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BOOK OF ABSTRACTS

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WELCOME

„Dynamic assessment and cognitive intervention: Bridging the gap between theory and practice”

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Dear conference participants,

the conference programme includes three keynote lectures, three symposium sessions, four paper sessions in English, five paper sessions in Czech and two workshops.

Conference presentations cover practically all aspects of the cognitive education and psychology field, from the analysis of cognitive functions, to the possible effects of mediated learning, dynamic assessment and cognitive intervention. Different age groups receive sufficient attention: from pre-school children to young adults to the elderly. The interface between cognitive skills and curricular learning is addressed during a number of sessions focusing on verbal functions, reading, and mathematical problem solving. Attention is given to both children with special needs and learners with typical development.

Keynote lectures address some of the current challenges facing dynamic assessment approach and cognitive education. One of these challenges is a still not fully realized potential of learning potential assessment approach. The second is related to the need for a more detailed elaboration of the relationships between dynamic assessment and those educational interventions that are supposed to be developed on the basis of such an assessment. The third challenge is related to the question of the ecological validity of the research tools used for evaluation of educational intervention programmes.

Alex Kozulin

KEYNOTE SPEAKERS

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Still unrealized potential of the learning potential model

The purpose of this presentation is to explore the still unrealized potential of the dynamic assessment (DA) approach. As a starting point of this exploration I take Feuerstein's papers of the 1960s which, to the best of my knowledge, constitute his earliest published attempts at formulating the methodology of the Learning Potential Assessment (LPAD). The proposed analysis takes into account both theoretical and practical goals of DA formulated by Feuerstein in the 1960s, the broader theoretical context within which these goals were formulated, and the proposed structure of LPAD. Special attention is given to such rarely mentioned source of Feuerstein's LPAD as Guttman's (1959) facet design theory. The initial proposal for LPAD included the following parameters of the assessment: 1) The capacity of the examinee to acquire a given cognitive principle; 2) Evaluating the examinee's ability to apply this principle to the tasks progressively more remote from the initial one in terms of content, modality, and complexity; 3) The amount of mediational investment required for modifying the level of examinee's functioning ; 4) The degree of transferability. This initial proposal is compared to the LPAD battery and the set of LPAD procedures eventually developed by Feuerstein, Rand, & Hoffman (1979). Differences between the initial proposal and the final battery are discussed while still unrealized elements of the initial Feuerstein's proposal are presented as a possible basis for further development of DA methodology.

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Voices from psycho-educational practice in reaching the potentials of children and youngsters: the challenging gap between assessment, diagnosis and intervention

In contemporary psycho-educational practice, psychological (intelligence) assessments remain widely employed. In this keynote lecture I will illustrate the often existing disconnection between the psychometric testing, the diagnosis evolving from that testing and the subsequent provision of educational guidance for children experiencing difficulties in learning.

In this lecture I will first report on some in vivo studies indicating that after the administration of the psychological (intelligence) assessment a gap between diagnosis and intervention appeared far too often. This will be elucidated with respect to the needs for children with specific learning disabilities and twice-exceptional children (i.e., gifted children with ASD or with specific learning disabilities).

Second, I will explore whether dynamic assessment procedures in psycho-educational practice might bridge the well-known gap between diagnosis and intervention. Due to a learning phase included in the testing procedure, qualitative information about the child's learning needs can be revealed by means of dynamic assessment. The question is, however, what the consequential validity, i.e. the extent to which assessment influences instructional and learning processes, of dynamic assessment procedures really is. In order to design child-tailored interventions following dynamic assessment, there is a need for more explicitness of learning phases and types of feedback in the development of these instruments.

Finally, I will ground the plea for making use of a variety of assessments across cognitive, metacognitive and conative (motivation, emotion, social) domains in order to build up a strengths and weaknesses profile of a child. This profile should pave the way to bridge theory to practice, strengths to development, and weaknesses to targeted educational interventions.

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The efficacy of Pre-literacy Skills Interventions – Current Perspectives in Czech Republic

There is now a large body of evidence from international research that the most effective emergent literacy interventions invest into training of the key pre-literacy skills: either explicit phonological awareness training (Lundberg, Frost & Petersen 1988, Troia 1999) or structured phoneme awareness training combined with explicit letter knowledge instruction (Hatcher, Hulme & Snowling 2004, Regtvoort & van der Leij 2007; Castles, Coltheart, Wilson, Valpied & Wedgwood 2009, Lonigan, Farver, Phillips & Clancy-Menchetti 2011). It is also true that intervention studies are difficult to conduct in a real word settings and thus very vulnerable and sensitive to the troubles emerging within their implementation (Hatchder, Hulme & Ellis 1994, Lonigan et al 2011, Burden & Nichols, L. 2000). On the contrary, strategies to promote early literacy are of a great importance from the social impact perspective, both for typically developing children (Papadopoulos, Ktisti, Christoforou, & Loizou 2015, Seidlová Málková 2015) and even more for children at risk of literacy development (Heimann, Nelson, Tjus, & Gillberg, 1995; Tokárová 2015). The paper will introduce a recent research conducted in the Czech Republic in

the field of literacy interventions (a longitudinal training study with preschool age children - Seidlová Málková 2015) and a semi-longitudinal training study with children at the onset of primary school attendance - Šedinová, Seidlová Málková 2017). It aspires to demonstrate the importance of research based practice in educational settings and preliminary suggestions relating to the so-called “ecological validity” of intervention studies (human effort and time needed to bring efficiency in an implementation of intervention programmes and their applicability in real word settings).

SYMPOSIUMS

COGNITIVE APPRENTICESHIP: A DEVELOPMENTAL APPROACH TO LIFE

Paper 1

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Review of ADHD and Cognitive Measures Applied in Educational Settings

Keywords: ADHD, Executive Functioning, Academic Context

Attention Deficit/Hyperactivity Disorder (ADHD) is the most frequently diagnosed neurobiological disorder among youth worldwide, with up to 14% of some populations having been diagnosed. A variety of longitudinal and cohort studies indicate that ADHD does not resolve with development, but rather manifests along a divergent developmental course throughout the lifespan. The complex interplay of biological and environmental factors that contribute to an individual's presentation result in a highly heterogeneous constellation of functional deficits for the people who experience ADHD, and these deficits change both in response to physical development and emerging environmental demands during different life stages. As youth develop, the stereotypical symptoms of hyperactivity often resolve, and the main manifestations of disorder express as Executive Functioning (EF) deficits. EF deficits are deficits of cognitive regulation and irregular application of in-tact cognitive skill sets for problem solving. Among high functioning youth, functional problems are frequently manifestations of these cognitive dysregulations, and cause the most difficulty during environmental transitions to greater independence as learned skills are not adaptively implemented. This talk will pro-

vide a review of ADHD as a neurobiological disorder and discuss neuropsychological and cognitive measures currently used among youth with ADHD within the academic context. We will review the need for measures of EF within a developmental context among this population.

Paper 2

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An Exploration Of Career Readiness As Dynamic, Continuous, Professional Development: A Phenomenological

Keywords: Cognitive Apprenticeship, Career Readiness, Adult Learning

With talent shortages in 18 of 30 major world economies (Zhao, 2015), career readiness in a global, interconnected world is a universal concern. In the United States, talent shortages impact the national economy, suggesting the need for apprenticeship and workforce development reform. Despite increased focus on connections between education and career readiness, there remains a shortage of students adequately prepared for the workforce. According to the United States Bureau of Labor Statistics (2018), employment needs are expected to increase, while individuals expect to remain in the workplace longer, performing varied types of work for at least a dozen different employers throughout their lifetimes. The purpose of this study is to explore career readiness as a dynamic, professional development effort. The focus of the study is the perspective of post-secondary instructors, which previous research suggests, is significant in influencing career readiness in adult learners. Using a cognitive

apprenticeship model as a theoretical framework, results are expected to provide additional insight into career readiness, not as a static time period, but as a transformational progression founded on application of blended, repurposed, and applied skills and knowledge.

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Paper 3

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How can we learn how to learn for life?

Keywords: Feuerstein Method, Developmental Approach, Lifelong Learning

How can we learn how to learn for life? As mentioned in the prior presentation, we try to answer this question by proposing a cognitive apprenticeship theoretical framework. We view lifelong challenges from a developmental perspective because learning starts at birth and becomes increasingly important as the pace of change accelerates around us during adulthood. The Feuerstein method (LPAD and IE) has been applied to individuals of all ages (e.g. teens, young adults, the elderly) and in all settings (classroom, vocational training, etc.) transitioning to academically rigorous educational programs and/or vocational training programs. The instruments have been used in diverse cultural settings, such as in the Feuerstein Institute (Jerusalem/Israel) where dedicated mediators facilitate "the art of learning; how to think, how to gather information, how to analyse". IE and LPAD were developed to promote vital cognitive strategies for problem solving - i.e. to learn. Our proposed theoretical framework is intended to support individuals with a great variety of mental or

physical challenges through critical transitions to independence by mediating the ‘skill of learning how to learn’.

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Paper 4

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Integration of Augment reality (AR) in US Geriatrics education programs: A Systematic Review

Keywords: Augment reality, Geriatrics education programs, elder care

According to the AAMC, the number of individuals above 65 is expected to grow 55% by 2030 to meet the growing health care demands of an aging U.S. population. The importance of caring for older adults remains, and its relevance is steadily increasing. Past and present trends in Geriatrics education indicate how this specialty has evolved its training over time. We performed a brief qualitative systematic review of 2018 publications to gain a better understanding of how Augment reality (AR) is currently integrated in US Geriatrics education programs. AR is an emergent, disruptive technology with the potential to significantly impact all key industries, including Educational and Vocational settings. Geriatric education is one area that may benefit from supplementing reality with authentic information via AR educational tools within existing programs. Knowing how this specialty has evolved its training and knowing of the increasing need and importance for elder care enables us to draw a picture of current and future trends in U.S. Geriatrics GME programs. AR’s potential to transform patient care through geriatric education may not yet be fully realized.

WORD, SENTENCE, PARAGRAPH AND TEXT AS A BASIS FOR COGNITIVE STIMULATION

The research was financially supported by the Slovak Research and Development Agency under the contract No. APVV-15-0273

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Paper 1

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Metacognition as a base for cognitive stimulation

Regarding the theories, research and educational implications of working memory, attentional control, self-regulation and planning, it can be concluded that they are manifested, both implicitly and explicitly, in language learning and subsequently in language proficiency. The past research shows that the stimulation of cognition and transfer of knowledge are more efficient if they are grounded within curriculum. A domain-specific (language curriculum based) stimulation program was developed and experimentally verified by the team of researchers. Relations between executive functioning – metacognition – self regulation and language curriculum are discussed.

Paper 2

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Domain-general vs. domain-specific approaches to cognitive stimulation

The nature of mechanisms that store and maintain stimuli from distinct sensory domains is a subject of scientific debate. Cognitive networks in which information is processed are believed to be either domain-specific, i.e. responsive to relatively isolated sensory domains, or domain-general, i.e. responsive to more sensory domains. Such distinction is reflected in how certain theories describe working memory as a construct. However, more advanced cognitive processes such as comparison, inductive thinking and reasoning recruit a more complex functional network regardless of the type of information being processed. The above theoretical assumptions on the correspondence of the modularity of mind to the type of information (mathematics, language) processed by a pupil during stimulation underpinned the designing process of the stimulation programme.

Paper 3

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Using language curriculum to stimulate executive functioning

Executive and cognitive functions of pupil play an important role in text comprehension and knowledge integration. The effective learning from text requires a good level of executive functioning; on the other hand, the quality of executive functioning can influence the level of pupil's comprehension. The stimulation programme that has been developed contains units for stimulating executive functions via processes that utilise a multi-level character of text comprehension. The aim is to stimulate executive functions through receptive and productive activities at word, sentence and text levels. The examples of stimulating tasks in which the word, sentence, paragraph or text is

used as a base for cognitive and executive stimulation are presented and described.

Paper 4

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Verbal fluency of good and poor readers

The paper discusses the role of verbal fluency in reading performance. A group of 51 low-performing children attending primary school took part in a training program aiming at developing their executive functioning. The D-KEFS test battery was used to measure the level of selected executive functions, among others verbal fluency, which was assessed in letter and category fluency tasks. Children were divided into poor and good readers based on the Slovak standardized reading test. Within it, the indicators for reading speed and error production were taken into consideration. The regression analysis was conducted to find out if there is a relationship between verbal fluency and reading performance in both speed and error production aspects. Moreover, we wanted to examine if there is a difference between verbal fluency of good and poor readers before and after finishing the training program. We expected that training program would improve verbal fluency of both poor and good readers, with poor readers benefiting from the program even more. The results and further implications will be discussed at the conference.

Paper 5

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Learning from text: a case study of low achievers' beliefs

The pupil's ability to gather and elaborate information from text is one of the key outcomes of primary education. When working with low achievers, their comprehension of factual text is often weak. The aim of the study is to analyse and interpret pupils' talk about procedures and strategies applied when learning from text (in school subjects Science and Homeland Studies). The interviews were recorded, transcribed, and coded. Subsequently, the statements of selected pupils were compared with the results of the Reading test by Matějček (1987). The outcomes indicate some differences in pupils' descriptions of the procedures and strategies that they applied when learning from the text. These descriptions probably depend on reading speed and reading accuracy. Better readers suggested the use of higher number of reading strategies when learning from the text.

COGNITION, METACOGNITION AND EXECUTIVE FUNCTIONING WITHIN SCHOOL MATHEMATICS

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Paper 1

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Pros and cons of experiment in educational research

The aim of the paper is (1) to analyse the features of experimental method, and (2) to indicate the limitations of experiments in school environment. An experimental plan examining the impact of the cognitive intervention program on pupil's higher cognition is described. Within the experimental plan, higher cognition is represented by both executive functioning and metacognitive awareness. The intervention program has a domain-specific character; the stimulation of cognition is carried out through mathematics curriculum.

Paper 2

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Difficulty level of mathematical task

Results of the OECD PISA (15-year-old pupils) and IEA TIMSS (10-year-old pupils) international surveys carried out in recent years have re-

vealed that the Slovak school population scored below the average of both the EU and OECD countries in mathematical literacy and in mathematical knowledge and skills. These findings have triggered searching for the possibilities to improve the current state of mathematical education. A team of researchers from the Department of Mathematic Education at the Faculty of Education, University of Prešov, has developed, under the APVV (Slovak Research and Development Agency) scheme, the strategies for enhancing cognitive abilities and mathematical literacy in 9-10-year-old pupils. The resulting stimulation programme is grounded in mathematics curriculum and was tested on a sample of low achieving pupils from socially disadvantaged background in the region of Prešov.

The paper describes a set of mathematical tasks from the stimulation programme. The tasks cover a thematic area from mathematics curriculum and are ordered by graduated cognitive difficulty. The stimulation programme conforms both the specifications of the primary national curriculum in mathematics and the thematic areas specified in the international surveys. When designing the task, the authors graded its difficulty by the following criteria: cognitive processes involved (e.g. memory, comprehension, application of a rule), representations of concepts (e.g. specific, symbolic, abstract) and achievement and ability characteristics of the pupils participating in the programme.

Paper 3

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An experiment on executive functioning within mathematical curriculum: design and results

A domain-specific program aimed at stimulation of executive functions of underperforming children from the Roma ethnic group was developed by the group of researchers and subsequently experimentally verified. The experimental study was implemented within the curriculum of one of the core subjects in elementary education, i. e. mathematics serving as a domain-specific basis. The research design followed a pre-test/post-test, experimental vs. control group format. The independent variable, which was the subject of manipulation, was the original mathematical domain-specific stimulation program that addressed selected executive functions in a pupil. The dependent variable was the level of pupil's executive functioning relevant for the selected domains of executive performance. The experimental intervention lasted for a period of 3 months with a 60-minute stimulation unit twice a week. Administrators of the intervention programme were the students of Education/Special Education master's degree programme who were trained under the supervision of a school psychologist and a research team member. The results of the experiment are presented and discussed.

Paper 4

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Determinants of mathematical skills

The paper discusses cognitive determinants of mathematical skills in low-performing pupils at the primary stage of education. A group of 122 pupils, 57 boys (47%) and 64 girls (53%), attending fourth grade took part in the research. The average age was 11 (SD=1,23); their assessment grade in mathematics was 3 or worse. No pupil was diagnosed with any developmental disorder. The following tests were

used to measure mathematical abilities: the Tracing Test (Matejček & Strnadová, 1974), consisting of 12 designs, measures perceptual, spatial and graphomotor factors considered as necessary prerequisites for learning mathematics, and the Neuropsychological Test Battery for Number Processing and Calculation in Children (ZAREKI) (Slovak version, originally by Von Aster, 2001), consisting of 11 subtests: Counting Dots, Counting Backwards, Dictation of Numbers, Mental Calculation, Reading Numbers, Positioning Numbers on an Analogue Scale, Oral Comparison, Perceptive Estimation, Contextual Estimation, Problem Solving, and Written Comparison. The results of the Tracing Test revealed significantly substandard score, which is usually present in 6-year-old children. Regarding the ZAREKI test battery, more than 1/3 of children scored below the second standard deviation level, which implies significant deficiency in mathematical abilities and undiagnosed dyscalculia. The pupils scored the lowest on the Mental Calculation subtests, Problem Solving and Counting Dots. When analysing gender differences, a significant deficiency was displayed in boys' graphomotor skills.

WORKSHOPS

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The Dynamic Learning of the verse "Let there be light"

The initial impetus for Dynamic Learning approach was my discussion with the late Prof. Reuven Feuerstein in the 1990's. We discussed the possibilities of introducing Mediated Learning Experience (MLE) into content areas by constructing MLE-based curricular lessons in a variety of disciplines and for various populations of students. Prof. Feuerstein thought that this is a very difficult task that will require massive effort on our part, because it requires the development of a great number of lessons in different areas. In addition, he argued that Instrumental Enrichment Program and Learning Potential Assessment are capable of providing students with the basic cognitive ingredients that will enable them to succeed in classroom learning.

Today, after many years of experience, I can say, that my response to Prof. Feuerstein's doubts is that we do not need to develop so many lessons. We need to provide teachers with tools that empower them to develop lessons based on mediated interactions. The Dynamic Learning workshop is based on the experience accumulated during my work with student-teachers who taught curricular subjects to regular and special education students in kindergartens, primary and secondary schools. The goal of Dynamic Learning is to understand and close the gap between teaching and learning of a curricular subject. The teacher and the learners occupy very different positions vis-à-vis the learnt topic. Dynamic Learning approach enables us to set a meaningful dialogue between the teacher and the learners, and be-

tween the different learners. They are all active participants in the process. The process has three stages:

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1. Initial observation of the learnt topic, concept or text, as represented in an environment or in a written material, by the teacher and the students. The teacher and students use drawings to present the learnt topic and explain their drawings in writing. Discussion between the participants on the drawings.

2. Learning phase of the topic

3. Mature observation of the topic or environment. Repetition of the process described above.

There can be a use of multiple contexts in the teaching and learning and of imagination. The understanding in relation to the senses of the students and the teacher changes in the process. One can use Dynamic Learning in almost any topic in every subject matter and population of students.

Workshop Description

The workshop presents a learning process in the mode of Dynamic Learning of the Biblical verse: "Let there be light".

The learning will be done in five stages:

1. The whole group of participants will draw the verse and explain in writing in details their drawings. Then there will be a classroom discussion on the various interpretations of the verse.

2. There will be a learning phase in pairs. Each pair will choose what to learn via the internet in relation to the verse. They will write down what they have learnt.

3. Each one of the group will draw again the verse and explain the drawings.

4. The participants will write down and discuss in the class their lessons from the experience of Dynamic Learning of the verse. We will relate to other versions of Dynamic Learning with the use of a variety of contexts, constructing narratives using imagination, combining Dynamic Learning and Thinking Journey to get to Attentive Teaching for understanding.

5. General debate on the merits of Dynamic Learning in the classroom and its potential for wide use in subject matter teaching working with a variety of populations of students.

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GRUNNLAGET – Nyborg's concept teaching model – bridging assessment and intervention

Keywords: GRUNNLAGET-methodology, teaching model, dynamic teaching, intervention

Vocabulary is an important component in reading and learning, an inseparable part of crystallized intelligence as well as closely linked to cognitive abilities and verbal competence. Translating and adapting commonly accepted tools used in the Western world for vocabulary testing is a great challenge. It is our aim to discuss the dilemmas in translating and adapting one language tool from one culture to another language with a different culture, the importance of using a modified and adapted tool and the use of this tool during dynamic assessment.

The purpose of diagnosing a children's vocabulary is to assess their strengths, along with their difficulties, according to the norm for their

peers and to construct a treatment plan. The diagnostic recommendations can include providing guidance to the parents / educational staff within the framework of the study, monitoring its functioning after a period of time, or constructing and implementing a treatment plan.

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An appropriate and adapted tool for the assessment of receptive vocabulary is widely needed in Israel, both for researchers and for therapists in the field of language, whether in the regular school system or in the various fields of special education. The last time such a test was translated and adapted into Hebrew was in 1979. Since then, most English tools have been modified and changed a number of times, but the original translation from 40 years ago is still being used today. Several versions have been translated informally but not properly adapted to the Hebrew language or the Israeli culture. The discussion will relate to the challenges and the difficulties in adapting the receptive vocabulary tool and propose some solutions as well as suggestions in using it in dynamic assessment.

PAPERS

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Effect of an Intervention for Mutual Peer Mediation on Peer Interaction and on Learning Motivation in an Information and Communication Technology (ICT) Classroom Environment

Keywords: 1. Mutual Peer Mediation, 2. Information and Communication Technology (ICT) Learning Environment; 3. Learning Motivation; 4. Peer Mediation with Young Children (PMYC)

In the study, it was suggested to harness the paradigm of Mediated Learning Experience (MLE) to collaborative learning in the classroom in an ICT environment. The aim of the study was to examine whether mutual mediation training among students studying in ICT environment significantly improves the prevalence of mediated learning characteristics among them and their learning motivation. The independent variables were learning environment and intervention. The dependent variables were MLE strategies and learning motivation. Learning environment was composed of ICT and traditional. The intervention was either mutual mediation training or alternative. The sample included 98 students coming from four classes in two schools representing different learning environments: ICT and traditional. Each class assigned in a Solomon type design, to one of four conditions:

(1) ICT environment trained with the Peer Mediation with Young Children (PMYC) program; (2) ICT environment and an alternative training; (3) traditional environment and PMYC; (4) traditional environment and an alternative training. Students' interactions videotaped and analyzed later by the Observation of Mediation Interaction scale (OMI). Learning motivation measured by the Motivated Strategies for Learning Questionnaire (MSLQ).

The findings showed that training for mutual mediation in an ICT classroom environment significantly improved the frequency of MLE strategies, and learning motivation, as compared with the other groups. The pattern of structural relations between the research variables indicates that MLE mediate between environment and training for mediation and learning motivation.

The importance of the findings are: (a) MLE introduced into the classroom with complete mutuality between peers, and enable its application in curricula in ICT environments. (b) The findings contribute to testing learning motivation. (c) It adds operational definitions according to ICT environment to the MLE strategies.

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Computerized Dynamic Assessment Procedure in the Use of EFL Reading Comprehension Standardized Tests: a case study

Keywords: Computerized dynamic assessment (C-DA), L2 reading standardized tests, mediation tool.

This paper reports on a study concerning the design, implementation and impact analysis of a mediation tool for an interventionist computerized dynamic assessment (C-DA) procedure in the use of EFL reading comprehension standardized tests. In the English for Science and Technology Reading Program at Universidad Simón Bolívar in Venezuela, standardized tests are administered to measure students' achievement of course objectives (USB, 2010). In an attempt to use such tests to support students' learning, a mediation tool was designed to offer standardized assistance to learners during the DA procedure. First, a thorough analysis of the 25 items in the test was conducted to identify the knowledge and skills required to understand the texts and to answer the questions. For each item, two more versions were created by changing their stem. The first version offered an implicit hint, while the second one guided the learner more explicitly. Two expert readers validated item progression from implicit to explicit. For the implementation phase, a group of 65 students, who had taken the standardized test under conventional administration conditions, were given online personalized tests which included the first version of the items they had not answered correctly on the original test. Finally, students took another online test, which consisted of the second version of the items they missed on the previous online test. Our data show that learners benefited from assistance provided through the mediation tool. Moreover, students with equivalent solo performance (i.e. students with the same score in the standardized test), responded to mediation differently (obtained different mediated scores). This corroborates the idea that responsiveness to instruction may not be predicted from independent performance. Furthermore, students perceived the DA procedure as useful for their learning: it allowed them to approach items differently and to realize what they had misunderstood.

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Cognitive Approach in the Process of Organizational Development: The Model of Cognitive- Organizational Consultancy

Keywords: Cognitive Counselling, Cognitive operations, Organizational development, Cognitive Education

Organizational consultancy relates to the field of behavioral studies and aims at improving organizations' management processes. It applies and transfers behavioral science knowledge from the fields of psychology, sociology and anthropology to the development and improvement of organizations.

Until now, organizational development consultancy has scarcely transferred any cognitive knowledge, tools and strategies to the assessment and intervention in development and change processes within organizations.

Our research presents an innovative and integrative approach that combines cognitive analysis with the practice of organizational consultancy. We developed an integrative model of cognitive-organizational consultancy which is based on the theory of Structural Cognitive Modifiability (Feuerstein, Klein, & Tennenbaum, 1991) and its related cognitive operations (such as analogy, induction, synthesis, reflection) and assessment tools.

The goal of this approach is to improve behavioral and cognitive operations of individuals, teams and units within an organization and thus enhance organizational effectiveness. The consultancy process involves an analysis of organizational features such as multitasking, interfaces management, change processes, and role defining.

The combining of cognitive operations and behavioral analysis broadens the scope of organizational solutions and increases the effectiveness and precision of the consultant's assessment and intervention.

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This model was introduced in a pilot seminar to two separate groups of M.A. students who were participating in a certification program for organizational consultants. The objective of the training program was to familiarize the students with the theory of Structural Cognitive Modifiability, cognitive operations and concepts in conjunction with organizational processes and challenges. The students conducted cognitive - organizational analysis in organizational context (research and development units and an advertising agency) as part of the consultant's assessment and intervention.

The presentation demonstrates the model along with the training processes and recommendations regarding the implementation by the organizational consultant.

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Similarities between teachers' and students' metacognitive learning strategies

Keywords: Metacognition, learning strategies, MAI, design instruction

Metacognition plays a pivotal role in teachers' instructional development. On the other hand, although the role of metacognition in student success is increasingly recognized, limited research has explored teachers' explicit awareness of their metacognition. The aim of the present study was to compare the metacognitive learning strategies of high school Greek teachers and their students.

300 high school teachers and 539 students from different regions of Greece participated. The teachers had to describe during a semi-structured interview what it means to design an instruction on a metacognitive base and completed the Metacognitive Awareness Inventory questionnaire for Teachers whereas the students completed the MAI Junior Version. The Inventory is divided into two general components: knowledge of cognition and regulation of cognition.

The results show that teachers often use the ‘knowledge of cognition’ strategies of learning and less ‘the regulation of knowledge’ strategies. Similar patterns were found among students who answered that they prefer the knowledge-based strategies more than the regulation-strategies.

The results revealed that teachers do not have a rich understanding of the concept of metacognition and they do not know how to design an instruction on this base. Furthermore, teachers answer that teaching students to be metacognitive requires an understanding of both the concept of metacognition and metacognitive strategies.

Teachers’ metacognitive profile has not been studied largely. The absence of an effective tool for measuring teacher metacognition has hampered research in this area. Additionally, teachers’ pedagogical understanding of metacognition is diffuse. Moreover, the relationship within students’ metacognitive knowledge profile and its resemblance to the teaching techniques is also in need of more exploration.

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Executive functioning in relation to ADHD: SixBall as an independent experimental variable in executive functioning stimulation

Keywords: executive functions, attention control, inhibition, mental speed, sixball, ADHD

The research presented in the paper aims at experimental verification of the efficacy of intensive sport/motor activity with regard to the quality of executive and cognitive functioning in young school aged children with ADHD. By means of newly standardized (among the Slovak population of children) measures of executive and cognitive performance, ADHD children's cognitive profile will be identified and represented by level of inhibition, attentional control, mental speed, verbal and figural fluency. The project of experimental intervention will reside in the application of Sixball, a new kind of contact sport, preliminarily implemented at chosen Slovak schools. The goal of the experiment will be to verify the effect of short-term intensive motor on deficient executive and cognitive functioning in ADHD children and track the variability of long-term transfer of potential changes in higher-order cognition in selected children. Subsequently, recommendations for educational practice with regard to ADHD children will be formulated. Grant VEGA no. 1/0691/16.

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The Effect of Using Puppet on Primary Communication with Kindergarten Children With HFA

Keywords: puppets, high functioning autism (HFA), theory of mind, mediation, elementary communication, preschoolers

The key aim of this research was to examine what the unique contribution was of using puppet on producing primary communication between high functioning children with autism (HFA) and adults they encounter for the first time.

11 children aged 4-6½ diagnosed with HFA participated in the research. The research included semi-structured interviews with each of the children. Interviews included puppet that were operated by an adult whom the children met for the first time.

Reference to the extent of children's responses and content that arose was made through an analysis of the interviews and preliminary inquiries with children's parents and teachers who were present at the interviews. The research findings show a high level of response on the part of the children. This was expressed in the dialogue they carried out with the puppet, sharing their internal world and individual areas of interest. They expressed interest in the puppet regarding its preferences and areas of interest. The children also expressed their desire to continue to meet it in the future.

The interviews with adults maintained that the puppet created interest and enjoyment on the part of the children over a relatively short time span. They noticed that the puppet enabled the children to ex-

press themselves verbally. All interviewees were in full agreement regarding the great contribution the puppet had made.

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Developing minds of children with developmental disabilities in a comprehensive way: working with child + parents + therapists

Keywords: disabilities, neuroecological intervention, parent training, SECEM

Feuerstein's theory of "mediated learning experience" (MLE) and Structural Cognitive Modifiability claims that it is possible to substantially improve a person's cognitive functioning, even in the presence of cognitive impairments. Feuerstein institute acquired a vast clinical experience with children and adults with developmental disabilities in working with home-based mediation intervention, and despite its example being followed by a number of rehabilitation centres in various countries; scientific evidence regarding effectiveness of this program remains scarce. The weak point is mostly the lack of demonstration of transfer in daily life. The literature states that the most effective programs must be multi-systemic: person-oriented, family-oriented and in cooperation with the environment. In this presentation, we will describe the experience at Imparole Centre (N= 638), in particular the process of developing a comprehensive and intensive approach in working with a population of children with developmental disabilities and their families, based on Feuerstein's MLE theory. In our effort to improve the children's overall functioning (cognitive, socio-emotional, communication, daily life), level of activity and par-

ticipation and quality of life, as well as to empower parents, we noticed that for this particular population, a “classic” approach with 1 or 2 times a session per week, falls short. From 2012, we started offering intensive courses as well as collective summer camps for children with developmental disabilities, their families, volunteers and staff. We present working methods “SECEM quintessence”, we will analyse the MLE opportunities, and evaluate its effect on parents, children and staff, based on a method of participatory observation. We found that living and learning together in this way greatly enriches opportunities for mediation and for transfer into daily life. Working with parents is a key to modifiability

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Teachers with disabilities as part of integrated education

Keywords: disability, surprising element in class, empathy, meaningful dialogue

When a History teacher rolls over in a wheelchair to her classroom, is there any more happening to the lesson? Has a meaningful dialogue been created against the background of diversity?

Because of relatively new legislation, the issue of integrating students with special needs into regular schools has become a centerpiece of the Israeli education system and research can be found from a variety of perspectives (Review of the Literature by Myers-JPC-Brookdile, 2006).

The present study seeks to add the perspective of teachers with disabilities who teach both in regular classes and students with special

needs. It is known that physical disability affects the professional identity (Dvir, 2015) but this study focuses on the effect in class.

The aims of the research:

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- To understand whether and in what manner the teacher's disability affects the encounter with the students
- To describe the teaching experience in its various aspects from the perspective of disabled teachers

Methodology

A Qualitative -Narrative research, as the personal story reflects the environmental culture in which the interviewees live and enables a deep understanding of their perceptions and choices. In that respect, the narrative is also a paradigm (Cresswell, 2007, Spector-Marzel, 2011).

The study was carried out in 2 stages: in the first, the research tool was a focus group and in the second stage, a half-open, in-depth interview with each participant.

Findings

The interviews show that the opening conditions of teachers with disabilities are very challenging, but most teachers have succeeded in making it the basis for creating meaningful dialogue and creating empathy.

All the teachers said they were very concerned about their authority among the students which made them feel threatened. The classroom experience led them to replace the concept of authority with the concept of influence, a distinction that is made by educational researchers (Amit, 2012).

The presented research shows that visible disability might be an example for unexpected or surprising element in class and by this strengthens the argument that surprising is an effective way to improve learning (Schur, in print).

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The study may encourage academic institutions to encourage students with disabilities, help them cope with the unique challenges, and strengthen their absorption in the education system.

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Developing Iranian EFL Learners' process Writing Through Dynamic Assessment

Keywords: Dynamic Assessment, Mediated Learning Experience, Plateau Effect, Process Writing, Zone of Proximal Development

Applying dynamic assessment (DA) with its roots in Vygotsky's sociocultural theory of the zone of proximal development (ZPD) in language classrooms offers new insights into language learning. The central feature of DA is the integration of instruction and assessment in one single activity. This study was an attempt to investigate the effectiveness of applying interactionist model of DA in Iranian EFL learners' writing classes. To this end, after conducting Interchange Placement Test (IPT) and then checking the participants' writing ability through developing a composition, 30 homogeneous intermediate EFL learners were selected. They were randomly assigned to one experimental and one control group. The participants in control group were exposed to process writing approach and finally received written feedback. The treatment group took part in a pretest-mediation-posttest design study, one of the models of DA, for each

stage of process writing. The results revealed that the application of DA would lead to significant improvement in writing ability of EFL learners. In order to obtain the attitude of learners towards the application of DA, a questionnaire was also administered whose analysis indicated that learners had positive attitude toward using DA in L2 classes and then no plateau effect was observed during writing development in this study. The findings of this study can have useful implications for EFL learners, test designers and teachers.

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Self-regulated learning as a platform for literacy discourse in language and math using the TWR tool

Keywords: conceptual framework, self-regulation, transfer, literacy discourse

Rationale: Standards for 21st-century teaching and learning note the importance of acquiring knowledge and skills that prepare learners for future life. Hence it is important to cultivate self-regulated learning (SRL) with a focus on language and math literacy.

A conceptual framework combining elements of SRL with literacy discourse comparing two disciplines (Zimmerman & Chunk, 2011) has enabled the study of an innovative SRL intervention program: TWR (Thoughts, Words, Reflection). This tool, designed for multidisciplinary connection and transfer combines elements of SRL with elements of discourse in language and math.

Research aim: To compare the effect of training with the full TWR, with both generic and specific questions, to the partial TWR, with

either generic or specific questions. Data collection will look at achievement tests, near and far transfer from language to math and vice versa, SRL questionnaires, documentation and analysis of the learning process in both written and spoken discourse according to the TWR pages.

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An intervention program was delivered as part of the regular studies throughout the school year. Participants were 403 pupils from 12 4th-grade classes. The pupils solved tasks in class during language and math lessons, using the TWR tool.

Assessment used a mixed method approach. Key findings indicate that training with full or partial TWR helps cultivate rich spoken and written discourse, and near and far transfer abilities.

Theoretically, the study contributes to the expansion of knowledge and conceptualization of the features of literacy discourse in language and math, and the implementation of SRL training programs in schools to improve achievements in those disciplines.

Methodologically, the contribution is the construction and validation of a discourse tool for young learners.

Practically, the findings encourage the use of TWR to develop high-level SRL.

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Neurocognitive theory - bridging dynamic assessment and intervention

Keywords: Dynamic assessment, Brain structure, Nyborg CTM-model, PASS theory, Grunnetaget methodology

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Teaching school psychologists and students about dynamic assessment has been a part of my job the last ten years. It has been possible to observe the challenge for practitioners in applying such knowledge, and how demanding it is to interpret findings and transfer them into successful intervention.

My own practice has demonstrated the utility of working in the light of neurocognitive theory when developing teaching programs for children with learning problems. The Norwegian professor Magne Nyborg, well known for his concept teaching model, also developed a more comprehensive model in which he made clear distinctions between cognitive structures and cognitive processes. In addition, he identified analytic coding processes as involved in, and important for, different categories of learning.

Nyborg's theoretical work is parallel to the neurocognitive PASS theory. PASS is based on A. R. Luria's research, further developed through a significant body of research, and outlined as the comprehensive PASS by J.A. Naglieri and J.P. Das. Planning-attention-simultaneous and successive covers mental processes in man, involved in any mental action. Research relates PASS to typical behaviors and diagnosis, and also points to certain relations between these cognitive processes and important objectives for learning.

Intervention and relevance for learning has been claimed to be a weak point in dynamic assessment. In this paper I will demonstrate how the PASS theory and Nyborg's models are powerful tools for understanding student's performance in a dynamic setting, and how they can be applied in intervention and influence student's learning. The distinction between processes and structures may prove to be an

issue Intervention can be thought of as targeted towards development of the cognitive structures; the student's knowledge base.

Dynamic assessment addresses the cognitive processes. The practitioner's knowledge about such processes and related brain structures, can limit interpretation and intervention, or provide understanding and tools for practice.

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Translation and adaptation of a receptive vocabulary assessment tool to another language with a different culture- Challenges and suggestions

Keywords: vocabulary, translation, adaptation, culture

Vocabulary is an important component in reading and learning, an inseparable part of crystallized intelligence as well as closely linked to cognitive abilities and verbal competence. Translating and adapting commonly accepted tools used in the Western world for vocabulary testing is a great challenge. It is our aim to discuss the dilemmas in translating and adapting one language tool from one culture to another language with a different culture, the importance of using a modified and adapted tool and the use of this tool during dynamic assessment.

The purpose of diagnosing a children's vocabulary is to assess their strengths, along with their difficulties, according to the norm for their peers and to construct a treatment plan. The diagnostic recommendations can include providing guidance to the parents / educational staff within the framework of the study, monitoring its functioning

after a period of time, or constructing and implementing a treatment plan.

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An appropriate and adapted tool for the assessment of receptive vocabulary is widely needed in Israel, both for researchers and for therapists in the field of language, whether in the regular school system or in the various fields of special education. The last time such a test was translated and adapted into Hebrew was in 1979. Since then, most English tools have been modified and changed a number of times, but the original translation from 40 years ago is still being used today. Several versions have been translated informally but not properly adapted to the Hebrew language or the Israeli culture. The discussion will relate to the challenges and the difficulties in adapting the receptive vocabulary tool and propose some solutions as well as suggestions in using it in dynamic assessment.

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Intervention for Modifiability of Self-Regulation and Planning Behavior in Grades 3 to 6 Using the Seria-Think Instrument

Keywords: Self-Regulation, Planning, Mediation Strategies, Dynamic Assessment, mediated learning

Training for development of self-regulation and planning behavior was carried out by the Seria-Think Instrument-Revised (STI-R). The STI-R is a novel dynamic assessment (DA) measure aimed at assessment and intervention of process-oriented cognitive behavior in the mathematics domain. The focus is on major executive functions (EF) of planning and self-regulation. The STI-R was administered to a sam-

ple of children in grades 3 and 6, assigned to randomly to experimental ($n = 81$) and control ($n = 81$) groups. All children were administered the STI-R which includes Pre-Teaching, Teaching, Post-Teaching and Transfer phases. Children in the experimental group were mediated in the Teaching phase (for 30 minutes) using specific strategies of the STI-R whereas the control group practiced the instrument without mediation. Both groups were tested before and after the mediation phase on the STI-R measures (i.e., performance, number of insertions and number of measurements) and the Seriation Math Problems Test (SMPT). Repeated measures ANOVA's of Treatment X Time (2×2) revealed, as expected, that children in the experimental group decreased significantly their number of insertions and increased their number of measurements, performance, and efficiency (performance/number of insertions) from pre- to post-teaching phase. In the transfer phase, children in the experimental group showed higher performance, lower number of insertions and higher efficiency than children in the control group. Both groups scored similarly on the SMPT before and after mediation. The findings are discussed in view of earlier findings and dynamic assessment theory.

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The Effects of Mediation of Working Memory in Typically Developing Preschoolers on Working Memory, Analogical Reasoning, Self-Regulation and Academic Achievement

Working memory (WM) training programs involving 'hands-on' or computerized exercises have become increasingly popular since the year 2000 claiming to significantly improve WM capacity. Results

have been somewhat inconsistent and often contradictory. While most research investigating the benefits of WM training involve adults or school age children, fewer studies have focused on the younger population when early training is likely to have the greatest impact on developing cognitive and neural structures.

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In the current study, we offer a novel approach based on the Mediated Learning Experience theory (MLE, Feuerstein et al., 2002). In MLE approach a human mediator intervenes to mediate strategies aimed at developing cognitive functions and operations, metacognitive knowledge, domain-specific and domain general strategies. Our main hypothesis is that these strategies represent significant mechanisms underlying WM, ensuring maintenance and generalization and responsible for transfer to more disparate cognitive measures.

A sample of 118 typically developing preschoolers at the age of 5 to 6 years old (59 boys and 59 girls) were randomly assigned to an experimental ($n = 62$, mean age = 70.48 months, $SD = 3.86$) and control ($n = 56$, mean age = 68.29, $SD = 4.89$) group. The experimental group received 40 minute bi-weekly sessions of mediated WM training using the Sequences Level-II (SQ-II) Subtest of the Cognitive Modifiability Battery (CMB, Tzuriel, 1995, 2000) during a 5-week period. A control group participated in a school readiness training program of educational games for an equal amount of time. All children were administered tests of verbal and visuo-spatial WM tests, before and after the intervention.

The data was analyzed by a series of repeated measures MANOVA's and hierarchical regression analyses. The total score of all WM tests revealed a significant Treatment x Time interaction, $F(1, 118) = 4.24$, $p < .042$. This finding indicates that the experimental group showed higher pre- to post-intervention improvement than the control group. Separate analyses for each WM test revealed a significant

Treatment x Time interaction $F(1, 118) = 4.24, p < .042$, only for the Understanding Instructions test indicative of academic performance. The findings support our hypotheses that a short intervention WM program could have a significant effect in enhancing WM abilities in preschool children.

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This study is novel in so far as it is among the first to attempt to prove that it is possible to train WM in preschoolers. The uniqueness of this study is in its implementation of a mediational approach in which an instrument from the Cognitive Modifiability Battery (CMB) was used. It seems that specific cognitive functions and cognitive mechanisms underlie activation and development of WM.
