,785	2,127	-42,510	-33,919	-17,966	41	,000
Pair 2	Rey recall 1 – Rey recall 3	-52,500	13,936	2,150	-56,843	-48,157	-24,415	41	,000
Pair 3	Tower 1 – Tower 3	-9,952	1,794	,277	-10,511	-9,393	-35,959	41	,000
Pair 4	l'Alouette 1 - l'Alouette 3	-44,857	14,971	2,310	-49,522	-40,192	-19,418	41	,000
Pair 5	Reading comprehen-sion 1 – Reading comprehension3	-40,119	13,502	2,083	-44,327	-35,912	-19,257	41	,000
Pair 6	Image composition 1 – Image composition 3	-43,690	14,401	2,222	-48,178	-39,203	-19,662	41	,000

The variable *grade* was also controlled (the students were enrolled in the 2nd, 3rd and 4th grades), repeating the *T* test on paired samples on the same variables.

All the differences between the averages showed STATISTICALLY SIGNIFICANT improvements on each pair of evaluation, regardless of the grade:

most students obtained better results at the final post-test than they did on the pre-test, regardless of their year of study. It should be mentioned, however, that at the level of the 3rd grade, improvements are noticeable.

The same *T* test was used in the context of controlling another variable to see if there are differences in the performance of students who received medication and those who did not receive medication.

In case of controlling this variable, results are also conclusive: students who received drug treatment but also those who did not receive drug treatment have significantly improved their results, so this condition did not bring differences in the results of the final post- test, neuropsychological tests nor in those of school performance.

T test was repeated, taking into account the type of attention deficit and hyperactivity. Analyzing the results, divided into the three types of attention deficit and hyperactivity (hyperactive, inattentive and combined), we could say that in the case of students with attention deficit and hyperactivity disorder -predominantly inattentive and combined type, the psycho-pedagogical intervention was effective in terms of significantly improving their performance between the pretest and the final post- test. In the case of the hyperactive children, there is only one variable in which, despite the improvements that appear between the pre-test and the final post –test, these improvements are not statistically significant. (Graphic- motor organization, where the significance level is > 0,05).

CONCLUSIONS

In the final post- test after the implementation of the entire psycho-pedagogical intervention program on the two components: organization, self - organization of a general character and specific to reading and writing activities, there were obtained significant positive correlations, between the variables concerning the graphic- motor organization and visual- spatial skills and all the variables concerning school performance(reading automaticity, $r = 0.70$, $p < 0.01$; reading comprehension, $r = 0.69$, $p < 0.01$ and written expression skills, $r = 0.70$, $p < 0.01$); between the variables concerning the planning and visual-spatial memory and school performance variables (reading automaticity, $r = 0.67$, $p < 0.01$; reading comprehension, $r = 0.72$, $p < 0.01$ and written expression skills, $r = 0.69$, $p < 0.01$); similarly in the correlation of variables concerning planning, monitoring, self-regulating and problem solving skills and all the school performance variables (reading automaticity, $r = 0.66$, $p < 0.01$; reading comprehension, $r = 0.68$, $p < 0.01$ and written expression skills, $r = 0,72$, $p < 0.01$).

Correlations were accentuated, compared to the situation from the partial post- test, focused on the organizational component of general character, which confirms that there have been positive changes in students' performance.

In the students from the 2nd grade, there were positive correlations between the graphic- motor organizational skills and visual- spatial skills (Rey - copy) and reading automaticity (l' Alouette test, $r = 0.65$, $p < 0.05$), reading comprehension (reading comprehension, $r = 0.60$, $p < 0.05$) and written expression skills (image composition $r = 0.60$, $p < 0.05$); also between the planning, visual - spatial memory (Rey-recall) and reading automaticity (l' Alouette test, $r = 0.57$, $p < 0.05$), reading comprehension (reading comprehension, $r = 0.70$, $p < 0.01$) and written expression skills(image composition $r = 0.71$, $p < .01$).

In the 3rd grade, the significant positive correlations at a significance level $p < 0.01$, were found in all the variables concerning school performance. This was the grade with the best performance in terms of results correlation.

In fourth grade, there were significant correlations:

- ✓ a significance level $p < 0.01$: between graphic-motor organizing skills and visual- spatial skills and all the variables concerning school performance (reading automaticity, $r = 0.81$; reading comprehension, $r = 0.79$ and written expression skills, $r = 0.72$); between the variables concerning planning, visual- spatial memory and reading automaticity, $r = 0.75$ and between planning, monitoring, self-regulating and problem solving skills and reading automaticity, $r = 0.84$, reading comprehension, $r = 0.71$ and written expression skills $r = 0.76$.
- ✓ at a significance level $p < 0.05$: between planning and visual- spatial memory and reading comprehension, $r = 0.62$ and written expression skills, $r = 0.64$. Thus, the improvements were shown at the level of each grade.

In the case of children with attention deficit and hyperactivity receiving drug treatment, the correlations were significant between all the variables of interest in the research (neuropsychological tests and tests assessing school performance) but at a significance level $p < 0.05$; the group who did not receive medication registered improvements, but not in all variables.

When controlling the type of attention deficit and hyperactivity there were observed improvements in all the types, but the strongest correlations were met at a significance level of 0.000, at all variables, in students with attention deficit hyperactivity disorder combined type.

There was drawn a comparison between the variables of interest in research, between the assessments from the end of the psycho-pedagogical intervention (final post- intervention) and the initial results (pretest), and those realized after the implementation of the first part, based on the organizational component of general character (partial post- intervention). In both cases the intervention brought about positive changes in students' performance, changes that have accentuated over time, which proves the effectiveness of the implemented intervention program.

There were significant improvements in students' performance and the fact that there were registered better scores in both cases (partial post-intervention and final post- intervention) at a significance level of 0.000, shows that this is not due to random variation, but obviously to the implementation of the psycho-pedagogical intervention program with the two components: organization, self-organization of a general and a character specific to reading and writing activities.

Starting from the *t* values, all the differences between the averages, on each pair of variable, in both situations of intervention, show statistically significant improvements, regardless of students' year of study.

In the case of students with attention deficit hyperactivity disorder who received / did not receive medication, the differences between the averages obtained on the two variables from each pair, between the final post- test compared to the partial one, as well as to the pre-test, were statistically significant at a significance level <0.01 in both cases. This indicates a performance change following the implementation of the intervention program based on the two components.

Statistically significant differences, based on the *t* values are observed in the case of the type of attention deficit hyperactivity disorder, at a significance level < 0.05, between the final post- test, both compared to pretest but as well to the partial post- test in the case of the predominantly inattentive and combined type. In the case of the predominantly hyperactive type, differences are significant at a level< 0.05, between the final post- test compared to the partial post- test, almost in all pairs of variables, except the graphic- motor organization and visual - spatial skills, probably because of the limited number of participants. The situation is similar in the case of the differences between the averages of the scores obtained on the two paired variables (graphic- motor organization and visual- spatial skills) between the partial post- test compared to pre-test, the significance level being > 0.05.

Obvious performance improvements in most students from the 3rd grade could be explained by the fact that this is the period in which the training level influences favorably the overall development, and especially the reading and writing, resulting a sense of stability and in the fourth grade is expected a differentiated development. It seems that in the 2nd grade there is a heterogeneous period from the point of view of the acquirement and the level of automation varies.

The psycho-pedagogical intervention program structured on the component of organization specific to lexical-graphical disorders in children with attention deficit and hyperactivity must integrate contents and experiences from the area of factors impacting on the attention deficit and hyperactivity.

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DEVELOPMENT OF TACTILE STRATEGIES AND USE OF TACTILE RESOURCES IN EMERGENT LITERACY AT CHILDREN WITH VISUAL IMPAIRMENT

ANDREA HATHAZI[*], MIHAELA BUJOR[**]

ABSTRACT. The development of literacy skills in children with visual impairment involves a structured process concerning the development of pre-acquisitions through different strategies and activities such as using tactile books, reading stories aloud, tactile exploration and concept development in an adequate and responsive learning environment. In the present study we discuss the importance of literacy environment and the opportunities created by first hand experiences which form the foundation for learning, meaningful language development out of real experiences, and interaction with adults or peers. The use of tactile resources and the learning of strategies and procedures in tactile exploration within stages that need to be completed will determine the development of emergent literacy skills in children with blindness.

Key words: *visual impairment, tactile strategies, exploration procedures, tactile resources, emergent literacy*

ZUSAMMENFASSUNG. Die Entwicklung der Lese- und Schreibfähigkeit bei Kinder mit Sehbehinderung besteht aus einem strukturierten Prozess für die Entwicklung der bevor Erworbenen durch verschiedene Strategien und Aktivitäten wie, Tastbücher, Auflesen von Geschichten, Tasterforschung und Konzeptentwicklung in einer angemessenen und ansprechbarer Bildungsumfeld. In dieser Studie steht im Vordergrund die Wichtigkeit des Bildungsumfeldes und die Gelegenheiten der eigenen Erfahrungen die die Basis der Bildung darstellen, sinnvolle Sprachenentwicklung durch echte Erfahrungen und Interaktion mit Erwachsenen oder Kollegen. Die Benutzung der Tasthilfsmittel und das Erlernen der Strategien und Techniken in der Tasterforschung innerhalb von Etappen, müssen abgeschlossen werden, werden die Entwicklung der austretenden Lese- und Schreibfähigkeit bei Kinder mit Blindheit bestimmen.

Schlüsselwörter: *Sehstörungen, taktile Strategien, Exploration Verfahren, taktile Ressourcen, Emergent Alphabetisierung*

[*] Babes-Bolyai University, Faculty of Psychology and Educational Sciences, Special Education Department, Cluj-Napoca, Romania, ahathazi@psiedu.ubbcluj.ro
[**] The Highschool for the Visually Impaired in Cluj-Napoca, Romania, mihabujor@yahoo.com

INTRODUCTION

The development of literacy skills in children with visual impairment involves a structured process concerning the development of pre-acquisitions through different strategies and activities such as tactile exploration and concept development, tactile resources, using tactile books, reading stories aloud in an adequate and responsive learning environment. The emergent literacy is defined as the developmental process in which children acquire the foundation for reading and writing, including oral language and listening comprehension, concepts about print, alphabetic knowledge, phonological awareness, and the environments within which they develop and learn (Erickson, Hatton, Roy, Fox, Renne (2007) apud Sénéchal, LeFevre, Smith-Chant, and Colton, 2001; Strickland & Shanahan, 2004; Whitehurst apud Lonigan, 1998, 2002). In early intervention, emergent literacy also includes areas of concept and motor development that relate directly to reading and writing skills in later childhood. It is assumed that the development of literacy in children begins long before formal instruction in literacy skills (McKenzie, 2009 apud Teale & Sulzby, 1994).

Stratton, J.M. and Wright, S. (1991) discuss the importance of literacy environment and the opportunities created by first hand experiences which form the foundation for learning, meaningful language development out of real experiences, and interaction with adults or peers. Stratton and Wright (1991) suggest the importance of the following strategies in the emergent literacy:

- direct experiences with the objects in activities of tactile exploration,
- the development of body image,
- the development of hand skills such as reaching, grasping, rotating, manipulating, touching, exploring,
- the use of language in concept development and increase of experiences within the pragmatic function in everyday experiences,
- active participation opportunities within a responsive environment that encourages initiative and curiosity,
- reading aloud to children that is also about developing the listening skills so important when considering children with visual impairment and access of information,
- development of an awareness of print or Braille as an exposure to text and that the words have meaning.

Learning about the objects and exploring the environment must be preceded by the understanding and development of self- awareness regarding body image. Self- representation is important in the development of the concept of self in relation to objects, people and environment. During development, the child gains the ability to conceptualize the physical world through thought, starting with the perception and understanding of the spatial aspects of it (Warren, 1994). spatial information is not the exclusive domain of one sensory

modality. Spatially relevant information is lso available through senses other than vision (e.g., through hearing, touch and movement) and this information can form the basis for spatial coding (Ungar, 2000).

The child must be given time to explore, but also adequate descriptions must be offered simultaneously with the hands-on activities in order to form the concept. Exploration of objects can be done initially together with the adult, with the progressive withdrawal of the support from the adult (Chen, 2011). The material and tactile resources that are used in the development of pre-Braille abilities will support also the development of tactile and fine motor skills, perceptions and representations, language, orientation and mobility. The use of these resources must follow the principles from simple to complex, tridimensional to bidimensional, from concrete to abstract.

According to Barraga and Erin (1992) there are five stages in the development of tactile perception in the child with blindness. These are awareness and attention given to different characteristics of surfaces such as texture, temperature and vibration, followed by identification of shape and structure, recognition of relationship of different parts within the whole, recognition of graphic representations and finally recognition of Braille symbols.

Withagen, Ans, Vervloed, Mathijs P.J., Janssen, Neeltje M., Knoors, H., Verhoeven, L. (2010) apud Jones and Lederman (2006), Klatzky, Lederman, and Metzger (1985), and Lederman and Klatzky (1987, 1996) present two phases in exploratory strategies: nonspecific exploratory procedures and specific exploratory procedures. The nonspecific exploratory procedures (like enclosure), give global information about objects, whereas the specific procedures (such as following contours) give more or less exact information about objects. In this view, consideration must be given to the resources that are used, but also to the strategies. McLinden and McCall (2002) describe the term of active touch and identify the sensory information acquired about the object through various exploratory procedures. An exploratory procedure is a stereotyped pattern of manual exploration observed when a particular object property is identified during voluntary manual exploration without vision or sometimes with vision (Lederman, Klatzky, 2009). Thus the lateral motion exploratory procedure (rubbing finger across surface of object) gives information about the texture, the pressure exploratory procedure (squeezing, poking object) about the hardness, the static contact exploratory procedure (fingers resting on object surface) about the temperature, the enclosure exploratory procedure (holding/grasping object) about the shape/size/volume, the unsupported holding exploratory procedure (holding object in hand) about weight and contour following exploratory procedure (tracing along contours of object about the global shape and exact shape. The simultaneous execution of two or more exploratory procedures allows the individuals to integrate redundant properties of multiattribute objects (Lederman, Klatzky, 2009).

The best way to learn the concept of a model is to use a concept that the child had discovered and developed during the experience with the object itself (Wormsley, 1997). These types of activities must become an important part of the structured routines and programmes in early child development. Children with visual impairment sometimes lose different characteristics of the objects they approach in a fragmentary way, so that the concepts and representations forms are distorted. Objects must be approached in a holistic and integrative way (Wormsley, 1997). Children must be taught different exploratory strategies – such as – palm scanning, manipulation with fingers and thumb, moving hands over different parts of the object, moving back and forth over the object to connect the different parts and realize a synthesis.

Experiences build concepts. A concept is a mental representation, image or idea of tangible and concrete objects and intangible ideas and feelings. Concepts link the tactual interpretation of parts to build an entire perception of the whole within meaningful experiences to find patterns and make connections and generalizations (Cleveland, J., Sewell, D., 2009). Fine motor skills are essential for acquiring Braille, so any delay in the development in this area must be approached to prevent further delays. The effects of the delay can become permanent, influencing also orientation and mobility skills and even cognitive abilities (CNIB, 2004). Main difficulties appear when there is no stimulation and training regarding tactile skills and tactile experiences. Consideration must be given to the resources that are used that will facilitate hands flexibility, coordination and dexterity, development of fundamental gestures and specialized movements to complete various tasks. Activities which refer to the development of pre-Braille activities must be included in structured daily programs, that initially last several minutes and then later for 30-40 minutes (Koening, 2000). The activities rely on active learning, discovery and investigation, observation and exploring of the environment so that children develop skills that are significant and meet their needs. These activities involve active learning, observation and discovery of the environment, but autonomous behaviors do not develop unless educational programmers are implemented, and sensory activities are integrated in daily routines (Chen, 2006).

Tactile exploration of objects must be realized according to the following stages:

1. Stage of searching for the object on the tabletop until it is reached.
2. Stage of making first tactile contact with the object.
3. Stage of detailed exploration of the object, its recognition or building a pre concept of it in case the object is unknown.
4. Stage of making conclusions and picturing the tactile information. (Tzvetkova-Arsova, 2000).

In the use of tactile resources consideration must be given to the age of the child and level of development. These can have a simpler content and progressively become more complex. At the beginning, tactile books can be based on the development of different concepts such as shape, size and texture or real objects from the child's environment can be transformed in tactile images (Cziker, 2011). The use of tactile books requires some steps in the process of learning, starting with the exploration of the pages, orientation in the page, find the elements and identify the characteristics, associate the representation with the written or spoken word, identify characters, enjoy the story and the whole activity and form aesthetic and moral values. The critical factor that encourages the development of literacy consists in exploring tactually while reading aloud the story, so that the meaning is conveyed not only in tactile representations, but also in text. Tactile books can be associated with the use of tactile boxes that contain the elements that are presented in the books, and these can be explored while following the pages of the books or previously. The first book must be simple and explored together with the adult (Skold, C., 2007). The child will learn the concept of a book, learns how to use them, to perceive margins and corners with the use of both hands – fingers and palms, to identify tactile images representing different objects, to identify the presence of texts. Also the different positions and relations between the objects and their display in the environment can be learned.

The use of pre-Braille resources represents an important stage in the emergent literacy. Getting in contact with the Braille symbols, learning techniques to identify and discriminate different displays of the symbols and of the dots, exploring rows and columns of Braille dots, learning to orientate in the page, learning spatial concepts such as left, right, middle, up, down are very valuable for further learning of Braille reading and writing. Even though the children cannot read and write Braille, using these resources, he will get aware of the connections between oral verbal language and written verbal language (Swenson, 1999). The early attempts of the blind children to read can include following a word or a sentence with the fingers, turning the page, identifying tactile elements while the adult is reading, writing with the stylus different Braille symbols. At the beginning, the child is familiarized with the use of stylus and he makes randomly dots on the paper (like the rain is falling), then later makes different kind of lines, horizontal, vertical, different combinations of these, different geometrical shapes, with support of other resources such as dough or wooden pieces and then without support. After the exercise with the stylus and the slate, the child always has to analyze what he has done, verbalizing all the information that he is tactually identifying (Swenson, 1999).

RESEARCH HYPOTHESES

The current study investigates the following hypotheses: the use of tactile resources following a structured model will determine an increase in the development of tactile skills.

CASE-STUDY REPORT

Personal and family background

The child, with the age of 5 years old is included in the early intervention program at the Kindergarten for the Visually Impaired in Cluj-Napoca. The family of the child works and lives abroad. The first months in the kindergarten were characterized by a period of stagnation in the child's development. Attending a boarding school is difficult for the child to accept and accommodate with. There are no other cases of visual impairment known or registered in the family.

Medical information and diagnosis

a) Medical history: The child was prematurely born at 6 months and 3 weeks, with a weight of 750 grams and a length of 32 cm. Needed incubation for several weeks.

b) Ophthalmological diagnosis:

- Retinopathy of prematurity
- Congenital glaucoma
- Retrolental fibroplasia.

Ophthalmological diagnosis was given at the age of 8 months.

Psychological and educational assessment

a) Psychological assessment

The child was assessed with Oregon developmental scale and functional development inventory. According to the assessment, the child communicates relatively easily, responding spontaneously, he plays with other children, but often prefer to stand alone, not expecting to be involved in the activity. He doesn't initiate play activities. He presents negativity and refusal of activities, especially when he is tired. If he fails to do something he gets upset and often starts crying.

If he happens to drop a toy, he makes lateral movements with feet and if it doesn't come in contact with his body, he is no longer looking for it, and remains sitting on the chair.

He is very static, sits mostly on the chair, not moving, and if nothing is given to him to do, he can stay with the head on the desk. He is not motivated

to look for objects and toys, to move and explore new things by his own initiative. Always uses the words „I can't" or „I don't know". He has the habit to keep the hand in the eye constantly.

He likes stories, he listen and then reproduces sequences of the short story, but with additional questions. During breaks, rarely looks for peers, waiting to be looked for and enjoying when his friends ask him to play together. If he is involved in an activity that interests him, he is able to be in the activity for 30 minutes. The vocabulary is quite poor, but he uses sentences to express his needs and interests.

b) Interpretation of results from the initial assessment

The results of the assessments showed a significant delay in child development at all levels, including motor development. Movements are rigid, poor coordination of movements, exploratory strategies are lacking. He has poor spatial orientation and spatial concepts are not used.

Body image concepts are fairly well implemented; he identifies the main parts of his body, making also transfer to other people. There is a lack of confidence in his abilities, he is afraid to explore, to investigate the environment, lack of curiosity, a reduced need for participation. Exploratory behavior is not systematic; it is rarely planned, with incomplete and imprecise manipulation. Time and spatial concepts are partially formed, but incomplete. He has the concept of size (large-small), but not the concepts of form, composition, texture. At the task of indentifying geometric figures, the child managed to indentify only the circle, without naming its shape (round).

He responds to tactile stimulation, he is pleased to explore tactile images, especially those with moving parts. He presents difficulties in interpreting tactile information of objects represented in items with similar characteristics In order to explore the page, he uses the hand without a specific strategy. The major problems are noted in the development of fine motor skills.

Intervention program

The results of the assessment represent the starting point in the development of the individualized intervention plan. The objectives that were set refer to the following areas of development and specific skills: space concepts and structures, orientation, motor skills, bimanual coordination, tactile perception, tactile exploration of objects and tactile images, Braille.

The content of activities was structured on three levels:

a) Exploring real objects within activities of identifying objects and their characteristics, activities of identifying objects in immediate space and environment, exercises of developing grasping and fine motor skills.

b) Exploring tactile images and tactile symbols with structures and content that evolve from simple to complex, from the pre-Braille resources to the story. These were also associated with verbal descriptions for the development of listening skills and adequate concepts. The use of tactile representations of real life objects is an important stage for the emergence of tactile knowledge and understanding of tactile symbols.
c) Use of resources for learning and reading and writing skills in Braille.

The first stage of the intervention program referred to the development of tactile concepts and tactile knowledge regarding objects from the environment. The characteristics of different objects were observed in detail: size, shape, weight, texture. The tactile exploration was made with an emphasis of handling with both hands and identification of the different functions of objects i.e. a rubber ball can be rolled, squised to make a sound, thrown and tapped. Exercises to develop basic motor gestures such as stringing activities, fitting, construction, grading, and modeling were also included in the activities.

For raising awareness and motivation to explore objects with different characteristics, the objects were presented with their other attributes like taste or smell. For example, what we can do with an orange: exploring an orange, smelling fingers and hand, peeling the orange, cutting in into pieces, exploring the whole, perceiving the shape and rough texture of orange peel, roll it on a table, can be likened to a ball. This is an example of activity that incorporates both training and analysis, but also motivation to discover the environment. He always tries to verbalize and describe the activities that he is involved in for a better understanding, but also a need for being reassured.

The next stage in the intervention program consisted in the use of a tactile book. The child was familiar with the concept of „book", he learned to explore it from the cover. Exploration was done in an organized way, from left to right and top to bottom. Topics explored in the first book: simple geometric forms, representations of lengths, sizes, different textures, and objects could be manipulated (for example. A small booklet glued inside the book, etc.) Exploration in the beginning was difficult; initially he failed to identify the concepts of space on the page, to make the transfer from concrete plan, object, and space on the page.

The child was next presented a narrative tactile book, a story called „The little doll". The objects in the story were explored initially in the environment. If at first the movements were confusing and disparate, during the exploration of the book he began to acquire more accurate techniques to explore from top to bottom of the page and from left to right. Exploring the book was done in stages, first becoming with familiar with it, then lead to learning spatial concepts and techniques of exploration, handling, identification and then building by exploring the group together with other colleagues.

Then he was introduced to the pre-Braille manuals, realizing the exercises of the first two volumes, on the horizontal and vertical line. Along with these exercises, he was introduced with the slate and the stylus, making Braille dots and symbols on the paper. During the implementation of personalized intervention plan he developed self -confidence and personal safety skills. His refusal and lack of participated in activities was reduced, he became more involved in daily educational activities.

Final assessment

The implementation of exploration techniques and structured activities determined progress in the development of tactile and motor skills, but also in the development of tactile representations and concepts. At the beginning the exploration was totally chaotic, only with one hand, the other hand touching the eye or supporting the head. The objects were not manipulated using a strategy that will enhance later recognition and development of representations. The lack of tactile strategies was related to reduced understanding of the physical environment, the recognition of objects and their use, but also reduced vocabulary and concepts. The programme determined more precise and coordinated movemements, the exploration procedures were formed so that the significant tactile information is identified in order to enhance understanding. The assessment showed that in order to be effective, the learning process must be sequential and well approached. The exploration strategies are not formed in the context of blindness if there is no structured program that considers all these specific skills.

Following the intervention program, there was an increase of interest for the surrounding objects and tactile books, always wanting to „read", looking for toys to be manipulated and explored. An intensive training program for the development of tactile skills is recommended in kindergarten activities and daily routines.

CONCLUSIONS

All three types of levels and complexity of activities are required to be approached and implemented in the programmes. The skills that are specific to each level, starting with basic tactile discrimination and identification to the more complex tactile symbols and their understanding, must be considered and thoroughly developed so that the Braille literacy skills can be formed properly. The delay in the development of Braille literacy skills must be searched in the previous developmental stages. The assessment of these skills will always refer to what has been learned by the child and the level of

mastery and functionality of the pre-acquisitions. The intervention programme also determined interest and curiosity for the tactile resources and the refusal of participation in the activities reduced in frequency. It is thus recommended in the early intervention programmes for blind children that increased importance to the development of tactile strategies is given within the rehabilitation and educational activities. The development of these strategies and the enhanced exploration of objects and tactile resources is close to cognitive development, language development, social and emotional development and daily living skills. The use of specific tactile resources is essential; they must be available to the children and the teachers. Consideration must be given so that each child with blindness develops from the early years' skills that determine understanding and learning. Abilities can be remained undeveloped, later development of specific skills like reading and writing Braille can be noted, difficulties in learning can be encountered. There is a need to use teaching strategies and activities such as organizing the environment, exploration techniques, pre-Braille exercises that will encourage the development of literacy skills.

Knowing the environment, having strategies that allow exploration and manipulation, accessing tactile resources, developing representations, developing language and concepts are key elements for every intervention program.

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THE RELATION BETWEEN THE DEVELOPMENTAL LEVEL OF COMMUNICATION SKILLS AND THE DISPLAY OF CHALLENGING BEHAVIORS IN CHILDREN WITH ASD

CLAUDIA CRIŞAN[*]

ABSTRACT. The present study was carried out over a period of four years and aimed at investigating the existing relation between the developmental stage of communication skills and the manifestation of challenging behavior with the purpose of conveying refusal in the case of three children with ASD. The participants were subjected to an intervention based on language and communication stimulation method addressed to children with autism spectrum disorder (LCSMA, Dascăl Crişan, 2012) and according to the results obtained, LCSMA proved its efficiency in the case of the 3 participants included in the study. They acquired functional communication skills to express refusal, acquisitions that facilitated a reduction in the frequency of exhibiting problem behaviors.

Key words: *autism, challenging behaviors, LCSMA, language developmental stage.*

INTRODUCTION

The problem behaviors or oppositional defiant behaviors involve various socially unacceptable, and harmful behaviors, both towards self and others and/or the environment, being associated with several negative consequences (Matson et al., 2011). Even though these behavioral patterns are not typical to individuals with autistic spectrum disorders (ASD), studies show that this population exhibits various forms of oppositional defiant behaviors in about 94,3% of cases (Matson, Wilkins & Macken, 2009). However, the types of behaviors displayed and the level of aggressiveness ranges on a continuum from most severe to most "tolerated" by the people around. In addition, Kozlowski & Matson (2012) noticed that these behaviors were more frequently displayed when autism was associated with mental retardation and less frequently displayed when autism was associated with pervasive developmental disorder not otherwise specified symptoms (PDD-NOS).

[*] Assist. PhD, Department of Educational Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania, claudia.crisan@ubbcluj.ro

Thus aggressiveness or self-harm, shouting, crying, tantrums, biting, property damage (Tiger et al., 2009) might be displayed by children with autism (generally by those who lack functional communication skills) as a way to draw attention, to escape from an unpleasant or overwhelming task, to escape a stressful situation, to object or receive something (food or object), to indicate the violation of routine or simply to manage social interactions (Wetherby, Schuler & Prizant, 1997).

Seen from a language developmental stage approach, these behaviors can range from expressions lacking intentionality or preintentional, to the ones bearing functionality and purposefully intended to influence the behaviors of others (Prizant & Wetherby, 1987). By making a thorough functional analysis of these behaviors, Ozonoff, Dawson & McPartland (2002) cited in Lovannone et al. (2003) identified five major functions of problem behaviors:

(1) To indicate confusion and need for assistance;
(2) To satisfy various needs or ti express various emotional states;
(3) To escape from a certain task;
(4) To indicate the need for predictability or violation of routine;
(5) To receive something or to demand social involvement;
(6) To receive or avoid several sensory inputs.

Garside & colab. (2000) emphasized the fact that in such situations the right way to begin an interpretation of these behaviors is to take into account that the child does not have any efficient techniques of managing the situation and special attention must be given to the context, environment and nevertheless the consequences in order to determine the real cause and function of the problem behaviors (Ozonoff, Dawson & Mcpartland, 2002). Within this explanatory approach, Almasoud (2011) offers a detailed analysis of the main triggers of problem behaviors and the way these situations can be successfully managed. Taking into consideration that many of the ASD persons are overly sensitive due to certain environmental stimuli, many research studies revealed that environmental factors may trigger the display of problem behaviors (Jackson, 2011), such as hitting or covering one's ear, destroying things, hurting someone or sensory exploration of objects (Kranowits, 1998). Moreover, the learning environment might have a negative impact over the way children with autism behave. Therefore, the arrangement of the classroom, of the furniture and other decorative or learning objects, the unpredictable changes in the school routine, the lack of clear commands and structure for solving different tasks, too low or too high parental or teacher expectancies or the poor structuring of the time and environment might be other factors that favor manifestation of the oppositional defiant behavior (Lavannone et al., 2003; Clements, 2005; Ashdown & Jones, 2008). However, the unacceptable social behaviors were predominantly observed to appear in the cases in which the children could not easily access efficient methods of

expressing their needs and the people around them gave a whole new meaning to the way they behaved (Ozonoff, Dawson & Mcpartland, 2002; Lavannone et al., 2002).

The noninvasive approaches concerning the management of problem behaviors are starting to be more and more accepted as a "good practices" example in the case of ASD individuals (Wetherby, Schuler & Prizant, 1997). Within this context it is essential to create a much friendlier environment through the elimination of barriers and factors that may favor the appearance of unacceptable social behaviors which should also have the same functions (Paley, Stirling & Wakefield, 2008). Thus many research studies confirmed that teaching a child to use functional communication means (verbal language, manual signs, communication through objects or images) reduces the problem behaviors (Durand, Berotti & Weiner, 1983).

The present study investigates the existing relation between the language developmental stage and the display of problem behaviors, as a way to express rejection, in the case of 3 children with autism that benefited from a form of therapy based on language and communication stimulation method addressed to children with autistic spectrum disorders (LCSMA, Dascăl Crișan, 2012).

DESCRIPTION OF THE METHOD

Launched in 2007 under the name of "The intervention technique for stimulating the communication in autism" (Dascăl Crisan, 2007), the method was subjected to various content changes, being currently known as LCSMA, respectively the Language and Communication Stimulation Method in Autism (Dascăl Crișan, 2012). The method can be defined as the result of a coherent combination of several intervention procedures and strategies dispersed across various research studies, complemented with new elements where gaps were found. Therefore the elaborated method is based on the Receptive Language Stimulation Method (Bricher & Bricher, 1972), PECS (Picture Exchange Communication System; Bondy & Frost, 1983), VIA (Visual Augmentative Communication, Siegel, 2003) and a series of ABA (Applied Behavioral Analysis) techniques. Moreover, the devised method incorporated strategies for stimulating the communication skills of preverbal children recommended by Schuler, Prizant & Wetherby (1997) or strategies for stimulating the communication skills of children in the more advanced stages of language acquisition developed by Prizant, Schuler, Wetherby & Rydell in 1997. Thus an attempt was made to elaborate a comprehensive approach can be applied for all ASD children, despite of their communication and language acquisition stage development, of their learning pace, their developmental stage or their current and future needs.

Holding a strong theoretical background regarding the domain of cognitive-behavioral therapies as well as the research on language and communication of ASD children, the method is addressed to those individuals who display a lack of interest towards speech significance or are unable to utilize speech in a functional manner. Based on the principle of gradually increasing the complexity of tasks and implicitly of communication behaviors, LCSMA is built upon three main progressive levels, each of them consisting of a series of behavioral sequences based on the Chaining technique (Table 1).

Table 1. Phases and steps of LCSMA (Dascăl Crișan, 2012)

Phases	**Description of the phases**
Phase 1: Acqusition of early intentional communication and receptive language behaviors	*1.1. Early intentional and anticipatory behaviors.* *1.2. Replacing the ideosyncratic (unconventional) communication and problem behaviors with conventional communication behaviors.* *1.3. Receptive language stimulation.* *1.4. Teaching verbal labels for common objects and practicing simple actions with those objects.* *1.5. Objects differentiation.* *1.6. Complex verbal instructions.*
Phase 2: Communication using 3-D objects	*2.1. Communication by the use of symbols of natural shape and size.* *2.2. Discrimination among symbols.* *2.3. Expanding the communication area.* *2.4. Transition from communication using natural size symbols to communication using miniature symbols.* *2.5. Associating the miniature object with the right picture.*
Phase 3: Communication using pictures	*3.1. Vocabulary expansion and formulating simple sentences.* *3.2. Formulating complex sentences.* *3.3. Initiation and maintaining simple conversations.* *3.4. Making spontaneous comments and descriptions.* *3.5. Acquisition of conversational skills and strategies.*

RESEARCH QUESTIONS

In which stage of language development do problem behaviors decrease significantly?

Variable no. 1 (V1): communication skills developmental stage language developmental stage (intentional, unconventional, conventional, communication through tangible and intangible symbols, the stage of language)

According to the manual that included the description of the Communication Matrix assessment instrument, Rowland (1996; 2005) defines the language developmental stages the following way:

➢ ***The intentional stage*** is the phase in which the child becomes aware of the fact that his behavior serves him to get a response from his partner, but even though he controls his own behavior, the communication intent is not yet clear to him. Under these conditions the familiar persons interpret his behaviors (body movements, facial expressions, vocalizations or gaze) and respond accordingly to his needs;

➢ ***The unconventional*** is the phase in which the child uses clearly and intentionally his pre-symbolic (this does not involve any symbol) an unconventional behaviors (which are not socially acceptable the older the child gets) with the clear purpose of sending a message to his partner (body movements, vocalizations, facial expressions and simple gestures);

➢ ***The conventional communication stage*** is the phase in which the child uses conventional pre-symbolic behaviors (tolerated socially and used together with vocal emissions) to consciously send a message and let his needs known and fulfilled (manual gestures, conventional gestures, vocal intonations);

➢ ***The stage of communication through tangible symbols*** is the phase in which the child uses various communication means that are very much alike with its referents. These include pictures, objects, iconic gestures, vocalizations and vocal intonations;

➢ ***The stage of communication through intangible symbols*** is the phase in which the child uses communication means that are defined by a low physical resemble to their referents (verbal language, manual signs, written words, Braille language and others);

➢ ***The language*** is the phase in which the child connects two or more symbols (tangible or intangible) according to a set of grammar rules.

Variable no. 2 (V2) problem behaviors (harmful or self-harmful behavior, such as biting, pinching, scratching, hitting using hands or legs, screaming, property damaging, flapping hands or fingers, swinging, running back and forth, placing their hands over their ears etc.

Q2. Is LCSMA efficient for reducing the problem behaviors used to convey rejection?

Independent Variable (IV): LCSMA

Dependent Variable (DV): problem behaviors

METHODOLOGY

Participants

The participants in the present study were 3 pre-school children diagnosed with autism spectrum disorder (2 boys with PDD-NOS and a girl with pervasive developmental disorder), aged between 3 years and 3 months and 3 years and 10 months, with a mean of 3 years and 6 months. The selection was made according to the following criteria, which are also present in the participation letter addressed to the children's legal custodians.

1. Preschoolers aged 3 to 6 years old;
2. Children diagnosed with ASD;
3. Nonverbal children or children who did acquired functional communication skills;
4. Availability for participating in the study for a period of 4 years.

Over the intervention period the children underwent a special school education program and their inclusion in the current research was made according to a consent form signed by their family or legal custodians and an implementation agreement signed by the institution.

Assessment instruments

In order to identify the way in which the two variables (the language developmental stage and the problem behaviors) correlate within the present research we used the Communication Matrix (Rowland, 1996; 2005). This is an assessment instrument designed to give an accurate picture of the way the child communicates on one hand, and to structure the necessary environment with the purpose of setting the appropriate objectives for the personalized interventions programs on the other hand.

The items are organized according to seven levels of communication skills and four communication functions (refusal, demand, social interaction, offering / sharing information). Moreover, the Communication Matrix integrates any type of communication behavior, including body movements, facial expressions, visual gaze, gestures or other AAC means. They are divided into nine categories, so that some of them are included in more categories whereas others are found in just one category.

Scoring. The instrument allows for both a qualitative and quantitative interpretation of results. From a quantitative point of view, the communication behaviors are converted into percentages on each category of skills, so that in the end we have a general score for each level. There is a maximum of 80 points granted, corresponding to the set of 80 communication skills assessed across the seven developmental stages (the 80 cells of the profile) for the complete individual developmental profile of each child. Thus, 0 points are granted for the

lack of a certain behavior, 1 point for emerging behaviors and 2 points for consolidated behaviors. In the case of communicative behaviors that correspond to refusal function, there are 3 skills assessed across the 7 developmental stages, which match the 7 cells of the profile. Therefore, the maximum score that can be obtained by the participants range between 0 and 14 points. Moreover, there are a series of behavioral displays assigned to each skill, according to the language developmental stage. These displays are calculated in percentages, so that in the end the percentage of challenging behaviors can be calculated from the total behaviors displayed by each participant.

Validity. Since no other communication skills assessments cover the range of behaviors that the Matrix does, it is not possible to make a meaningful comparison to other instruments: scores on instruments that emphasize speech and do not include alternatives to speech would not be expected to be similar to Matrix scores. (Rowland, 2012)

Construct Validity Study (2011).Ten national experts in the field of communication disorders in severe/multiple disabilities were identified and requested to complete a construct validity survey anonymously online. All agreed to participate. Primary professional employment categories of the respondents were: clinical service provider (4), university teacher (4), and researcher (2). Six had doctoral degrees and the remaining four had Master's degrees. Five were speech-language pathologists. Six respondents were very familiar with the Matrix and four were quite familiar with it. The survey contained the 24 questions from the Matrix. Participants were asked to rate the clarity and relevance of each of the 24 items/questions on a 3-point scale (0 = not at all clear/relevant; 1 = somewhat clear/relevant; 2 = relevant/clear; 3 = very relevant/clear). The mean relevance score across items was 2.8; the mean clarity score across items was 2.7. (Rowland, 2012)

Reliability. Since the Matrix is not a test, but a direct observational tool/behavioral inventory, it does not lend itself to traditional estimates of inter-rater reliability. Since the development of the parent version of the Matrix, data have been collected from both parents and educators of individuals participating in our projects. The Pearson's product-moment correlation between parent and professional scores on the Matrix for a sample of 19 children with a variety of severe and multiple disabilities was .926 ($p<.01$, 2-tailed), an extremely high rate of concordance between two independent assessments of the same individual.

Inter-rater reliability between professionals. Parker (2009) evaluated inter-observer reliability on Matrix scores based on viewing videotapes and written data on three children with vision impairment and developmental disabilities; she reports a mean of 90% agreement. A study of inter-rater reliability was conducted in 2011 reports an average 83% agreement on mastered skills between pairs of participants, based on their scores for each of the 80 cells of the Matrix profile. (Rowland, 2011)

Research design, the intervention procedure

The investigative procedure is based on a multiphase single subject experimental design (ABAB type), grounded on three longitudinal case studies carried out over a four year period. According to the methodology that this research approach involves, the present study has the following structure: The first phase consists in assessing the skills and competences of the participants in the current study with the purpose of collecting the information and data for establishing the baseline level. The instrument used within this phase was the Communication Matrix (Rowland, 1996). In order to gather conclusive data, we used both the observation of children during their free play and instructional activities and discussions with the school personnel (teachers, psychologists, and psychopedagogues). The main investigative methods employed within the first stage of the research consisted of tests, observation, interviews, analysis of medical records and semi structured interviews.

The second phase of the study consisted of the multiphase experiment. Within this stage the study involved the implementation of AAC intervention programs based on LCSMA and monitoring the obtained results through regular evaluations every year throughout the four years.

The intervention followed two directions, respectively within a structured environment (school class, specialized offices and home) and within a non-structured environment (street, community). The instructional sessions and the ones including the generalization of communicative behaviors were conducted by an interdisciplinary team that included a psychopedagogue, a speech therapist, a psychologist, a teacher and family members. In order to provide optimal conditions for the instructional procedure, each member of the team had a clear established role regarding his or her tasks and responsibilities. Moreover, of high importance was the collaborative and consensual relationship among the team members.

The third phase of the study consists of the final assessment aimed at determining the efficiency of the method used. It included analyzing the results obtained from the participants in the study over the four-year intervention, by comparing the baseline data with the ones indicated at the end of the study.

Data analysis and interpretation

Table 2 summarizes the results obtained by the 3 participants of the study during the 4 years of intervention. The results obtained indicate that during inferior stages of language development the children displayed a high frequency of challenging behaviors, which significantly reduced as soon as they acquired communication skills that correspond to more advanced stages. According to baseline data, one of the participants (P2) showed an improvement that corresponds to intentional communication stage, another one (P1) acquired

unconventional communication skills and P3 developed communication competences that are specific to conventional communication. Moreover, from the total displays expressing refusal, two of the participants (P2 and P3) show a high percentage of challenging behaviors (63%-90%).

Table 2. Results obtained by the three participants over the four-year study

Stage of assessment	Baseline		Assesment 1		Assesment 2		Assesment 3		Final assesment	
Variable participants	V1	V2	V1	V2	V1	V2	V1	V2	V1	V2
P1	7	41%	12	7%	14	5%	14	0%	14	0%
P2	4	63%	8	56%	11	18%	14	9%	14	2%
P3	6	90%	7	58%	9	22%	10	20%	10	12%

During the four years of intervention based on LCSMA, the evolution of the participants was different, both regarding the acquisition of communicative behaviors used with the purpose of expressing refusal and the frecquency with which problem behaviors appeared with this purpose. Thus ***the first participant (P1)*** diagnosed with DDD-NOS, showed a significant evolution regarding the acquisition of functional communication skills (Figure 1). Therefore, at the beginning of the study P1 showed a primary level regarding the acquisition of communication skills, yet at an emergent level, which was the reason why he obtained a score of 7 points for the refusal function. The qualitative analysis of the data showed that 41% of the entire behavioral repertoire used by the boy (body movements, facial expressions, vocal emissions, simple gestures) consisted of challenging behaviors (hand flapping, unusual legs movements, tantrums, pinching, throwing objects, destroying objects). According to LCSMA protocol, the functional analysis of each challenging behavior contributed to gaining new accurate information regarding the function / purpose of these conducts. According to the collected data, it was shown that the boy displayed these behaviors with the purpose of conveying certain messages that included: (1) refusal of an object, food, action, person; (2) refusal of getting involved into more exhausting or uniteresting tasks; and (3) discomfort felt when his routines were violated. Given this information, the aims of the intervention followed 2 directions: (i) teaching the child to adopt more socially acceptable and implicity more conventional behaviors which hold a similar function as the challenging behaviors do and (ii) the extinction of challenging behaviors. The alternatives to the communicative behaviors set out for the child were selected according to the developmental stage, potential and communicative needs of the child. Thus the intervention was focused both on the acquisition of verbal communication skills (emissions,

vocalizations) an the development of augmentative and alternative communication competences (simple gesture - denial through nodding, time-out signal for indicating the end of an action; communication using 2D and 3D tangible symbols).

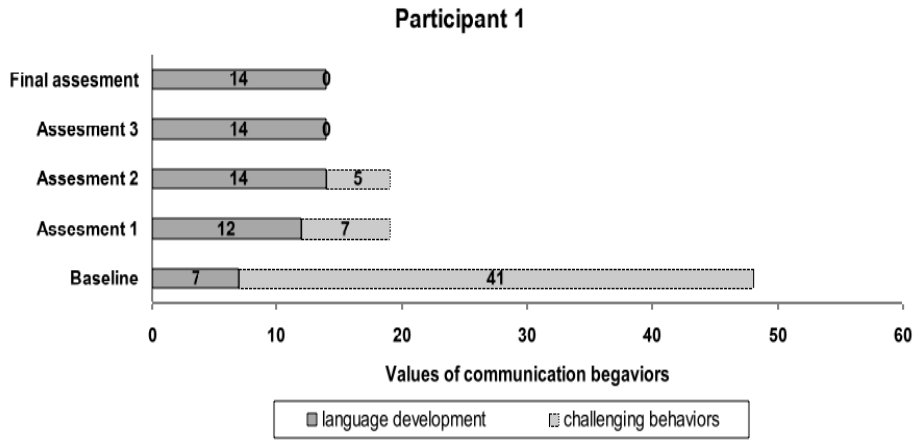

Figure 1. Progress of Participant 1 in acquiring communication skills compared to the display of problem behaviors

In accordance with the graphic representations of the data obtained (Figure 1) it can be noticed that after the first year of intervention P1 acquired a set of symbolic communicative behaviors (vocalizations, gestures, manual signs, communication through tangible symbols - communication cards) which facilitated a better interaction of the child with the people around him. The acquisition of these communication behaviors that were easy to decode by the social partner also facilitated the decrease of challenging behaviors displayed by the child during the first year of intervention. According to the obtained data, the rate of challenging behaviors display reduced from 41% to 7% out of the total behaviors used for communicative purposes. The conclusions of the behavioral analysis indicate that the boy resorts to tantrums only in the case he feels frustrated for not being able to make himself understood by the people around him by using the familiar communication means. Once he was taught to use various message correction or reinforcement strategies through AAC and simultaneously resort to more advanced communication skills (communication through chaining more symbols based on a grammar rule), the challenging behaviors were entirely eliminated, regardless of the context or the persons with whom he interacted. Therefore, starting with the second year of intervention, the child reached the most advanced language developmental stage (with a

score of 14 points), which determined a reduction of challenging behaviors to 5% regarding the messages that were meant to convey refusal and further their extinction, during the third year of intervention.

According to the obtained data, it was shown a significant reduction of challenging behaviors once the child reached the symbolic communication stage, which is more accessible to the social partners. In conclusion, in the case of the first participant in the study, LCSMA proved to be efficient, both for the acquisition of functional communication skills used with the purpose of conveying refusal and for the extinction of challenging behaviors displayed by the child for this purpose.

Similar results were obtained in the case of the second participant, who had also been diagnosed with PDD-NOS, although in this case the evolution of the child is much slower (Figure 2).

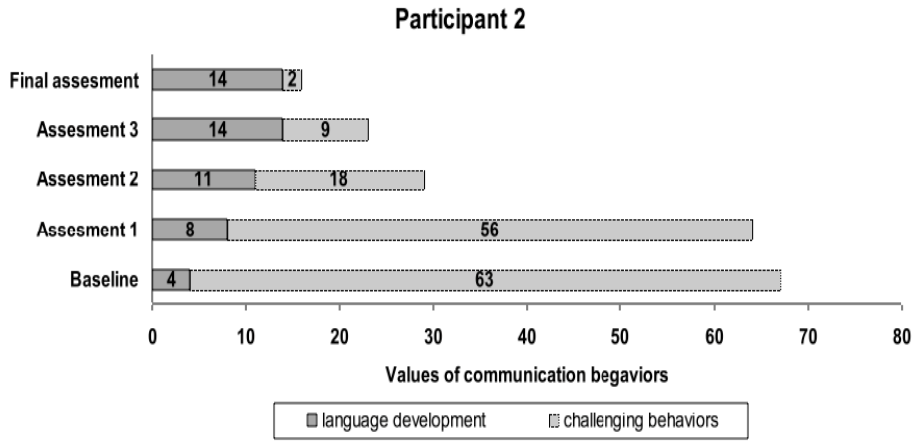

Figure 2. Progress of Participant 2 in acquiring communication skills compared to the display of problem behaviors

According to baseline results, the developmental stage of communication skills of P2 in the beginning of the study corresponded to intentional communication stage (with a score of 4 points), and 63% of the total behaviors displayed with the purpose of conveying refusal consisted of challenging behaviors (pinches, bites or hits the social partner, pushes, throws away things unwanted things, throws tantrums). According to the information provided by the respondents, the refusal of food or of an activity was expressed by the child by means of: crying, shouting or unusual body movements (turns his head in the opposite direction, rejects food, spits up or throws away the food). Even though during one year of intervention the child showed some progress, reaching the conventional

communication stage (communication through vocalizations, manual signs, simple gestures), which meant being granted 8 points on refusal function, 56% of the communicative behaviors displayed still proved to challenging behaviors, out of the total behaviors displayed. The functional analysis of these behaviors indicated that P2 resorted to this category of manifestations in the case he could not make himself understood by the social partner. Under these conditions, the aims of the intervention for the first year consisted of teaching the child to practice certain symbolic communication behaviors (verbal language reinforced by communication through tangible and abstract symbols). Moreover, the child was prompted for using some correction strategies in the cases in which his messages were not rightly decoded by the social partner and simultaneously use AAC means to reinforce the significance of his message. The benefits of this therapeutic approach are pointed out starting with the second year of intervention. Once the symbolic communication stage was reached (the child communicates using tangible symbols and vocalizations), the challenging behaviors reduced significantly from 56% in the previous level to 18%. Additionally, it was noticed that the challenging behaviors were gradually eliminated from the child's behavioral repertoire, as soon as he reached the most advanced stage of communication, which is the language stage. While after three years of intervention the display of challenging behaviors reduced to 9%, after four years of therapy their manifestation rate significantly decreased to 2%.

Therefore, based on the results obtained we can conclude that the display of challenging behaviors reduced significantly beginning with the symbolic communication stage. Moreover, the obtained data allows us to confirm the efficiency of LCSMA in the case of P2, both regarding the acquisition of communication skills with the purpose of conveying refusal and regarding the reduction of challenging behaviors.

While in the case of the participants diagnosed with PDD-NOS the results were promising, in the case of the third participant, who was diagnosed with pervasive developmental disorder, the data are somehow different, if we were to analyze them based on his evolution (Figure 3). However, keeping in mind the aim of the present research, the results obtained by P3 indicate a certain similarity. According to the graphical representation of results, it can be noticed that in the beginning of the study the girl was using communicative behaviors specific to unconventinal stage (with a total score of 6 points), although 90% of her behavioral repertoire consisted of challenging behaviors (tantrums, standing on the tips of her toes and spreading her arms, aggressiveness towards the partner, self-harm). Moreover, it was noted that she showed a slower evolution during the four years of intervention, which was also determined by her cognitive impairment. The significant reduction of challenging behaviors was seen starting with the second year of therapy, when P3 acquired and subsequently

consolidated her symbolic communication skills (second assessment – total score of 9 points; final assessment – total score of 10 points). Under these conditions, a significanr reduction of the challenging behaviors displayed was noticed, from 58% during the first year of intervention, to 22% during the second year of intervention and 12% after four years of intervention.

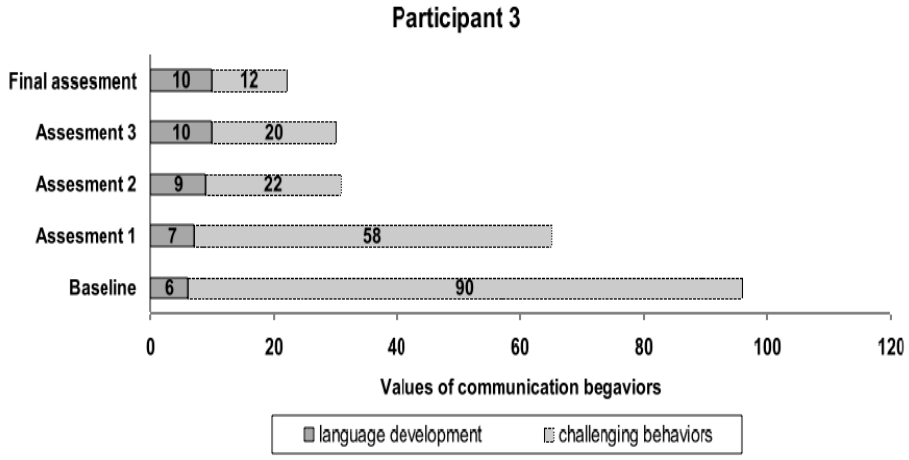

Figure 3. Progress of Participant 3 in acquiring communication skills compared to the display of problem behaviors

Therefore, based on the results obtained, LCSMA proved its efficiency in the case of the third participant, regarding the acquisition of communication skills with the purpose of conveying refusal, concomitant to a significant reduction of challenging behaviors used starting with reaching the stage of communication through tangible symbols.

CONCLUSIONS AND DISCUSSIONS

LCSMA proved its efficiency in the case of the three participants included in the present study through: (1) acquisition of functional communication skills to convey messages that involve refusal and (2) decrease in the frequency of displaying challenging behaviors (aggressive and self-harm behavior – hitting, biting, pinching, spitting; emission of certain articulate and inarticulate sounds etc.). According to the obtained results, at the end of the study carried out over a period of four years, all the 3 participants reached the symbolic communication stage although the acquisitions on the superior level are different (two of the

participants, P1 and P2 reached the language stage and P3 reached the stage of communication using tangible symbols). The cognitive impairment is also an important variable to take into consideration when designing the path that the child should take throughout the intervention. The more severe the impairment, the more limited the representation and symbolic capacities. This fact was noted in the case of the third participant, where the evolution in acquiring functional communication skills through AAC means was much slower, requiring a detailed sequencing of the targeted behaviors. Despite these conditions, it was noticed that once these communication behaviors were acquired and consolidated, the frequency of displaying challenging behaviors reduced significantly. Therefore, symbolic communication proved to be a essential stage for the development of functional communication skills. Moreover, the improvement of competences regarding the use of AAC which are based on augmented input and output methods or a combination of both, provided the children the opportunity to use representations and symbols to convey messages, through offering a tangible, concrete support. These new acquisitions acted like immediate reinforcements provided to the child by the social partner, since they satisfied the communication needs that the child expressed within the process of social interaction. The results of the present study showed that starting with the symbolic communication stage (through tangible and concrete symbols) and subsequently reaching the most advanced level, the language level, the frequency in using challenging behaviors is significantly reduced.

Moreover, the type of disorder included in ASD category plays an important role both regarding the evolution of communication skills and the frequency in displaying challenging behaviors. While the language development was faster and the rate of challenging behaviors was lower in the case of the participants diagnosed with PDD-NOS, once the children acquired functional communication skills, it was noticed that children diagnosed with pervasive developmental disorder showed rigidity and perseverance in displaying challenging behaviors, even though he had been taught and acquired the competences for using AAC means. In accordance to the obtained results, after the four years of intervention, the two participants diagnosed with PDD-NOS (P1 and P2) reached the highest stage of language development on refusal function, according to Communication Matrix, whereas P3, who was diagnosed with pervasive developmental disorder reached the symbolic communication stage through tangible communication means (2D and 3D tangible symbols). Additionally, in the case of the participants diagnosed with PDD-NOS, the rate of challenging behaviors decreased significantly from 63% to 2% in the case of P2 and from 41% to 0% in the case of P1. In the case of the participant diagnosed with pervasive developmental disorder, the frequency of displaying challenging behaviors reduced significantly from 90% to 12%, which indicates the existence of

this category of conducts within child's behavioral repertoire in case he wants to convey refusal. This fact also indicates both a poor transfer capacity of information from one context to another and a cognitive rigidity in using certain behaviors considered by the child as functional, regardless of the consequences (the fact that his communication needs are not satisfied).

The functional analysis of challenging behaviors, difficult or maladaptive displayed by the three participants indicated the fact that they are used with the purpose of conveying to others messages regarding: (1) refusal of an object, food person or situation; (2) refusal of getting involved in exhausting or uninteresting tasks; (3) discomfort felt when the routines are violated. Additionally these behaviors became more severe when the frustrations amplified due to the children's incapacity of making themselves understood by the social partners using the communication means at their disposal.

Once the function or meaning of the problem behaviors was identified, the intervention aimed at providing more functional means of communication, but also accesible and accepted by the persons involved (simple gestures, manual signs, communication through two- and three-dimensional tangible and intangible symbols). Thus once the functional communication competences were achieved through AAC and/or verbal language, the externalizing behaviors reduced significantly from the conventional communication stage on, a fact that could be seen at all participants level. The acquisitions specific to this stage facilitated the effectiveness of the communication process, a fact that led to the diminishing of the frustration and discomfort felt by the children as a result of not being able to express their needs properly towards the people around them.

Limitations of the current study

Choosing the case studies as a research method represents a first limitation of the present investigation. Consequently, the obtained results have no statistical value and therefore cannot be generalized. For this reason it is recommended a continuation of the present research in the way that it includes a more statistically significant sample. Moreover, the comparison of the obtained results with the ones collected from a control group would make the study more valuable.

Another intrinsic limitation consists of the maturation effect. Therefore throughout carrying out the experiment the participants were subjected to their biological and psychological developmental process. Under these conditions the differences showed after repeated testing may be attributed to some extent to maturation and not just to the experimental manipulation of the independent variable.

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WRITING PROFICIENCY IN TRANSPARENT ORTHOGRAPHIES: WHEN DO ROMANIAN CHILDREN START TO SPELL CORRECTLY?

DACIAN DORIN DOLEAN[*], DANIEL ANDRONACHE[**]

ABSTRACT. Spelling abilities of elementary and middle school students can vary across languages. One major variable that influences students' spelling performance is the degree of orthographic regularity of their native language. In our study, we measured the writing performance of four hundred and forty four Romanian students attending 2nd, 3rd, 4th, 6th and 8th grade of the same school. Results indicated that overall, there were no significant differences in spelling performance of students after 3rd grade. They also suggest that learning the phoneme-grapheme correspondence of regular words reaches ceiling within the 1st year of instruction (97% proficiency). Limitations of this study are being addressed.

Keywords: *spelling; orthography; writing; phonemes, graphemes.*

ZUSAMMENFASSUNG. Rechtsschreibefähigkeiten der Grund- und Mittelschüler/innen können über Sprachen variieren. Eine wesentliche Variable, die die Rechtsschreibefähigkeit der Schüler beeinflussen kann, ist der Grad der orthographischen Regelmäßigkeit ihrer Muttersprache. Im Rahmen unserer Studie haben wir die Schreibleistung von vier hundert vierundvierzig rumänischen Schülern der Jahrgangstufen 2, 3, 4, 6 und 8 der gleichen Schule. Die Ergebnisse haben gezeigt, dass es insgesamt keine bedeutenden Unterschiede der Schreibleistung der Schüler nach der 3. Jahrgangstufe gaben. Die Ergebnisse weisen auch darauf hin, dass das Erlernen der Phoneme-Grapheme-Korrespondenz der regelmäßigen Wörter die Obergrenze innerhalb des ersten Unterrichtsjahres erreicht (97% Leistung). Einschränkungen dieser Studie sind angesprochen.

Schlüsselwörter*: rechtschreibung; schreiben; phonemen; graphems.*

[*] PhD Student, Babes Bolyai University, Cluj-Napoca, darisclub@gmail.com
[**] PhD Student, Babes Bolyai University, Cluj-Napoca, daniel_cosminandronache@yahoo.com

INTRODUCTION

Among the main priorities and challenges in education is improving literacy and writing proficiency of school age children, as a prerequisite of success in adulthood and in the workplace. Lagging behind those basic skills will result in poor performance during subsequent school years, in most subjects. One particular aspect of writing proficiency is the spelling ability. Students who struggle to spell the words correctly lose important cognitive resources that they need for higher-level writing skills (Singer & Bashir, 2004), which is detrimental not only to writing fluency and proficiency but also to their overall school performance.

The development of writing proficiency (and spelling performance in particular) can vary from one language to another – and so does the national education priorities. For instance, the German/Austrian kindergarten system does not provide language instruction to children prior entering the school, while in the US children are taught letters before they start school (Landerl & Wimmer, 2008). In a study conducted by Mann and Wimmer (2002), the kindergarteners from US and Austria were given a letter naming task. Results indicated a 90% proficiency of US students, but only 30% proficiency of students from Austria. However, it is reported that German speaking students can produce adequate grapheme for most phoneme sequences after only a few months of formal instruction (Wimmer & Landerl, 1997), and spell correctly at the end of the first year of instruction, while, based on Common Core State Standards for English and Language Arts, by the end of the 1st grade English speaking students from US are expected to "use conventional spelling for words with common spelling", between 2nd and 5th grade they are expected to "spell grade-appropriate words correctly", and only by 6th grade they are expected to "spell correctly" (Reed, 2012, p. 44-48).

How can we explain this?

English language has an opaque (or deep) orthography, that means the majority of words are not being written the way they sound. English alphabet has 26 letters to express 44 phonemes, and produce more than 500 spellings (Tompkins, 1998), or according to another source (Nyikos, 1988), at least 1680 different spellings. Thus, besides a good phonological awareness, learning how to spell well in English requires a high degree of word knowledge, good memory, visual cues, exposure to high-frequency words and phonics (Loeffler, 2005).

On the other hand, several other alphabetic languages have a rather transparent (or shallow) orthography, meaning that they have an almost one-on-one phoneme-grapheme correspondence. For instance, "in Finnish, each letter of the alphabet is represented by one and only one sound" (Seymour, Aro & Erskine, 2003). In Italian, students learn how to spell correctly the regular words from the first year, and within the first 3 years of schooling, they are able

to spell correctly ambiguous words, context-sensitive words and pseudowords (Notarnicola, Angelelli, Judica & Zoccolotti, 2012). Similar data was also found for children learning how to spell in fairly transparent orthographies, like Czech, Turkish, German and Spanish (Caravolas, 2004). That means students who learn how to spell in a writing system that has a rather transparent orthography need a good enough phonological awareness to discriminate between phonemes, the ability to identify/produce about 20-30 letters of the alphabet, and the ability to make the phoneme-grapheme connection.

PRESENT STUDY

Romanian language has a highly transparent orthography like most other European languages, and the spelling of words is highly regular (most phonemes have a direct grapheme correspondent). According to the national curriculum for elementary education approved by Governmental Order no. 4686 / 05.08.2003, no. 5198 / 01.11.2004, and 3919 / 20.04.2005, by the end of the 1st grade the students are expected to learn to write all letters of the alphabet, to use capital letters at the beginning of the sentence and for proper nouns, to properly use of diacritics, to properly use the irregular spellings of groups of letters frequently used ("ce", "ci", "ge", "gi", "che", "chi", "ghe", "ghi"), and the correct use of punctuation signs (period and question mark).

By the end of the second grade, students from Romania are expected to use properly low-frequent spelling exceptions and writing rules, such as: the use of "m" before "p" and "b", the proper use of "î" and "â", and the proper use of words that contain the "x" (which sometimes are pronounced in one of two ways). At this time, students are also able to write correctly two commonly used irregularly written words ("într-o" / "într-un" and "dintr-o" / "dintr-un"), and the correct use of the rest of punctuation signs (exclamation mark, quotation dash, colon, and comma).

By the end of the third grade, students from Romania would learn how to properly use the majority of commonly used orthograms („s-a / sa", „s-au / sau";" i-a / ia", „i-au / iau", „ l-a / la", „ne-a / nea", „ne-am / neam") and the proper writing of the words "printr-o" and "printr-un".

By the end of the 4th grade, they will be able to spell correctly the low frequency orthograms that would require higher cognitive processing, like "v-a / va", "n-ai / nai", "ce-l / cel", "nu-l / n-o / nu-i", "n-am / n-are / n-aţi / n-au" etc.

Most of these standards didn't change over the years; still, little information can be found in internationally indexed journals about how well students in Romania perform on spelling tasks, and whether spelling the words correctly represents a challenge for Romanian school age children. Therefore this study aims to address the following research question: When do Romanian children start to spell correctly?

METHOD

Participants

Four hundred and fifty seven elementary and middle school students ages 8 through 14 participated in this study. They all attended the same urban school in Romania. Thirteen of them were either diagnosed as having a specific learning disability in the area of reading/writing, or they were identified as having a functional disability (e.g. ADHD) and received special education services. The results of these students were disregarded in calculating the final scores, so that they would not interfere with the generalization of the results (see procedure below). The remaining 444 students attended 2nd grade (n = 96), 3rd grade (n = 102), 4th grade (n = 82), 6th grade (n = 91), and 8th grade (n = 73).

The school where the participating students were registered ranked average on previous year's national standardized tests, compared with schools from the same neighborhood, as well as compared with schools from the same city. All subjects were taught in Romanian (except of foreign language classes), and the declared ethnicity of registered students was 98% Romanian.

Procedure

The assessment of participating students' spelling performance was conducted using one 4th grade level dictated text for all grade levels. Reading out loud texts for students to write them correctly in the paper is a commonly used procedure in elementary school classrooms, and the majority of Romanian students are used with it since 1st grade. The assessment was conducted in group, by classes, each class containing 24-29 students.

The test administrator communicated students the purpose of the activity (to assess the spelling performance of the majority of students registered in the school), and asked them to do their best in spelling correctly the dictated text. In order for students to be motivated, they were told that a high performance at the test will result in extra credit for the language arts class. The test administrator also informed students that he will read the text while sitting on the back of the class, and under no circumstances students were not allowed to look at him when dictating the text. This measure was conducted to prevent the potential risk of lip-reading, which would put students who would look at the test administrator in an advantage over the others.

The text was read out loud at the average rate of 9 words per minute, in clusters of 3 to 5 words. Each cluster was read twice with a average break of 7 seconds between them. After the last words in each sentence were read, and after a 10 seconds break, the whole sentence was read one more time.

Five variables were considered when assessing students' writing performance: phonemes, orthograms, capitalization, punctuation, and diacritics.

Phonemes. Since Romanian has a rather transparent orthography, most phonemes have a grapheme correspondent, with few writing exceptions (e.g. no phoneme correspondent for the "h" when spelling "chi"). The text used in the study had 88 words, containing 420 phonemes in all. None of the words contained any writing exception; thus, each phoneme had one grapheme correspondent. Students' performance was assessed by counting the graphemes written correctly. One point was given for each grapheme written correctly. Points were taken off from each missed, switched, or added grapheme. Then, the results were transformed into percentages (see Table 1).

Orthograms. Romanian writing system has several orthograms. The term derives from the greek, then latin word "orthographia" (www.larousse.fr) and is defined as being a model of correct writing (www.dexonline.ro). Orthograms in Romanian writing system are identified by the dash sign that connects parts of the word. The text from this study contained 8 orthograms (e.g. "s-au"). The spelling performance of students was assessed by whether they identified correctly the presence of the orthogram in the text and they spelled it appropriately (using the dash sign). One point was give for each orthogram spelled correctly; then the results were transformed in percentages (see Table 1).

Capitalization. The Romanian spelling system requires that words should start with a capital letter when they begin a sentence, or when they are proper nouns. In this study there were 18 words that needed to start with a capital letter (among which 5 were proper nouns). Again, each word correctly capitalized received one point, and the results were transformed into percentages (see Table 1).

Punctuation. A total of 14 punctuation marks were considered in assessing the punctuation of the text in the present study. The punctuation marks were 10 periods, 1 exclamation mark, 1 colon, 1 question mark, and 1 hyphen (quotation mark). The commas were disregarded, since they mark a continuing prosodic boundary, which could have varied every time the test administrator would have read the text. Each correctly written punctuation mark received one point and the total was then converted into percentages (see Table 1).

Diacritics. The study used a total of 42 letters that contained diacritics as follows: seventeen "ă", nine "î", six "ş", five "ţ", and five "â". One point was awarded for each letter that contained a diactitic sign spelled correctly. The total was then transformed into percentages (see Table 1).

RESULTS

Descriptive statistics of writing performance of participating students by grade are displayed in the Table 1.

Table 1. Writing performance by grade (percent correct)

Grade	Phonemes *M (SD)*	Orthograms *M (SD)*	Capitalization *M (SD)*	Punctuation *M (SD)*	Diacritics *M (SD)*
II	97.83 (1.53)	71.22 (23.16)	93.26 (9.96)	84.92 (16.15)	96.68 (5.32)
III	99.04 (.88)	94.61 (12.12)	97.12 (5.07)	92.62 (8.66)	98.67 (2.49)
IV	99.26 (.68)	98.02 (7.97)	96.99 (4.50)	92.18 (8.33)	98.98 (2.45)
VI	99.45 (.45)	97.94 (6.78)	94.85 (8.57)	90.11 (13.01)	99.22 (2.48)
VIII	99.48 (.46)	99.14 (3.80)	95.05 (7.75)	90.24 (13.92)	99.15 (2.32)

Post-hoc pairwise comparisons with Bonferroni corrections indicate that overall there is a significant difference ($p < .05$) in spelling performance of 2nd graders compared with the 3rd, 4th, 6th and 8th graders. However, no significant difference ($p > .05$) could be found between the spelling performance of 3rd graders' and students in the upper classes.

The writing performance of students on each grade level was also measured by each variable using independent-samples t- tests. Results indicated that 2nd graders' performance was signifficantly lower ($p < .001$) than the one of students from the upper classes for all 5 assessment criteria. The performance of 3rd graders compared with the performance of students from the upper classes not was statistically different ($p > .05$) for the areas of phonetics, capitalization, punctuation and diacritics, but the difference between their performance and the performance of 4th graders was statistically significant ($p = .023$) in the area of orthography. The performance of 4th graders was also not statistically significant ($p > .05$) compared with students in the upper classes, and neither the performance of 6th graders was not signifficantly different ($p > .05$) to the one of 8th graders in all 5 assessment areas (see Figure 1).

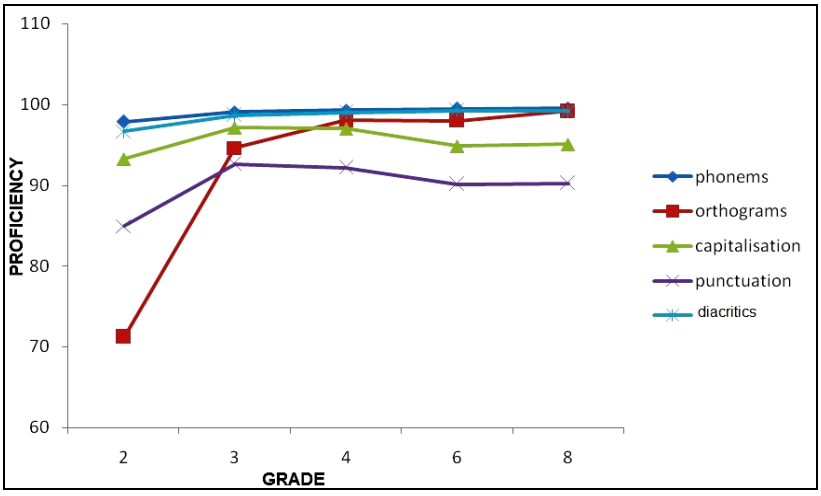

Figure 1. Writing performance of students by grade (percent correct)

DISCUSSION

This study aimed at assessing the types of writing difficulties encountered by a randomly selected sample of elementary and middle school students from Romania and to identify a possible milestone in the development of spelling abilities of children in Romania.

Results indicated that overall, there are no major spelling performance differences between Romanian students starting with 3rd grade. Except of the area of orthograms, the 3rd graders in our study performed at the same level with students in the upper classes, while the 4th graders performed at the same level with students in upper classes in all 5 areas of assessment. The findings are consistent with national curriculum standards requirements (see above).

The study also indicates that overall, the area with the lowest performance was the punctuation, while the area with the highest performance was the phonetics. The poor performance in the area of punctuation may be attributed to its perceived lack of importance (students may be too focused on doing well on spelling), or to prosodic variables (the students might not "read" correctly from the intonation of the test administrator that they are not familiar with). The overall high performance in the area of phonetics might be attributed to the fact that once all alphabet letters are being learned by the students, the correspondence phoneme-grapheme is being done automatically. Thus, unlike opaque orthographies, the automatic component of phonemes-graphemes correspondence in the transparent orthography writing system allows students to focus better on other aspects of spelling (like capitalization, or diacritics), helping them have an overall good spelling performance (between 90% and 99% accuracy after 3rd grade in all areas of writing, according to our data presented in Table 1).

Limitations

The generalizibility of the results needs to be treated with caution. One limit of the study is that even though the participating students attended the same school, thus coming from a rather similar socioeconomic environment comparing the performance of students registered in different grades might not always provide the most accurate data. For instance, the writing expectations for students in the 8th grade might have been different (higher or lower) when they attended 2nd grade than the expectations of 2nd graders in our study. Even though this scenario is less plausible, a longitudinal study (results of the same students measured during 8th years) might have provided a more accurate measure.

Another limit of the current study is its representativeness for the Romanian population. Even though the results matched national curriculum standards, and the participating students were attending an urban average performing school, the sample of participating students was not selected to be

sociologically representative for the entire Romanian school age population. It is possible that the milestone we found in this study might be different for students attending schools in rural areas, private schools, or schools from a different geographical location.

Except of the results in the area of orthograms for 2nd graders, the very high performance of students (above 90% proficiency, see Table 1) indicates that a ceiling effect probably occured, and the variance in performance might be attributed to factors that are not as much related to students' educational level (e.g. the knowledge of grammar rules of spelling), or language processing ability (e.g. phonemic awareness), but they are rather developmental in nature (e.g. the length of attention span). This might suggest that generally, after the 1st grade, Romanian speaking students might have the skills necessary to spell correctly most of the words in their native language (with the exception of orthograms).

We also need to mention that all words used in the text had a highly regular spelling and probably their performance might have been lower if the text had spelling exceptions, ambiguous or context-sensitive words. Still, those spelling exceptions are met quite seldom in Romanian writing, and we believed that they would not be significant for the aim of our study.

Finally, another limit of the study is the large standard deviation values of our data. Except the area of phonetics, all other 4 areas of writing performance had a wide spread, and implicitly, quite volatile series of data. This can be explained by the unbalanced number of items (e.g. 8 orthograms vs. 420 phonemes) within the same text. Probably a replication study with more items from the area of orthograms, capitalization, punctuation, and diacritics would provide more accurate results.

CONCLUSION

Despite its aforementioned limitations, our study indicates that overall, by the end of 2nd grade students in Romania are not only expected, but they are also likely to spell correctly regular words, and no signifficant difference in spelling ability can be found after that school age. The results of our study also suggest with a high degree of confidence that the phoneme-grapheme correspondence of regular words reaches ceiling within the 1st year of instruction (97% proficiency).

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THE INFLUENCE OF CAREER EDUCATION ON PROFESSIONAL SUCCESS

CORNELIA STAN*

ABSTRACT. Career choice represents both a necessity and a challenge for the contemporary man. The option for a particular domain or socio-professional status occurs from knowing and confronting personal principles, motivation, attitudinal characteristics, interests or other determinants specific to an individual.

Current educational and professional backgrounds suffer major and continuous changes. They claim an increase in workload complexity, expanding knowledge, skills and abilities, improving communication skills, enforcing initiative and motivation in all activities, decision-making capacity, as well as the presence of flexibility in adapting to different social and professional situations. All of them require career education as early as possible.

Keywords: *career education, career guidance, career counseling, professional success.*

ZUSAMMENFASSUNG. Karriere Wahl ist für den modernen Menschen sowohl eine Notwendigkeit als auch eine Herausforderung. Die Option für einen bestimmten Bereich oder sozio-professionellen Stand entsteht aus Wissen und Konfrontation von persönlichen Prinzipien, Motivation, Einstellungen Eigenschaften, Interessen oder anderen Bestimmungsfaktoren eines Individuums.

Die aktuellen Bildungs-und beruflichen Umgebungen sind stätig in eine große Veränderung. Sie behaupten, eine Erhöhung der Arbeitsbelastung Komplexität, Wissen erweitern, Fertigkeiten und Fähigkeiten, die Verbesserung der Kommunikationsfähigkeit, Eigeninitiative und Motivation, Durchsetzung in allen Aktivitäten, Entscheidungsfähigkeit, als das Vorhandensein von Flexibilität bei der Anpassung an verschiedene sozio-professionellen Situationen. Alle von ihnen verlangen, die Notwendigkeit zur beruflichen Bildung so früh wie möglich.

Schlüsselwörter: *Karriere Ausbildungdie Laufbahnberatung, Berufsberatung, Berufserfolg.*

* PhD Lecturer, Education Sciences Department, Faculty of Psychology and Education Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania, corneliassv@yahoo.com

INTRODUCTION

The technical-scientific progress, determining the evolution of society has increased the role of the human factor, where man became both the initiator and beneficiary of this accelerated development. In this context, the increase in human adaptability to new social and economic realities is particularly significant and the need arises for these changes to be designed and conducted for the purposes of exploitation of the creative potential of every individual.

Education and career guidance - conceptual issues

Preparation for career does not begin with work but with education, as a result of activation and efficiency factors and their specific educational valences. Thus career guidance must play a primary role in the education and become an essential part of one of the basic aims of the educational process.

The term "career" must be perceived in a positive sense, meaning an educational, professional, social path of complex personal development and successful socio-professional integration of an individual, a process developed throughout their life. Career, a term which comes from French, is perceived in Romanian as a profession, occupation, and by extension as either a good situation or position in society. The English dictionary of human resources defines it as a job for which you are prepared, and that you are expected to do all life.

The current meaning of the concept of career is linked to the idea of evolution or the promotion of a person in a particular field in order to obtain more money, more responsibility, more prestige and more power.

The term "career" is given multiple meanings by different authors:

- seen in terms of mobility, of rising in an organization, career is perceived as "promotion";
- regarded as an occupation, it is perceived that some occupations represent a career (soldiers, teachers, managers), while other occupations are perceived only as jobs (waiters, drivers, salesmen etc.);
- in another vision, career is perceived as "a succession of occupations throughout life" or a "sequence of functions", in an ascending order of prestige, through which employees climb after a predictable rule;
- in a subjective approach, the career is presented as a series of roles related to a lifetime experience (personal views, aspirations, successes, failures, etc.), a succession of roles in a person's work, or a series of separate and interrelated experiments;
- in terms of individual perception, career is considered to be a sequence of attitudes and behaviors associated with work experiences and activities during personal life. This approach refers to both the subjective career, provided by experiences and roles that occur in the individual's life as well as the objective career, which is based on occupation specific attitudes and behaviors.

Other authors, in a subjective interpretation, see their career in a dynamic sense, in which a person perceives life as a whole and interprets the meaning of various personal attributes, actions and things that have happened.

Career is a dynamic process over time, which has two dimensions:

- External career - objective succession of positions that the person goes through in time;

- Internal Career - interpretation given by a person to real experiences related to career, in terms of his/her subjectivity.

The career involves interaction between the individual and organizational factors. Job perception, as well as the position taken by the person, depend on the compatibility between what the individual sees fit for himself (skills, needs, preferences) and what the job actually represents (constraints, opportunities, obligations).

Compatibility between a person and his profession has serious consequences for individual behavior and work attitudes and the state of balance and satisfaction. Socioeconomic situation increases the gap between occupational choice and aspiration. It is possible to gradually restrict freedom of choice and the need for acceptance of compromise on career development.

The main directions of career assist

In literature, there are three commonly used terms related to career assist: career education, career guidance and career counseling. The terms mentioned above refer, as a whole, to activities aimed at the harmonious development of personality, acquiring knowledge, developing skills and abilities in order to achieve an efficient management of personal careers.

Delimitation of the three concepts is quite difficult to realize from both a theoretical and a practical point of view. All three involve activities that ultimately lead to the development of the ability to consciously achieve a career choice in line with personal interests and skills.

Differentiation of these three components of career assist determines a segmentation of a timeframe in which they can be achieved successfully. Thus, we must keep in mind that during adolescence, the first steps in realistic career choice are taken, because it is then that the person is able to analyze their choices, skills and abilities. These factors also include the social and educational influences, inclinations and personal ambitions, awareness of resources available to an individual. Considering this aspect, adolescence imposes an emphasis on career education activities, which are closely intertwined with the educational and vocational guidance.

Career Education - involves all the steps of directing the training of individuals in accordance with the awareness of their characteristics, qualities or flaws that allow them to make informed choices some professional route.

The term career education defines, according to Herr and Cramer (1979, as cited Abdo and Oweini, 2006), the experiences through which individuals acquire knowledge and develop attitudes towards self and work through the activities included in the curriculum. Therefore, career education represents both information and educational intervention of development of skills and abilities of young people necessary for the development of their careers.

The specific activities of this type of education are aimed at personal development and equipping students with the knowledge and skills necessary to achieve an efficient management of their careers. This is absolutely necessary due to a flexible and largely unpredictable labor market which is constantly changing both its external (share of various professions in the labor market and the relationships between them) and internal (changes in the requirements of various professions) configuration.

Any option for a professional career involves issues such as probing and decisions, retraining, returning to the system of training courses, improvement. Modern society requires lifelong learning and therefore requires as a necessity, lifelong guidance, directly associated with lifelong learning. In this context, a special role is career education conducted at any age, which can facilitate effective professional guidance, properly adapted to an individual's potential.

Activities that may constitute an effective program of career education range from lectures on various professions, workshops on career topics, group discussions, interviews with various specialists, to visits to various enterprises and institutions, documentation, consulting with specialists in the labor market, gathering collections of information and pictures about various jobs and professions, making resumes and cover letters.

Herr and Cramer (as cited Abdo and Oweini, 2006 define **career guidance** as a systematic program that, by combining theoretical knowledge with practical experience, is intended to facilitate personal development and career management. They point out that the term career guidance is a broad concept that includes a wide range of activities including career counseling.

The school orientation activity precedes professional orientation, with both representing components of career guidance. School guidance work focuses especially on those entering the new stage of initial school education; vocational guidance work is addressed primarily to students in the final grades of schools at all levels and adults seeking a new workplace, or that want to change it, etc. Career guidance takes into account both aspects.

School guidance implies, by default, a professional orientation as a specific career option that also requires some schooling option, reflected in additional training courses. In practice, career guidance is a continuous activity with periods of higher or lower interest based on concrete situations of professional and social life of every applicant for such services. Orientation is

not intended only for young people or adults only, but is a whole part of continuous education/orientation, conducted during school and after graduation (even after retirement: how to spend your free time, what productive activities could you occasionally do, etc.).

Professional orientation should not be conceived as a static process, or a specific activity to final grades (VIII or XII), but as a dynamic process that includes all study years, and finds its place in the cultural and educational activities organized by the school. Educational institutions have the role of vocational identity development of young people and their preparation for future careers, with these activities becoming the central objective of the whole educational process. Knowledge, skills and abilities acquired in school should offer the opportunity to develop appropriate professional careers.

Career orientation includes, besides the collection and use of information on careers, labor market status, overall economic developments, training opportunities and the construction of personal identity (which requires aspects of innate and acquired characteristics of personality), identification with models of personality, ways of interaction and conflict resolution, control of behavior, social roles adopted by the individual at a given time as well as the investigation of characteristics relevant to career, followed by the decision, which is the selection of an alternative career, from a multitude of possible variants at a time.

Career counseling is defined as an interpersonal relationship in which the individual, through supporting interventions, develops his/her personal resources in order to establish, implement and adjust life plans, both short and long term (Nilsson and Akerblom, 1999). This essentially concerns a psychological intervention to develop a person's abilities to solve specific various problems related to careers (indecision, anxiety related to career, academic or professional dissatisfaction, compiling a career plan and so on).

The need for these activities is imposed due to a flexible and dynamic labor market, changing both in terms of emergence of new professions and the altering of requirements of various professions and jobs. As a result, strict and unidirectional guidelines based on a static model of overlapping personal characteristics with characteristics of the occupational field are no longer valid. As stated by Savickas (1999), orientation activities should be aimed at educating young people towards independence and flexibility in five areas of expertise:

- knowledge of self;
- occupational information;
- decision making;
- planning;
- solving problems.

Acquiring these skills can exercise control over their own development, and provides the necessary flexibility in career management. The success of career management within an organization depends largely on professional orientation, career preparation and career education that will decisively influence the whole process of human resource management, ensuring a high efficiency.

One conclusion that emerges is the need for active cooperation and collaboration between educational factors and those in human resources management, in order to ensure an effective social inclusion in the labor market. Without this cooperation and collaboration, recruitment and selection as well as socio-professional integration of employees and managing their careers becomes a very difficult task, and without much hope of genuine social and economic efficiency.

Elements of career planning through career education

"The emergence and decline of occupations will be so fast that people will always be uncertain" said Alvin Toffler in his "Future Shock" in 1973. This means that continuous training must be more than a mere quantitative extension of knowledge, given that today it is no longer enough to excel only in one domain.

Job requirements are constantly evolving, aspect that leads to the need for development at school of some features in students such as: increased complexity of skills and work skills, increased communication skills, the capacity to make individual decisions, imposing initiative, motivation and flexibility in the performance of learning or work.

Starting at about 14-15 years old, when students have already developed formal thinking skills and analysis/self-analysis, various exercises can be performed that are designed to promote the proper education and guidance for their career. To be successful with these applications, it is necessary to take into account the opinion of the students, which is relevant in the effective training for the desired profession.

For this reason I wanted to do a research summary among students in some classes at the end of school cycles (VIII, XII grades), but also among students who are in their final year in order to observe their ability to reflect on the impact that school curricula has on training. By identifying potential problems and inconsistencies between the curriculum and students' interests and needs, we can modify the subjects and topics of study or counseling activities, which provide more support to those who are preparing to choose a schools or a profession.

The results of a student survey are presented in the tables below. To note that 52 students were questioned from 8th grade, 58 students from 12th grade from a vocational school, and 43 students in the third year of study at the Pedagogy of primary and preschool education specialization:

Table 1. The percentage reflects the satisfaction of eighth grade students regarding the curriculum and training

Characteristics of curricular content	Large extent	Moderate extent	Small extent
Relationship with professional interests	9%	34%	57%
Providing theoretical knowledge base	67%	21%	12%
Providing practical skills and abilities	5%	16%	79%
Developing communication and interpersonal skills	44%	32%	24%
Providing practical experience	12%	15%	73%

Analysis of Table 1 shows that the eighth graders have not yet identified a close relationship between curriculum and professional interests, perhaps because they are still young. Although it seems that they believe that they are acquiring enough theoretical knowledge to prepare the desired profession, practical skills or experience are only slightly highlighted.

Table 2. The percentage reflects the satisfaction of twelfth grade students regarding the curriculum and training

Characteristics of curricular content	Large extent	Moderate extent	Small extent
Relationship with professional interests	37%	47%	16%
Providing theoretical knowledge base	45%	39%	16%
Providing practical skills and abilities	15%	28%	57%
Develop communication and interpersonal skills	49%	45%	6%
Providing practical experience	8%	47%	55%

Data analysis reveals that students of the twelfth grade believe that they are provided with a large theoretical basis, as well as practical skills. As with the eighth graders, experience seems to be less accomplished through curriculum content.

Table 3. The percentage reflects the satisfaction of the students in their third year regarding the curriculum and training

Characteristics of curricular content	Large extent	Moderate extent	Small extent
Relationship with professional interests	37%	47%	16%
Providing theoretical knowledge base	45%	39%	16%
Providing practical skills and abilities	15%	28%	57%
Develop communication and interpersonal skills	49%	45%	6%
Providing practical experience	8%	47%	55%

Students believe to a greater extent that there is a correlation between the curriculum and their professional interests, providing both theoretical and practical knowledge (the latter to a lesser extent). The issue also remains poor in the case of experience, which seems to be unsatisfactory at all levels of schooling.

Since we can not express an objective opinion about the professional education of students only through a simple analysis of the curriculum, we have completed research on questioning experienced teachers in educational institutions where the graduates of the Pedagogy of primary and preschool education specialization have started working. In essence, their questionnaire requested a review of experience, practical skills and theoretical knowledge of new employees. The results obtained are shown in Table 4:

Table 4. The percentage reflects the opinion of experienced employees regarding the training of new employees

Characteristics of the training of new employees			
Manifestation of professional interest	65%	32%	3%
Presence of theoretical knowledge	74%	24%	2%
Existence of practical skills and abilities	21%	56%	23%
Presence of interpersonal and communication skills	36%	53%	11%
Practical experience	12%	37%	51%

Comparing the opinions of students regarding the training provided by the school curriculum with the opinions of specialists with work experience, it appears that, in actual practice, abilities, practical skills and experience of students are far below what would be required. However, the students had a better opinion regarding the extent to which the school provided them those skills, which can lead to the idea that there is not a close relationship between school and vocational institutions in order to identify exactly what skills are needed for new employees. It is also likely that future job practice will be insufficient, providing only a superficial training.

Of course, this data largely reflects things we already knew, but nevertheless the curriculum tends to focus on theoretical, otherwise perishable skills, focusing less on practical ones.

For this reason, career education should be intensified in all educational institutions, at all levels.

CONCLUSIONS

Theoretical studies, like the research conducted regarding education and career guidance, lead us to conclude that the school should be concerned with the following student skills:

- Self development, realistic self-assessment skills of personal characteristics, emotional and behavioral self-regulation in various situations related to life and career;

- Communication and interpersonal skills;

- Knowledge management and learning - information skills necessary to optimize performance in learning, decision making and problem solving;

- Career Planning - the knowledge and skills necessary to achieve realistic career plans adapted to market demands;

- Entrepreneurship education - capitalizing on business opportunities;

- Lifestyle management - to increase the quality of physical, mental, social and professional life.

At the same time, two types of professional and career planning must be aimed at: *planning for the future* - from the point where a person is at any given time, establishing another point where he wants to reach future, *planning from the future* - which implies that the most important aspirations be fragmented into smaller, short-term goals that a person puts at the base of their actions.

Long term planning career (more than 5 years in advance) can only be achieved by focusing on transferable skills as well as the updating of expertise. This approach should not miss familiarity with new technologies used in most professional fields.

What must be clearly understood is that career planning is a continuous ongoing process, not a fixed stage, performed only at the end of periods of education (middle school, high school, college).

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ACADEMIC POLICIES AND STRATEGIES TO SUPPORT STUDENTS WITH TALENT IN TECHICAL DOMAINS

ANGHEL IONICA-ONA*

ABSTRACT. In this paper we are concerned about the educational policies and strategies conceived in order to support the talented youth, through the way how the main technical universities in Romania involved in this topic. The research methodology was based on the analysis made to the official documents of six of the most prestigious technical universities in Romania (Military Technical Academy, Polytechnic University and Technical University of Civil Engineering, all from Bucharest, Technical University of Cluj-Napoca, Technical University "Gheorghe Asachi" from Iasi and "Politehnica" University of Timisoara). We have researched the educational policies and strategies undertaken by these universities, objectified in documents such as "University Charta", "Institutional Development Strategy" and "Regulations for scholarships". Our effort in analysis directed us to the possibility of concluding some positive aspects, but some inadequacies also, in what concerns supporting young talent in the technical through policies and educational strategies. For example, there is a large number of performance development programs implemented in the academic field, formally and non-formally, designed, developed through the staff of the universities.

Key words: *giftedness, talent, technical talent, educational policy, technical universities*

ZUSAMMENFASSUNG. ***Akademische Politiken und Strategien, um Studenten mit Talent in den technischen Bereichen zu unterstützen***. In diesem Werk sind wir an den pädagogischen Konzepten und Strategien interessiert, die um die Unterstützung den talentierten Jugendlichen konzipiert sind, nach der Art, wie die wichtigsten technischen Universitäten in Rumänien in diesem Thema sich involvieren. Die Forschungsmethodik wurde auf die Analyse aus den offiziellen Dokumenten von sechs der wichtigsten technischen Universitäten in Rumänien (die Technische Militärakademie, die Polytechnik und die Technische Universität für Bauingenieure, alle aus Bukarest, die Technische Universität aus Cluj-Napoca, „Gheorghe Asachi" Technische Universität basiert von Iaşi und „Politehnica" von Timişoara). Wir haben die pädagogischen Konzepte und Strategien recherchiert, die von diesen Universitäten in Dokumenten wie „Charta der Universität" „Strategie

* Department of Teacher Training, Technical University "Gh. Asachi", 67, Mangeron Str., Iaşi, Romania, ona_anghel@yahoo.com

der Institutionsentwicklung" und „Regeln für Stipendien" unternommen und objektiviert wurden. Unsere Bemühungen in der Analyse verwiesen uns an die Möglichkeit des Abschlusses von einigen positiven Aspekten, aber auch von einigen Unzulänglichkeiten in dem, was die Förderung der jungen Talente in der technischen Bereichen durch spezifischen Politiken und pädagogische Strategien betrifft. Zum Beispiel gibt es eine große Anzahl an Leistungsentwicklungsprogramme, die im akademischen Bereich implementiert sind, entweder formal oder non-formal, und die durch die Mitarbeiter der Hochschulen konzipiert und entwickelt sind.

Stichwörter: *Hochbegabung, Talent, technisches Talent, Bildungspolitik, technischen Hochschulen*

THEORETICAL CONCERNS ABOUT EDUCATIONAL POLICY SUPPORTING GIFTEDNESS AND TALENT IN TECHNICAL DOMAIN

The concept of policy is frequently joined in the literature with the strategy, regardless of the sector involved: economic development and finance, social development, education, etc. The report between the concepts of "policy" and "strategy" is a complex one: mutual coordination and subordination, sometimes even overlapping semantics. The policies and strategies both require an act of decision, with a higher or lower grade of generality and therefore they are often used as synonyms (A. Miroiu, C. Crăciun, B. Florian, 2007, M.F. Căprioară, 2007, G. McCulloch, D. Crook, 2008). In the present paper we understood the educational policies as a sector of public policy. They are political decisions on setting priorities, aims, resources, formulation of criteria for measuring the efficiency and effectiveness of the process, all these in relation to the educational problems of general and specific public interest. Educational strategies were also considered as decisional facts, related to the educational policies, concerning the choice of the objectives, content, methods, means and resources needed in order to solve a problem of public education. In our case, the problem is correlated with the educational support of technically talented students as important human resources not only for higher education system, but for the national economy.

The inquiries made in understanding and defining the technical talent, as a specific form of giftedness and talent, led us to the identifying of two categories: some came from the field of the psycho-pedagogical excellence research (J. Feldhusen, 2005, F. Gagne, 2009, C. Creţu, 2009, J.S. Renzulli, 2005, K. Heller, 2005) and the other from the engineers' area, who were interested in the subject of the giftedness because they wanted to understand the mechanisms generating the invention (V. Belous, B. Plahteanu, 2007, Moraru, 1980).

In this paper we consider the technical talent as the expression of the superior endowment in different areas of technical field, as the excellence, demonstrated by an outstanding performance in this field or as a potential of excellence demonstrated by the results in various forms of evaluation.

RESEARCH METHODOLOGY

Being preoccupied about the issues of the supporting and promoting of the talented youth in technical field, we have investigated the intervention and participation of the technical universities in Romania in this sector of education policy.

The research methodology was based on the analysis made to the official documents, published in various ways by the institutions. Six of the most prestigious technical universities in Romania (Military Technical Academy, Polytechnic University and Technical University of Civil Engineering, all from Bucharest, Technical University of Cluj-Napoca, Technical University "Gheorghe Asachi" from Iasi and "Politehnica" University of Timisoara) where evaluated about their position about the students' performance issues presented in some documents as in the following.

ANALYSIS OF THE ACADEMIC DOCUMENTS

The educational policies promoted by the universities are to be found in some documents having a normative character, such as the universities' charta, operating rules, etc. Some areas of educational policies have their own specially formulated documents – such as the quality management. Other areas are implicitly involved in more general academic documents, without being objectified in independent documents. Our investigations have shown that this happens also when speaking about supporting the excellence. Therefore we shall present in the following the test results we have done on three categories of tools, that provide - more or less explicitly - information about the attitude of the technical universities in Romania on the issue of supporting talented and performant students: "University Charta", "Institutional Development Strategy", "Regulations for scholarships".

Supporting performance of the students through the "University Charta"

Supporting students' performance through the "University Charta" is the document that sets guidelines for the functioning of the university. The declared culture of the university and the philosophy after the university exists, are included in this document. For this analysis, we have studied the universities' charta and pointed the ways in which the performance is supported (Table no. 1)

Table 1. Supporting performance through the "University Charta"

Military Technical Academy	The performance indirectly supported by: - participation in the research activity; in the scientific events, at home and abroad (c. 5, art. 45, par. b) - sharing of student mobility at home and abroad (c. 5, art. 45, par. f) (Charta, 2006)
Polytechnic University of Bucharest	Performance rewarded through: - scholarships given by the state or by some other organizations (c.11, art. 96, par. 1-2). The state given scholarships are : performance, study and merit scholarships (c. 11, art. 97, par. 1) - scholarships based on the contract with business agents or other legal entities or individuals (c.11, art. 97, par. 2)
Technical University of Civil Engineering from Bucharest	Performance rewarded through: - performance, study and merit scholarships, from the state budget; - scholarships provided inside the external cooperation programs or by the extra-budgetary funds of the university (Professional Regulations, 2007, which cite from the University Charta, c. 6).
Technical University of Cluj-Napoca	Performance rewarded through: - financial aid (Charta, 2003, iv. art. 36)
Technical University "Gheorghe Asachi" from Iasi	Performance supported by: - encouraging student mobility for documentation and information exchange (c. I, art. 6, par. c) - distinctions, prizes, scholarships (c. VIII, art. 32, par. 2) (University Charta, 2011)
"Politehnica" University of Timisoara	Performance rewarded through: -scholarships, credits, financial and social facilities (Charta, 1999, c. 5, art.14, par. g)

The analysis on the documents cited indicates that there are few articles the technical universities' charta or paragraphs related to the supporting of the students' performance. It is encouraged in these documents either by material rewards: scholarships or other financial aid came from budgetary or extra budgetary resources raised by universities, or by moral rewards: diplomas giving different distinctions or inclusion in the university research teams. We shall add the fact that it sends us to other institutional documents in order to complete the very general lines of the universities charta.

Supporting performance of the students through "The institutional development Strategy" and the most recent Operational Plans

The management plans (both strategic and operational) secure the long-, medium- and short-term goals of the universities and sketches the directions of the institutional policies by appointing the strategic objectives. The ways in which the performance is supported in these documents are presented below:

The target to recruit future students with high potential and performance appears in the list of the main strategic objectives of the Polytechnic University from Bucharest (Strategic Plan, 2010, p.6). Furthermore, targets about "involving a larger number of students in the research work of the academics, in order to increase the added value; providing complementary education in communication, entrepreneurship, marketing, career development, etc., through modules of optional/facultative disciplines" (doc. cited, p.7) appear in the list of the six priority objectives. The Operational Plan for 2011 has 31 goals, among which the 16th states the "involvement of the students in research trainings at all the levels of higher education".

The sixth of the "academic goals", according to the documents Technical University of Civil Engineering from Bucharest, provides the direction to an education that develops the students' creativity. The team work states this objective as follows: "The direction of the further academic activities through creative forms, eliminating the reproductive education, independent formative and knowledge actions developmed by the students; turning the 4th bachelor year, master and doctoral students in the research activities of the departments" (Operational plan and strategic objectives, 2011, p. 5). In the section: "research targets", the sixth goal states that "one shall act more consistantly in order to attract the young academics and the best students from the final years in the scientific research" (doc. cited, p. 10).

Although Strategic Plan 2008-1012, p.2, of the Technical University of Cluj-Napoca, states: "2.3. Stimulating the performance by awarding, recognition and popularization of the outstanding results in teaching, scientific and managerial activity", the "Operational Plan for 2011" does not provide any objective in supporting the performance of the students, (many are rather related to the way how to attract more students).

The Polytechnic University Timşoara lists in its "Objectives and actions concerning the educational process" two objectives aimed to the academical support given to the students by organizing professional contests and scientific sessions: "organization, together with the student organizations, of some professional student competitions and supporting the participations of the UPT students in professional contests organized by other universities or companies;

organizing, together with the student organizations, of annual students' sessions of scientific and technical communications" (Strategic Plan, 2008, p. 6). However, under "Objectives and actions concerning the students", there is no paragraph dedicated to the supporting of the performant ones.

Not all the universities have posted their Development Strategy on their own website. But those which did, include in the document items related in supporting the students' performance in various forms: providing grants or other financial stimulents, inclusion of these in the academic research teams, encouraging the participation in thematic clubs or student competitions, etc.

Supporting performance of the students through scholarships regulation

The regulation granting scholarships to the students having different levels of academic performance is an issue that gives individuality to each institution of higher education. The scholarship, regardless of its type, motivates the student in study and performance.

The analysis of the document „Student's Status", 2009 of the Military Technical Academy of Bucharest, shows that students have a range of rights, corresponding to the performance of an activity. The15th article of the cited document, states that students have the right: to take part in the student scientific circles organized by the academy, and in the research collective of the institution; to benefit of the student mobilities within the country or abroad; to publish the findings of their studies, the results of the scientific research and scientific or artistic articles in the journals of the Military Technical Academy and the Ministry of Defence; to receive bonuses and other rewards for their learning results, scientific research and irreproachable military conduct; to be promoted to command positions on the basis of school and military skills".

Also the Rules for granting scholarships, 2010, from the Polytechnic University of Bucharest, informs that the institution gives four different types of scholarships: performance, merit, study and „Olympic Merit" scholarships, in descending order of the notes obtained, within the budget of each faculty (doc. cited, art. 17). The document specifies the way how the scholarships are granted, giving the budget priority to the performance scholarships (all with an average of at least 9.70) and merit (with an average of at least 9.50), the average limit for the study scholarships being 8 (doc. cited, art. 21).

The University of Civil Engineering Bucharest also presents its way to determine the amount of the scholarships: „the study scholarship amount is the minimum amount of a scholarship; the merit scholarship amount is 1.2 x the amount of the study scholarship, and the welfare scholarship amount is 0.85 x the amount of the study scholarships. The performance scholarship amount is twice the minimal scholarship awarded by the university and higher than the study

scholarship" (Scholarships Regulation, 2009, p.6). There are two criteria for granting scholarships: academic results obtained at each exam session – in the case of performance and study scholarships -, and on a professional competitive basis – in the case of performance scholarships. The performance scholarship is limited to 3 for the 2nd year and the 1st semester of the 3rd year, and only 1 for the 2nd semester of the 3rd year and 4th year (doc. cited, P.8).

The Technical University of Cluj - Napoca grants alos three types of scholarships, outside the social one: performance - granted only to the 3rd and 4th year students, who have at least an average of 9.5 (Scholarship Regulation, 1997, art. 2.1); merit scholarship - granted to the students from the 2nd year of study, if they have achieved at least an average of 9.5 (doc. cited, art. 3.1), but also from the 1st semester of the 1st year of study, to the students who received awards at the International School Olympics in one of the last years of their high school studies (doc.cited, art. 3.3), study scholarship - granted to students who have achieved at least an average of 8 (doc. cited, art. 4.1), within the existing funds (doc. cited, art. 4.3).

The Polytechnic University from Timşoara offer three categories of scholarships that students can access: performance – if they have obtained an average of 10 – which it is given for a period of 12 months (Regulation, 2010, art. 9), merit scholarships – for an average of at least 9.5 (doc. cit., art. 10), and study scholarships – their limit being fixed by each Faculty Council.

CONCLUSIONS

The document analysis has given to us a number of issues: technical universities in Romania possess in varying degrees also directions of institutional policy to support the students' academic performance, but they have no explicit policy in this sense; supporting the academic performance (with a lower limit established by each institution on average around 8 obtained at the semester examinations) is achieved through various forms: financial, moral, promotion to some universities abroad; there is no discussion anywhere about the performance potential. This resource is totally neglected by all institutions; implementation of the policy directions depends on human resources of each institution. In the absence of institutions dealing with this, the process of identifying the potential talent seems to refer to the professors.

As a result of the positive and negative identifications through our analysis, we should make a few general recommendations: a) selection and use of an operational significance to the concept of "student with technical talent" in the academic decision-making documents; b) establishment of some university structures in order to be responsible on the one hand with the identification of the talented students in engineering, and on the other hand with their educational and career counseling.

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MODERN AND TRADITIONAL PEDAGOGICAL PERSPECTIVES IN THE MUREŞ PRESS OF THE XXTH CENTURY

ANGELA PRECUP*

ABSTRACT. The study reveals the recurrence of some valuable aspects in the Romanian didactic tradition, as reflected by the pedagogical and general press of the Mureş county during the XXth century, marked by the historical discursive particularities as well as by the multicultural environment, specific to the area. The review of the pedagogical vision along different periods, investigated from the communicational perspective offered by the printed press, explicitly reveals in the old forms of speech very modern educational principles, ideas and methods, such as the importance of interactive strategies, the applied character of knowledge, the focus on the child's individuality, the intuitive principle in education or the school - family partnership. From this connective perspective between the past and the present, the study offers significant arguments that the present-day education in the Mureş area honors a rich pedagogical tradition.

Keywords: *tradition, modernity, Mureş pedagogical press, concept recurrence*

ZUSAMMENFASSUNG. Die Studie unterstreicht die Rekkurenz der wertvollen Aspekte der traditionellen rumänischen Didaktik, so wie sie durch die pädagogische und informatorische Presse des Kreises Mureş das XX. Jahrhundert über bespiegelt wurden, bezeichnet durch die diskursiven Spezifika jeder Zeitperiode sowie durch das multikulturelle Milieu der Veröffentlichung, das das Spezifikum der Zone ist. Der Rückschluss des pädagogischen Blickfelds, analysiert aus der Perspektive der Kommunikation der schriftlichen Presse, enthüllt explizit in diesem Zeitraum in einer alten Abfassung, Formulierung moderne Prinzipien, Ideen und Bildungsmethoden wie die Wichtigkeit der interaktiven Strategien, der angewandte Charakter der Kenntnisse, Zentrieren auf das Individuum des Kindes, intuitiver Prinzip in der Bildung oder Partnerschaft Schule-Familie. Aus dieser Perspektive, die die Vergangenheit mit der Gegenwart bindet, bietet die Studie relevante Beweise, dass die aktuelle Bildung in der Zone des Flusses Mieresch eine reiche pädagogische Tradition in Ehren hält.

Schlussworte: *Tradition, Modernität, Neumarkter pädagogische Presse, Rekkurenz, Konzepte*

* Faculty of Psychology and Educational Sciences, Department of Educational Sciences, Babes-Bolyai University, Cluj-Napoca, Romania, precupangela@yahoo.com

INTRODUCTION

The editorial profile of the pedagogical and scholar and press can be placed in between the cultural press, by its content, and the specialized press, by its connection to the school environment and public (Petcu, M. 2000). During the entire XXth century, this special category of the press proved to be an important resource for the general press in the Mureş county, due to the formative function it assumed and to the national prestige it brought to the local culture.

This development perspective shows that the pedagogical and scholar press assumed certain roles during different historical periods, in order to support the general development of the local press: a formative role during the inter-war period, a spiritual shelter during communism and a free space of expression during the first decade of post communism.

After its late debut in 1920, the Romanian press in the Mureş area developed on a scholar background, due to an entire generation of teachers (some of them with a solid journalistic experience) who came to Târgu Mureş from other parts of the country, to help at the creation of the local Romanian school system. In the young schools of the town, they set literary societies, professional and scholar publications, creating a formative environment, a true educational and cultural laboratory.

In the inter-war period, the most relevant appearance of the entire Mureş press was the pedagogical and cultural publication *Progres şi cultură* (*Progress and culture*, 1933-1938), edited by The Romanian Teachers' Association in the Mures county. Although it was initially intended as a pedagogical publication, it gained a consistent cultural structure, becoming one of the most important cultural publication of the inter-war period. Further more, the most important journalistic figure of the time was the primary teacher and journalist Vasile Netea, with a fundamental contribution to the evolution of the Romanian local press from the beginning of the inter-war period till the end of the communist period. (Netea, V. 2010).

During communism, the pedagogical and school press represented in Mureş more than a half (52%) of the total publications of the period. Although, more or less, the communist ideology and its propaganda system transformed any publication of the time in a political one, the pedagogical press of the communist period played a major role as a spiritual space of refugee.

After the fall of communism, the general effervescence of the Romanian new "free" press reflected with the similar intensity among teachers and their students. The pedagogical and school publications issued between 1990-2000 (representing 17,5% of the total press of the period) contributed, by their complex editorial structure, to the development of a creative and critical spirit in schools, opposed to the general social and moral vulnerability of the society.

SIGNIFICANCE OF RESEARCH

The study operates a radiography of the pedagogical vision in the Mureş area, in the context of each historical period that segmented the XXth century. The findings of the analysis reveal the recurrence of important pedagogical concepts and directions, some of which traverse almost one century, connecting by their value the tradition and the modernity of the Romanian education. From this connective perspective between the past and the present, the study offers significant arguments that the present-day education in the Mureş area honors a rich pedagogical tradition. Besides the conceptual perspective, the study offers an image of the educational communication during certain periods, as reflected by the press, describing a series of precedents relevant for the present from the point of view of an educational environment marked by bilingualism and multiculturality.

METHOD

The analysis of the modern and traditional pedagogical perspective as revealed by the Mureş press during the XXth century is a case study and a qualitative research. The study seeks to follow the evolution of the pedagogical vision in the area of the old and present Mureş county, by the analysis of the relevant pedagogical publications appeared in this space during the XXth century The analysis uses a multidiscursive perspective, as that reference angle giving different meanings or connotations to a concept, depending on the context (O'Sullivan et all, 2011).

FINDINGS

The main achievement of the pedagogical and scholar Romanian publications of the Mureş county during the inter-war period was the fact that they managed to overcome their statute as professional publications, by their high scientific standards and complex format, which included professional articles, literature, folklore, math, news, chronics, translations, sports, entertaining.

In this various structure, the publication *Viaţa şcolară* (*The Scholar Life*) pleaded in 1923 for the importance of interactive methods in teaching and for the applied character of knowledge, a modern direction almost a century ago but also a fundamental practice of the present: "The school will be a basic preoccupation, and we shall defend and support its interests with all our power. We shall renounce to the old fashioned methods of memorization and to the hollow theory, we shall banish all stereotypes and excessive ways of teaching." (*The Free Word*, 1991)

In 1939, the publication *Revista Şcoalei Normale de învăţători din Târgu-Mureş* (*The Târgu Mureş Teaching High School Magazine*) pleaded for the "pedagogical individualism", a collocation hiding the principles of the present focus on the child's personal needs: "The educator must be guided in his educational activity only by the child's needs. The child's will must be the supreme law. […] Since there are no identical children, with the exact same predispositions or forces, the line of their natural development can never be the same. So we are not allowed to impose the same target or ideal for the development of the different individualities." (*The Târgu Mureş Teaching High School Magazine*, 1939)

At its turn, *Graiul dăscălesc* (*The Teachers' Voice*) approached the problems of the Romanian school system of the time, such as the importance of learning religion for the conservation of nationality, school and politics, teachers and provinciality, the active school principles, with focus on respecting the child's individuality and applying the intuitive methods. The publication suggested six ways of action: analyzing the situations from a purely pedagogical perspective, sharing the experience, the correction of the errors detected in the educational planning and organization, supporting a good financial condition of the teachers, encouraging the literary creation in school and the promotion of an informative section of the publication dedicated to the latest regulations. Regarding the pedagogical theory and practice, *The Teachers' Voice* connected its readers to the most important professional findings and directions, analyzing for instance the actuality of the active school: "The issue of the active school is an important one, because it cumulates the entire new pedagogical movement, that reviewed and novelized the pedagogy. We can thus talk about the history of the active school, about its origins, about its connections to the classic pedagogy, about its basis and directions." (*The Teachers' Voice*, 1928)

The issue of the Romanian school modernization was also followed by the informative and cultural publications, which granted large spaces to the topic. If today we talk about the communicative – functional pattern of studying Romanian, in the 30s the cultural publication *Clipa* (*The Instant*) talked about the necessity to correlate the universe of the children's literature to the real universe of the children's every-day life: "We must mix the obligatory contents with *the pleasure contents*, so that the effort of the child becomes an act made out of pleasure. And this will happen when the pieces of reading – from the manual or from the story books – will touch subjects from the children's daily activity, with their familiar vocabulary and facts." (*The Instant*, 1936)

After the disappearance of the entire Romanian press in the Mureş county during the Hungarian occupation (1940-1944) and after the period of transition towards communism, the revival of the pedagogical and school press happened on an ideological background at the end of the 60s, when numerous

scholar publications, although politically contaminated, appeared and continued, in some cases the old series from the inter-war.

Even if the pedagogical press of the communist period appeared under the political pressure of the time, the teachers of the time found resources to express an objective pedagogical vision behind the discursive restrictions of the period: "The teachers will seek to be closer to their pupils. The child will no longer learn by fear of the educator or of the note, but by his conviction that all he is learning is for his own good, and for his people's good." (*New Transylvania*, 1948)

In the 60s, one of the concerns of the 3 years Pedagogic Institute in Târgu Mureş was the increase of the applied character of knowledge, a principle intensely experimented by the future teachers: "One of our objectives is connecting the learning to the practice. This orientation sets all of our initiatives, by the implication of our students in a series of applicative laboratory works, the field practice, the experimental trips. We give a special role to the pedagogical practice in which, besides knowing the secrets of this future calling, we cultivate the professional ethics and the responsibility." (*The Red Star*, 1970)

In 1972, the prestigious cultural publication *Vatra* (*The Home*) included a didactic column in its structure, emphasizing the importance of the audio-visual support among the educational instruments: "The modern audio-visual, available today in every school, are capable to operatively and easily illustrate all the categories of historical sources."

From the social perspective, the newspaper *Steaua roşie* (*The Red Star*) approached the importance of the school - family partnership for the educational success and the consonant development of the children: "The school – this second family by the organized and conducted character of its educational actions, based on the principles of a rigorous, scientific pedagogy, represents the educational element that mediates de collaboration between society and family." (*The Red Star*, 1970) Further more, the publication wrote about The Parents' School, an initiative consisting of conferences addressed to the parents in Romanian and Hungarian "presenting problems of the child's education, the role of education in building the child's personality, the child's psychology, the basic problems of the nervous child etc." (*The Red Star*, 1958)

The press of the first years after the fall of communism combined in the Mures county, as in the entire Romania, the enthusiasm of a new beginning with the profound political, social and economical changes determined by the transition between the former centralized system and the new liberalized system. In such times of transition, the school should assume a guiding role, wrote in 1990 the publication *Glasul cetăţii* (*The Fortress' Voice*) in Sighişoara: "A psychological and moral therapy should be done in the society and in its fundamental institution: the school. But by whom? Firstly, by those teachers who received some of the spirituality of the old Romanian school. Then, those

who were less affected, due to an extreme effort of self preservation, could contribute to this purification."

The relevance of the 44 pedagogical and school press released between 1990 - 2000 stays in their contribution to the development of a creative attitude and of a critical spirit in the Mureş school.

Among the pedagogical and cultural publications, *Educaţie şi cultură* was the modern version of homonym publication of the inter-war period, *Progres şi cultură*. On the basis of this tradition, the publication aimed to encourage the activity of the professional and scientific associations of the teachers, approaching the latest theories such as the concept of continuous professional development: "Discussing the development of the human personality in its integrality and defining itself as a science of the progress, the education cannot limit its responsibilities and preoccupation to the school years. Especially today, under the impact of the informational explosion, of the rapid depreciation of knowledge and of the accelerated scientific and technical progress, the adult can be exposed during his entire life to a need of changing his educated qualification, assuming new social roles, and therefore the education must support this process of understanding the general need for a continuous autoeducation and autoformation. (*Education and Culture*, 1995)

CONCLUSIONS

Considering this evolution during almost a century, the pedagogical and scholar press in the Mureş county reveals itself as a stream supporting the general development of the local press and assuming a statute according to the necessities of the different historical periods.

The review of the pedagogical vision along different periods, investigated from the communicational perspective offered by the printed press, discovers in the old forms of speech explicit modern educational principles, ideas and methods, such as the importance of interactive strategies, the applied character of knowledge, the focus on the child's individuality, the intuitive principle in education or the school - family partnership.

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MULTI- AND INTERCULTURAL EDUCATION- DIMENSIONS OF CONTEMPORARY EDUCATION

NICULAE CRISTEA*, ANDREIA-NICOLETA MAXIM**

ABSTRACT. Due to today's tendencies towards globalisation, mondialisation and internationalisation, the educational system is faced with a great number of challenges.

Multicultural and intercultural education represent dimensions of contemporary education which are largely moulded by the post-modernist and constructivist approach to education, the former being seen as a way to establish links between education itself and the formation of self-identity.

Intercultural education can provide those individuals pertaining to a minority or a majority with the instruments they require to build their own vision of reality by offering them several models to acknowledge the world, filtered through the existing cultural representations in a multicultural environment. This enables communication between cultures which are largely based on the same essence and between which there are relations of interdependence and mutual influence, which in turn leads to an alteration in political culture.

Our conclusion is that, despite certain apparent inadequacies between the postulates of the post-modern paradigm and some characteristics of psycho-pedagogic constructivism, intercultural education represents not only one of the major challenges of the contemporary educational systems, but also a possible solution for the prevention of major future national or international crises.

Keywords*: interculturality; multiculturality; intercultural – education; culture and identity; plurality – universality.*

ZUSAMMENFASSUNG. Die aktuellen Tendenzen der globalisierung und internationalisierung bringen im vordergrund des erzieherischen phänomens eine vielzahl von herausforderungen.

Die multi- und interkulturelle erziehung stellt die dimensionen der zeitgenössischen Erziehung dar, die tief von der postmodernen und konstruktivistischen vision der erziehung geprägt sind, eine vision die als ein feststellungsschritt der konnexionen zwischen der erziehung und der bildung der selbstidentität betrachtet werden kann.

* Public official at the Ministry of National Research
** Teacher at "Csiky Gergely" College Arad, andreia_maxim@yahoo.fr

Die interkulturelle erziehung kann dem individuum, der mehrheit oder der minderheit angehört, die instrumente zur verfügung stellen um sich eine eigene vision der wirklichkeit zu bilden indem sie ihm mehrere modelle der inbesitznahme der welt bietet, die aus der in einem multikulturellen. Umwelt bestehenden kulturellen darstellungen herausgefiltert sind. So wird die kommunikation zwischen den kulturen ermöglicht, die als grundlage dieselbe essenz haben, zwischen denen es eine wechselbeziehung gibt und die sich gegenseitig beeinflussen was zur bestimmung der politischen kultur führt.

Unsere schlussfolgerung ist, dass trotz einiger scheinbaren unstimmigkeiten zwischen den postulaten des postmodernen paradigmas und einigen kennzeichen des psychopedagogischen konstruktivismus, die interkulturelle erziehung nicht nur eine der bedeutendsten herausforderungen der zeitgenössischen erziehungssysteme bildet sondern auch eine mögliche lösung für die vorbeugung einiger zukünftigen bedeutsamen nationalen und internationalen krisen darstellt.

Schlüsselwörter: *interkulturalität, multikulturalität, kultur und identität, interkulturelle erziehung, pluralität-universalität.*

Our contemporary society is not only one characterised by globalisation, mondialisation and internationalisation, as well as by social mobility, but also one characterised by diversity, a status quo that leads to multiple challenges for the educational system. In a world of perpetual change, we need to identify and choose milestones that would provide us with an axiological type of orientation, so that we could live in an environment of mutual respect; with this in mind, we believe that it is important that the youngsters' education be based on values that are promoted both in the current society and in future societies.

The actual perspective regarding multi- and intercultural education is profoundly shaped by the postmodern and constructivist vision, with particular emphasis on the connections between education and the formation of self-identity. Thus, we find Humbold's (apud L. Bârlogeanu, 2002, p. 287) statement extremely relevant, as the aforementioned states that we should be focusing on valuing the individual, on freedom and on diversity. The concept of Mimesis holds an important position here, understood as the separation between the essential and the accidental. In other words, a national culture is none other than a community's response to an existential issue, but while the answers are formulated differently, the existence that they have in mind is largely the same. Hence the possibility of communication between cultures, since they all come down to the same essence.

For this reason, a democratic society needs real values, while at the same time those values need to be tended to through formal education. Youngsters need to become aware of the basic societal elements, as well as

eliminate the stereotypes related to public and private life which contradict the democratic values, whilst also seeing the need to develop the abilities and knowledge necessary for social integration and social participation. In this context it can be therefore stated that the ideal in education can be attained by establishing a clear relationship between anthropology and education. The stage of initiation is thus transformed into a process in which the central value is represented by the individual and his own subjectivity. If we look at things in this way, cultural judgment will not necessarily be defined as a science (Ibidem, p. 286).

In fact, in the field of education, what clearly emerged was the need to clarify the concepts of *multicultural education* and *intercultural education,* as each covers a different reality of dialogue between cultures. Pedagogical sciences have already outlined the idea that intercultural education, which emphasizes the idea of existence and *togetherness* with each other, unlike multicultural education, which is concerned with the existence *next to the other*, is feasible only if there is a constant understanding of the ethnic and linguistic self-identification and an acceptance of the real ratio between education and ethnic identity. Thus, ultimately, on behalf of interculturality, the goals of multicultural education are followed and translated into practice.

As a result, we acknowledge the existence of *The Other* and we accept the fact that *He* will express himself differently, culturally speaking, which leads to ethnic tolerance. However, interculturality means more than that and the necessity arises for specific educational programs to be elaborated which would impose concrete action when it comes to this educational approach. Intercultural education can provide the individual belonging to a majority or a minority with the tools needed for the construction of a personal view of reality, by offering several models to acknowledge the world filtered through cultural representations. Thereby, the mechanisms of self-knowledge and self-identification are set in motion, by deciphering the meaning of cultural symbols used in a multicultural environment. But creating and applying a viable program of intercultural education cannot stand under the auspice of dilettantism (F. Ouellet, 2002), since no errors are allowed when subjective emotional states are set in motion which contribute to the process of ethnic and/or cultural self-identification and hetero-identification.

Setting the educational phenomenon onto the coordinates of the multi- and intercultural diachrony requires our taking into account a number of factors. *Culture* and *identity* are key-concepts which operate with a series of principles, among which that of equality, regarded as a pragmatic value when it refers to a superior norm of democratic societal organisation, but also that of difference, pertaining to social sciences. Another concept it operates with is that of *minority/ majority,* psycho-sociologically speaking, emphasizing the

idea of dominance, since the majority enjoys symbolic advantages which set minorities at a disadvantage. One must bear in mind the fact that, on a cultural level, there is a continuous interdependence**,** a mutual influence which leads to alterations in the political culture.

It is also important to underline the difference between culture and identity from the point of view of the awareness of belonging. Thus, culture can exist without an identity-related conscience (speaking of an unconscious process), while ethnical identity brings along the issue of belonging (this being a conscious process based on a symbolic opposition). All this leads to the development of the dichotomy *us/ them*, which is still indifferent to cultural evolution. As well as this, we notice the awareness of belonging to a real group, not always synonymous with the virtual group. And related to this, we speak of the term "ethnic frontiers" (Fr. Barth, 2005), by which we understand keeping the ethnic identity of a minority group even under the circumstances of loss of culture. Still, placing cultural plurality in a domination structure leads to eroding the minority culture, thus exclusively diffusing the symbolic systems of the majority. Under the circumstances, belonging to a minority becomes a stigma determining the emergence of three attitude types: the effort of being assimilated, the desire of ostentatiously presenting your "difference" or the reenactment of your own culture, after Marc Bosche (see internet source).

Currently, one can notice the tendency to go back to being stigmatised and the *crisis of etno-nationalism* (nationalism with ethnic nuances) is emphasized, which brings along *tension* when faced with the judicial universality (F. Savater, 1997, p. 144-149). The author sketches *the societal traits* which mark the identity-related processes, of which we will choose only those we regard as fundamental to the construction of ethical identity. There is a constant claim that *television* bombards the youngster with images, this leading to the age of the iconic (Ibidem, p.53-83). This, in turn, will lead to a type of social autism – those around do not matter, just the magical eye -as well as to clumsiness in socialisation. But television bombards the child with information which he has no time to process; everything is given at once, while man needs to be offered information gradually. Progress is ahead of the natural formation pace of the individual, who normally needs time and has to discover reality gradually. What is fashionable is the right to an opinion, which is understood as the right to have your own opinion. But this is absolutised, since it is believed that every individual can have his own position without taking into account that of the other. Cognitive education is based on the idea of giving children the possibility to intellectually form themselves and to choose their own way to solve problems, any kind of problems, there being several such ways (E. Joiţa, 2002, p. 126). It is important, however, that several solutions be presented and that solely the ones based on arguments be

validated. We have the right to express our opinion, but we need to have the strength to discard it when it proves to be non-efficient. This state of facts should reflect *freedom* in its broadest sense.

In turn, the *time* variable is brought to the foreground in every context by today's society. Everything is done against the clock, the important thing being to obtain something in the shortest time possible. It does not matter that for certain stages in life more time is needed. Thus, the child is constantly tempted to skip stages in order tor reach the goal as soon as possible. This has negative consequences, because, as was mentioned, the formation of the individual needs time. There is a tendency towards strong specialization; as a consequence of this intention, the child only pays attention to those things related to his future profession. What is important is closed *values* (F. Savater, 1997, p. 46) - meaning those values that, once formed, cannot be enriched (skills and practical abilities for instance), while open *values* (Ibidem) -which are always perfectible- are neglected.

To develop the afore stated, functionally linking the contemporary educational phenomenon -oriented towards the valorisation of diversity- to the post-modern paradigm requires an institutional and methodological reconstruction based on a number of fundamental coordinates.

First of all, we bear in mind that *the conciliation between plurality and universality* aims at harmonising the individuality (respecting the unicity of the human being) with the acknowledgement of existence of certain common elements of the human spirit, regardless of the cultural environment. Therefore, education encourages the acceptance of the collective plurality, as well as the need to discover the red thread of human existence beyond spiritual reference space delimitation. The *reflexivity* of the human being shows that education means man's study of his own self so as to become aware of the stages he passes through in life. Understanding the most intimate mechanisms in the formation of the self represents a basic element for the acceptance of your own persona, as well as in empathising with *the other*.

To those stated before we add *communication*, because *to form yourself* requires continuous communication: with yourself, with the one next to you, with your own cultural space and that of the other. Isolation leads to the destruction of empathy, to the over dimensioning of the importance of the self and of your own culture.

The originality of the personality represents the formation of human beings that would not be forced into a pattern, as that would destroy all trace of spirituality. Learning means initiation and revelation, as to *learn* means to gradually *discover yourself*, to always feel the revelation necessary to the protection of the spirit. The one that is educated must be guided, he must

receive models to follow so as not to lose himself on the road of formation. If the school or the family do not offer that, the arbitrary will set in.

Judgment is another fundamental element, because in the present context, we need to place cultural, aesthetic and spiritual judgment first. Man needs interiorizing knowledge and having individual access to culture. The human being needs to find the differentiating element, as well as the one granting similarity. Education will endow him with the instruments that facilitate comparison. The educator will provide a multitude of ways, and he who is the subject of education will then have the power to choose the way. Thus, one is granted the possibility of encountering cultures, thereby ensuring the rapport of educational values and life. *Judgment democratisation* can be achieved by adding to the aforementioned the necessity of the child parting with childhood (since keeping the child in the same state is more likely to lead to infantilism, to the desire to postpone maturation) and the eagerness to know more (desires and projects constitute the dynamism of our human identity).

Related to those afore stated, it is important to refer to separation, which operates between *education* and *instruction,* which proves to be *detrimental* to the achievement of educational aims. Such an approach annuls the valoric side of formation, impeding man's humanization (F. Savater, 1997, p. 24) (the differentiation man-human is valid). Thus, academic education, through its humanistic and positive sciences, contributes to imposing respect for truth, precision and curiosity. "Education is always an attempt to take your fellow human being out of the zoological fatality or out of the overwhelming limitation imposed by mere personal experience. It forcibly endows you with symbolic tools which will later allow for original combinations and still unexplored derivations. It is little, it is something, it is everything, it represents the inevitable embarkment onto the human condition." (F. Savater, 1997, p. 88).

With this perspective in mind, the idea emerges that learning means questioning, criticising. He who is the subject of education undergoes a type of apprenticeship which helps him integrate into the mechanisms of society without accepting everything as being valid. In much the same way, the educator does not content himself with professional pedantry, regarding himself as the supreme authority, but he rather takes on the role of child initiator. And the latter will come to discover things he already knows, but without critical spirit, valuable judgment cannot authentically achieve anything at this stage. He who is the subject of education will also be taught *to learn how to learn*. All of this can only be achieved by following development on the three coordinates: understand/ associate/ negotiate. Thus it becomes evident that one necessity that appears is that of self-appreciation models equivalenced with the reference to an ideal. Since we dwell on the idea that learning equips the child with the instruments that give him access to knowledge, coming from focusing on awareness of his own

formation, the initiation laboratory of education becomes privileged. Just like the neophyte (Ibidem, p. 25), the subject of education passes through a period of apprenticeship during which he will become familiar with the key-elements he will use later in life. This initiating journey -which leads to the aforementioned cultural space- favours value and reaching the spiritual state of existence (L. Bârlogeanu, 2002, p. 229). As shown by F. Savater (1997), education must bring to light *the true human being* resulted from *the extension of consciousness* and *the relation with the master*. In the vision of the cited author, in order to reach that desired state, it is necessary to follow two apparently antinomic directions in the process of education: *national respect* and *relativity of truth*. One must know the roots in order to keep said originality, because one cannot set off without holding possession of one's own culture. But this knowledge provides one with the tools indispensable to the analysis of any culture. Beyond turning back to the *national,* the current ideal is *democratic universality*. What is also respected is the requirement of the collectivity aiming for the conservation of its own element, but a dynamism of mentality is desired, since otherwise there would be no evolution.

In fact, in this way we may end up *deconstructing that which is considered natural and self-understood*. In other words, man becomes by birth part of a community, and his image of himself and of the group he belongs to is constructed by learning. The group norms will constitute what is seen as "normality". That is to say that the general frame, the frame by which one perceives reality is slowly being sketched (E. Stan, 2004, p. 36-39). It appears to the individual as being all-powerful, which annuls the urge to question it, and the norms of another group which are in contradiction with those of one's own community are seen as false or wrong. Post-modern education attempts to free the individual from underneath the "pressure" of automatically acknowledging this general frame. Questioning reality makes stereotype dissolution possible.

Hence, intercultural education appears as an educational endeavour which emphasizes the need to acknowledge diversity, especially ethnic diversity, following the development of communication skills -with people adopting a different reference system- and of the attitude of tolerance and solidarity. The meaning of this type of education is equivalent to the common cosmopolitan sense, aiming at the following reference points: dialogue between cultures, the values and originality specific to each culture, understanding between cultures and communities. The reasons that led to the appearance and growth of interest towards intercultural education are the refusal to accept ethnocentrism and the acceptance of the principle of cultural relativity.

Thus the school appears as the institution aiming at putting into practice the human ideal that also encompasses the principle of justice. For this reason it became necessary to create a new subject that could build into youngsters cognitive and emotional competences so that ethnic identity be not

regarded with complacency. These cover a civic objective of the intercultural pedagogy, namely the formation of a self-assured citizen, a competent actor engaged in a relationship of social cooperation. Hence, a new sense is given to the values of equality and justice, attaining the development of new competences and attitudes related to the idea of "togetherness", through which he who is the subject of education becomes sensitive to intercultural relationships (Mark Taylor apud Emil Stan, 2004, p. 142-143). Hence the following objectives: openness to diversity, equality of chances and ensuring social cohesion, as results from the conception of M. Page (apud J. Kerzil, 2002, p. 128-129) regarding the seven complementary perspectives on intercultural education.

In spite of all this, segregation will appear, because schools are less and less ethnically and socially mixed, resulting in an ethnic oppositional culture. This oppositional identity is the one that reflects the global society (M. Fine, L. Weis, P. Lois, L.C. Powell, L. Wong, L. Mun, 1997).

Therefore, it seems necessary for educators to organize school activities that would shed a positive light upon interethnic relationships. What is also mandatory is reflecting upon discrimination, identity-related tensions and acknowledging ethnocentrism from the point of view of the interest in defending democratic values. In the 80s there was great emphasis on protecting ethnic particularities leading to a number of „perverse effects" which need to be knows so that we, educators, do not hazardously attempt to educate without being prepared. F.Ouellett (2002) identifies the following hazards:

- closing the individual inside a fixed identity; rebuilding ethnic frontiers; heightening the risk of intolerance;
- the impossibility of the educator to change; stigmatising and marginalising, as well as fragmenting the curriculum.

Consequently, there are several sets of concepts educators need to be familiar with so as to adequately act on the idea of promoting and giving value to diversity:

- culture, ethnicity, ethnic identity in the postmodern culture and cultural relativism;
- the obstacles in interethnic relationships: prejudice, discrimination; equality of chances/ victimization;
- nation, community, state and multiculturalism, assimilation.

In Romania, the need for intercultural education is determined by the diverse ethnic composition, by equalizing chances in the long run and by tensions among ethnic groups. But it is limited to educating in minority languages, which is, no doubt, important for democracy, but does not punctually answer intercultural needs. Starting from this image of education, we come to the conclusion that the human being needs acknowledging the world gradually, and with guidance. The educational act is ultimately aimed at

forming the individual's personality, and this process needs a long span of time. Moreover, in order not to deprave the human side, we need to design a process consciously conducted, not left at random, of the accidental factors that may have educational effect -with positive, but also negative nuances. The educator (the term being understood in its broader sense) is the one who, in an institutionalized environment, such as a school, guides the child's steps in life. In fact, in the alternative pedagogy, the child becomes a neophyte who sets off and is to be initiated in knowledge and self-knowledge.

Human relations constitute the basis for the process of personal development, self-discovery and the discovery of others. Actually, an important role in the formation of the self is played by the mirroring of the "I" in the other and knowing one's own self after one has discovered oneself through "outer knowledge". In this way, finding one's own realization formula goes through three stages: „individualization", „socialization" and „personalization". This is why human relations and communication represent the two facets of the one and the same reality. As a result, there are three sides of the aforementioned reality:

1. „being" – from this perspective we speak of existence, being in a relationship with a person means living with that person in a certain way;

2. „having" – this constitutes itself in the structure of verbal and para-verbal communication;

3. „modifying" – this is essential tot he partners finding themselves face to face in order to exist as separate and different personae.

Thus, rediscovering the specifics of the community one belongs to must be also achieved by enlightening the similarities with "the other", revealing unity in diversity. Based on empirical observations, which are also scientifically-based, youngsters today have not yet learned to use this type of setting themselves against the world, against "the other". We still dwell on stereotypes that are not yet assumed as such. As a result, there is a confusion in the way the self-image is constructed by an individual pertaining to a majority or a minority, as well as in understanding democratic values (A. Maxim, 1998, p. 3). This leads to the necessity of adopting the idea of intercultural education.

In a broader sense, M. Şimandan (2005) identifies a series of topics that should be debated upon not only by researchers, but above all within the various educational communities on a daily basis, namely: the risk of a cultural imbalance in case an individual situates himself between two cultures; the need for both majorities and minorities to adapt to cultural diversity; understanding interculturality in a sense that would include cultural exchange, mutual acknowledgement of the values and lifestyles against which the individual and the society set themselves; the strategies that ought to be employed so as to avoid the risks emerging from unequal cultural exchanges; the way in which intercultural education contributes to the mutual communication and understanding between different cultural groups.

The values of the community are respectable, but it is necessary to attain the universal dimension, since we relate ourselves to essence beyond particular forms. The ideal and the dream of new humanism converge towards this desiderate. Within this context of relativisation brought along by the post-modern vision acts the new constructivist paradigm, which defines itself as the passage from a normative Weltanschauung (worldview) to an interpretative one (H. Siebert, 2001, p. 35).

Thus, the stress moves in pedagogy onto autonomous learning, a holistic view of the world, the stimulation of questions and the acceptance of the fact that error is probable to occur (E. Stan, 2004, p. 113-115). We start from the idea that the human being lives in a society which is at the same time a social system and a social construct. As a result, pedagogy itself is a construct which needs to take into account the fact that teaching is not a linear process based on the sender-receiver reductionist pattern, but a circular type of interaction, recursive and perspectivist at the same time.

The central thesis of this pedagogic orientation claims that people are closed operational systems, while at the same time being autonomous and processing reality based on their background. Reality and learning are, therefore, filtered through the individual's own experience and his interests (H. Siebert, 2001, p. 158-159). Hence, reality is subjective and man can only know the world within his own possibilities and influenced by the environment he lives in.

In spite of all this, man is the one to observe the world and he will not fall under the influence of anything that causes him cognitive dissonance. The individual is resistant to those educational elements that have the tendency to change his mentality, his view of the world. He will only accept that which fits into the cognitive patterns he already possesses. It is considered that nature, feelings, action models and thought patterns are culturally conditioned, therefore being constructs.

On the other hand, there are several types of reality, says Searle, namely institutional realities, which are determined by social conventions, and the "brute" realities, which are independent of human opinion (J. Searle apud A. Teti, N. Hynek, 2007, p. 7-8).

To these we add the dichotomy: subjective/objective and perspectivist /immanent. Therefore, learning depends on the social context of the individual coupled with the individual's experience and interests/needs.

As a consequence, learning is not a value in itself, but an attribution of significances. Depending on those significances, each individual decides which educational elements are useful and which are not. This process is thus firstly based on confirmation, and under certain circumstances there might even appear a resistance to learning. "Constructivism confirms the fundamental *anthropocentrism and egocentrism* of human existence. One cannot escape

oneself and, regardless of how much one strives to be objective, *one* is still the one who observes the world." (Horst Siebert, 2001, p. 30).

The constructivist paradigm militates for an active type of pedagogy centred on autonomy and individualization, reaching an active construction of knowledge. In this way, constructivism questions the traditional model based on input and output (Ibidem). It is considered that the internal state of the trainee determines learning, and his anterior knowledge and vision upon the world lead to individual and voluntary construction of knowledge. This autonomy is translated through rendering trainees responsible and independent (G.E. Hein, 1991, p. 3).

Due to the fact that it emphasizes the idea of the student being a neophyte and because it accepts the existence of several approaches to the same problem-situation, we consider that post-modern pedagogy represents a useful apprenticeship for the student who needs to discover that his truth is not unique, but also that he cannot be stigmatized if he does not think along the same lines as everyone else. As well as this, it is important to learn together with the others, as well, because in this way the trainee will have the ability to accept what the other thinks/ says, given the right to freedom of opinion, recognising the situation in which „the other" finds a better solution or when his solution is not the one which was sought. The constructivist variant seems to come close to a certain pedagogic skepticism, whereby it emphasizes the idea that the subject accepts only that which it can relate to previous knowledge, the rest being devoid of any interest. Thus, mixing traditional and new methods is desirable if one desires activating the student without specifically and clearly deciding the work position. The constructivists themselves believe that a „moderate constructivism" can be found in education. (H. Siebert, 2001).

To sum up all the aforementioned, it can be stated that, despite certain apparent inadequacies between the postulates of the postmodern paradigm and some of the characteristics of psycho-pedagogic constructivism, intercultural education is not only one of the major challenges of contemporary educational systems, but also a possible solution for the prevention of future major national or international crises.

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