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ABSTRACTS
OF ACCEPTED CONTRIBUTIONS

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ABSTRACT

EEG traces analysis with frequency and coherence mapping, associated with wavelet analysis of visual and auditory evoked potentials, in subjects affected by dyscalculia vs normal subjects

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Purpose:

The aim of this research is to verify that the neurobiological process of dyscalculia is secondary to a perceptual deficit or to an abnormality of the different cortical regions' cooperation processes. Having the capability of working with arithmetical calculations is very important in everyday life and being able to identify the etiology could offer the possibility to start a multidisciplinary treatment aimed at regaining the function.

Method:

The tool consists of 13 subjects who have been selected via a neuropsychological evaluation which highlighted the presence of dyscalculia, and 13 normal subjects. We then performed: EEG with frequency mapping and coherence analysis, visual and auditory evoked potentials, both with further wavelet analysis.

Results and Conclusion:

Starting from these preliminary data, it has been shown that subjects with dyscalculia present abnormalities in frequency composition of both visual and auditory evoked potentials and that the coherence particularly results in a deficit in the frontal and temporal regions, for alpha, beta and theta frequencies. These abnormalities are not present in normal subjects. This is in accordance with a deficit which has a central origin.

The wavelet analysis shows an altered frequency composition both of visual and auditory evoked potential when compared to normal subjects. Latency and amplitude of visual and auditory evoked potentials by themselves do not present statistical evidence (p value 0,3) and this is the reason why performing just visual and auditory evoked potentials is not sufficient to identify perceptual abnormalities; in fact, it is the wavelet analysis that is necessary for that purpose.

EEG traces and wavelet analysis of auditory and visual evoked potentials, associated with visual N400 in subjects affected by dyslexia vs normal subjects

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Purpose:

The aim of this research is to verify that the neurobiological process of dyslexia is secondary either to a perceptual deficit or to an abnormality of the processes related to semantic memory. Dyslexia represents a very important function in one's individual cognitive development and being able to identify the etiology could offer the possibility to start a multidisciplinary treatment aimed at regaining the function.

Method:

The tool consists of 13 subjects who have been selected by a neuropsychological evaluation highlighting the presence of dyslexia, and 13 normal subjects. We then performed to all these 26 subjects: visual and auditory evoked potentials, both with further wavelet analysis, and visual N400.

Results and Conclusion:

Starting from these preliminary data, it has been shown that subjects with dyslexia present abnormalities in frequency composition of both visual and auditory evoked potentials, and that the N400 vs normal subjects shows a reduced amplitude which is statistically significant (p value 0,001). This is in accordance with a deficit which has a central origin.

This means that a subject with dyslexia presents both with perceptual and semantic memory abnormalities (i.e. altered frequency composition of visual and auditory evoked potentials and a statistically significant difference of N400 vs normal subjects)

Are the EEG traces of subjects with dyslexia, dyscalculia and ADHD (each one vs normal subjects), different when we analyze each of them with non linear method ?

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Purpose:

The aim of this research is to verify if the EEG traces of subjects suffering from dyslexia, dyscalculia and ADHD vs normal subjects, show a different biological organization when analyzed with non linear method.

Method:

The tool consists of 52 subjects, all of whom performed EEG, with both open and closed eyes; and the following traces were analyzed: FP1-FP2-O1-O2.

Results and Conclusion:

Our data show a different non linear organization in all the clinical classes when compared to normal subjects. This means that learning disabilities are characterized by a different cognitive organization that justifies the presence of the pathology

Evaluation of attention processes with auditory and visual P300 in children and teenagers affected by ADHD vs normal subjects

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Purpose:

Attention disorders in pediatric age represent a big deal not to underestimate, because they prevent learning and memorisation processes, leading in a long run, to a marked decrease in academic achievement. The aim of this research is to verify that subjects affected by ADHD present abnormalities in event-related potential (ERP): i.e. visual and auditory P300.

Method:

The tool consists of 13 normal subjects and 13 ADHD subjects, the latter who have been selected after undergoing neuropsychological evaluation. We then performed: auditory P300 and visual P300. Later on, we analysed the difference among the latency and the amplitude in the controls vs the ADHD patients, using T-test.

Results and Conclusion:

Starting from these preliminary data, it has been shown that subjects affected by ADHD present abnormalities of the amplitude (and not latency) of both P300 (visual and auditory). Whereas normal subjects do not show these abnormalities. These data are statistically confirmed (p value 0,005)

This is in accordance with an attention disorder of a central origin.

Use and Misuse of Digital Dictionaries, crucial tools for dyslexic students learning foreign languages

Rosy Alfinito

Mother of a nineteen year old son with late diagnosis, Translator and Teacher for special projects, member of AITI and AID, private tutor for dyslexic, Italian students

As a thirty-year veteran of translating and teaching foreign languages, a recurring issue that frequently arises involves the absence of “dictionary skills” essential for lexical recovery and enrichment in auto-didactic study methods. Most Italian students – not only students with dyslexia – are not taught to use dictionaries in school.

Since digital dictionaries represent crucial compensatory tools permitted for use for DSA students in the classroom and during final written language examinations, I created a workshop aimed at educating students with dyslexia and their families, regarding how to choose and correctly employ digital dictionaries. Thanks to their multisensory approach, they represent an important step forward in memory aid of foreign lexicon and phraseology.

As already suggested by Moira Thomson in her publication “Dyslexia and Modern Foreign Languages” (Dyslexia Scotland, 2007), teachers should “issue electronic dictionaries and teach their use” as a strategy of support to dyslexic learners of foreign languages. Considering school curricula does not include an adequate approach to this fundamental tool, autodidactic activities of these students are insufficiently meeting their needs.

Therefore, I employ this concept in offering a free workshop with the objectives of explaining how to use and choose an appropriate dictionary, and how to recognize the differences between monolingual, bilingual, visual and specialized items. I provide a general overview of the electronic products proposed online, and explain the differences between electronic and digital dictionaries, online and offline availability, and downloadable and duplicable ones. The workshop combines practical experiences and sensitivity training based on knowledge acquired as a translator, teacher and mother.

A competency-specific questionnaire is an excellent tool to monitor and assess the current state of "dictionary skills," among translators, teachers, tutors, students and dyslexic students in a specific project focusing on the use of these tools.

Dyslexic students and their families need to become more aware of how digital dictionaries represent a reliable and continually evolving tool to assist them in meeting educational requirements.

Assessment of behavioural interventions for children with dyslexia/dyscalculia

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Purpose:

The purpose of this work is to investigate the effectiveness of relatively easy-to-use behavioural interventions for children with dyslexia/dyscalculia: a self-management technique involving positive self-statements, and a simple relaxation technique. The research was conducted in the context of teaching English spellings to Arabic children with learning difficulties via multisensory learning versus simple copying.

Method:

In total 37 students with dyslexia/dyscalculia who also showed evidence of behavioural or attention problems were included in the intervention groups and contrasted with 37 students with similar learning difficulties in a delayed intervention group. Additionally, 33 mainstream children underwent the behavioural interventions and were contrasted with 23 children who did not. In all cases, children were assessed on English spellings at the start and end of the work, with English spellings been taught across a three week period. Prior to this, students were taught the behavioural intervention and practiced it at the start of each teaching session.

Results and Conclusion:

Findings indicated positive effects from pre to post intervention spelling scores in comparison to baseline groups of children who did not undergo any intervention. These results argue for the potential usefulness of the behavioural interventions with children with educational learning problems. However, for the positive self-statements intervention, positive effects were evident only when combined with multisensory learning, suggesting that such behavioural interventions need to be assessed for the conditions under which they will be effective versus those where they may not.

La scuola come fattore di rischio

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Purpose:

Verificare l'incidenza di percorsi scolastici fortemente frustranti su disturbi psicologici conclamati in età adulta al fine di suggerire una didattica maggiormente inclusiva delle differenze individuali, supportare la figura dello psicologo scolastico di cui si discute a livello nazionale proprio in questi giorni e non in ultimo, suggerire una valida ipotesi diagnostica agli psicologi clinici in merito ad alcuni quadri sintomatologici specifici.

Method:

Somministrazione test diagnostici DSA a un campione di 17 pazienti con un disagio psicologico da me ipotizzato derivare da un DSA non diagnosticato.

Verificata la presenza di un DSA nel campione, strutturazione di una griglia con gli indicatori comportamentali rilevati quali indici di un disturbo psicologico originato da un DSA non riconosciuto.

Somministrazione test ad un gruppo di controllo inviato da altri specialisti e individuato in base ai criteri esplicitati nella griglia da me elaborata.

Verificata l'ipotesi con la conferma di diagnosi DSA nel campione di controllo, diffusione dei dati

Results and Conclusion:

L'ipotesi è stata completamente confermata, tutti i soggetti testati, campione di controllo compreso, sono risultati essere DSA. Molte e interessanti le altre correlazioni emerse, tra cui una forte corrispondenza con condotte di dipendenza di vario tipo e comportamenti devianti e antisociali, alcune differenze di genere nella risposta al trauma tra cui la tendenza alla depressione post parto nelle donne madri testate, differenze nei risultati raggiunti dai soggetti in termini di livello scolastico e opportunità lavorative, determinati essenzialmente dal livello socio-culturale di provenienza.

Evolution of reading ability in typically developing and dyslexic adults

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Purpose:

Reading is a skill not innate, but is based on brain modules adapted for this purpose following the invention of writing. Thus automating the decoding process is perfected slowly over time, making it less necessary the investment of higher cognitive resources. It is therefore reasonable to expect a progressive and significant improvement in the automation of such ability that is expressed by an increase in reading speed and reduction of errors.

Until recently it was believed that the evolution of reading in the transparent languages reaches the maximum peak performance after only about 8 years of schooling, but some studies have shown that the ability tends to improve further with the continuation of academic formation up to 13 years of schooling and beyond.

To verify the evolution of instrumental cognitive abilities from adolescence to adulthood, we collected data in the adult population administering several neuropsychological tests for the main cognitive functions, used yet in developmental age, to have assessment tools for clinical purposes in adults with suspected specific learning disorders.

Method:

In this study, we processed the data regarding tests that are used traditionally for reading assessment, with the aim of demonstrating the actual trend of reading skills in adolescents and adults of Italian nationality. We recruited a sample of 411 volunteer subjects without reading difficulties, with regular school attendance, without specific developmental disorders, nor neurological or psychiatric disorders.

The sample includes 237 females and 174 males with age range from 18 to 54 years divided into four age groups (in years): 18-24 (N. 144); 25-34 (N. 115); 35-44 (N. 70); 45-54 (N. 82) and 3 groups of schooling:from 5 to 8 years (N. 59); 9 to 13 (N. 186); over 13 years (N. 166).

We administered these reading tasks: lists of Words, Pseudowords and Text, and a test of reading comprehension , all tests drawn from the "DDE" and "MT" battery (Giunti OS) usually used in developmental age. The parameters evaluated were the execution times, reading rate (sill / sec), and number of errors.

Results and Conclusion:

The results show that the reading speed is related to age but even more to the level of education. It's possible to trace the evolutionary trajectories of adult subjects that show an improvement in reading skills during higher education years, followed by a stabilization with slight oscillations in following decades. The parameters of reading skills were also tested on a group of over 700 people with dyslexia using the same reading tasks, with detection of a similar trajectory in dyslexic subjects, although they show a persistent gap compared to typically developing subjects. These findings should be considered with caution since data derived from a cross sectional study.

From the point of view of the diagnostic methodology, to have normative values corresponding to the same age and education group of the evaluated subject is the best guarantee for a proper clinical assessment. Our normative values for reading ability in adults can be a useful tool for clinicians.

Empowerment practices at the University of Perugia : “Focus” and “Inl@b” for students with Learning Disorders

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Purpose:

The aim of this research is to monitor and evaluate the actions put in place at two services of University of Perugia: “Focus – Pedagogical/Educational Counseling Service” and “Inl@b laboratory”. These services are addressed to (students) subscribers in a real inclusive context. The research has the following objectives to be achieved: support in re-orientation during the university degree, acquire and/or refine study methodology, read Special Educational Needs towards the delineation of the life project for students with disability, identify compensatory measures for students with Learning Disorders.

Method:

The tool consists of interviews and administration AMOS battery for the assessment of study skills, cognitive styles and emotional and motivational components of learning and recognition of the strengths and weaknesses of study modes to promote individualized pathways.

Results and Conclusion:

The results shows that both “Focus” and “Inl@b” contribute to the knowledge, promotion and testing tools for a more inclusive teaching university that is able to support teaching and learning through technology and effective mediation solutions. The academic world is now increasingly called to build an environment where you need to share practice and training models aimed at strengthening inclusion and ability to exercise the right to education that does not consider its diversity as a hindering factor.

Executive attention as a founding basis of calculation and reading learning

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Purpose:
International literature has underlined the importance of Executive Functions in school learning development (Blair & Razza, 2007; Anderson et al., 2010). Some researches have shown how reading is a system of multi-componential type (Pennington et al., 2012, Varvara et al., 2015) and that the causes of learning disabilities can depend on different linguistic, visuospatial, attentive aspects and, more generally, on Executive Functions. In our study we want to demonstrate how, by means of a paper-and-pencil tests battery evaluating several aspects of Executive attention, it is possible to isolate all the eighty subjects with a reading and/or calculation disability.

Method:

88 subjects, who had a dyslexia and/or dyscalculia diagnosis in 2015, have been examined. The control group was composed of 44 primary and junior secondary school subjects tested with the same battery.

Used tests aimed to investigate some aspects of Attentive – Executive System, like visual research, figural fluency, re-updating in working memory and verbal fluency.

Results and Conclusion:

Eighty-eight subjects out of eighty-eight (battery specificity equal to 1) failed in attentive-executive tests, while eighty-three of eighty-eight (specificity: 0.82-0.99) failed in at least two tests of the battery.The idea that Executive Attention is a fundamental process for every complex learning development (Cowan et al., 2005; McCabe et al.,2010) has been confirmed by a paper-and-pencil tests battery, which has also revealed several slight differences of Attentive Executive Functions.

Is Rapid Automatized Naming (RAN) consistent over time?

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Purpose:

Previous research has shown that Rapid Automatized Naming (RAN) is a strong predictor of early reading development. However results concerning the relation between non-alphanumeric RAN (object) and alphanumeric RAN (digits and letters) are not convergent. Some researchers claim that both non-alphanumeric RAN and alphanumeric RAN can predict early reading while others claim that only alphanumeric RAN can. The aim of this survey is to examine the nature of RAN and to investigate the relation between non-alphanumeric RAN and alphanumeric RAN. Another aim is to study how RAN develops over time.

Method:

The present study is carried out within a larger project. Children (n=364) were followed from the age of 4 until they were 9 years old. RAN was measured at the age of 4, 6, 8 and 9. RAN was assessed by tasks where the child named aloud an array of well-known objects, digits or letters as quick as possible. Before formal reading instruction started (4, 6 years old) only RAN objects were used. When the children were 8 and 9 years old all three RAN tasks were assessed. Growth curve analysis was performed to examine the development and the relations between non-alphanumeric and alphanumeric RAN.

Results and Conclusion:

The preliminary results in this study indicate that RAN is consistent over time. The results show that non-alphanumeric RAN significantly could predict alphanumeric RAN. However the relation over time within non-alphanumeric RAN and alphanumeric RAN were stronger than between the different measures. These results can contribute with both practical and theoretical implication in the assessment of young children.

Dyslexia and Math: do dyslexic children make more errors in written calculation?

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Purpose:
Developmental Dyscalculia (DD) is a learning disorder affecting the ability to acquire school-level arithmetic skills and often co-occurs with other learning difficulties such as Dyslexia. The role of working memory (Ashcraft, Donley, Halas e Vakali, 1992; Hulme e Mackenzie, 1992), spatial cognition (Rourke, 1993) and language (Bloom, 1994) on mathematical performances are well known in literature. The poor retrieval of arithmetic facts from memory (Mazzocco, Devlin & McKenney, 2008; Simmons, 2002) and the perseverant use of immature calculation strategies (Geary and Hoard 2005) involve children with Dyslexia too, even if they are not affected by DD.

Method:
We used the written calculation test of the Battery for Developmental Dyscalculia (Biancardi e Nicoletti, 2004), that requires a good retrieval of arithmetical facts, mental calculation, knowledge of multiplication tables and algorithm procedures. The sample group was composed of 325 students attending the middle school, from sixth to ninth-grade (168 males and 157 females; average age 12.5 years). Two groups were selected according to their diagnosis: 280 children with no learning problems and 45 with learning disorders. We compared the performance of both groups using t-test for independent samples.

Results and Conclusion:
Results show a statistically relevant difference between performances undertaken in subtraction ($t_{(50)}$=-3.99, p<0.001) and multiplication ($t_{(48)}$=-4.81, p<0.001), but not in addition ($t_{(50)}$=-1.98, p ns) . Total errors significantly improved for the children with Dyslexia: the different types of errors are presented.

BEYOND THE LABEL, AT CHILD'S SIDE. Learning and overcoming learning disabilities to let child growing in a serene way.

Badia Calavena

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Purpose:

The aim of this project is to exceed the functional deficit, to reduce the pain and discomfort that accompanies the functional deficit and to create one support network with school and family. This project allows a post-diagnosis care taking of children with Learning Disabilities and their families and it aims to give the right tools in order to compensate children deficits. More over it aims to create a network and to reduce psycho-emotional distress linked to LD.

Method:

The tool consists of a a post-diagnosis care with two weekly meetings: one individual to master new skills than the compensatory instruments and study methods, one small group to take charge and rework aspects relating to self-esteem and psychological and emotional problems. The project will have:

- direct beneficiaries: 46 children, diagnosed with Specific Learning Disabilities
- indirect beneficiaries: families, teachers and classmates of children with DSA

Results and Conclusion:

The results shows that the project managed to create a valuable support network with families and schools. In the first year the results of the project have exceeded our expectations. Known the results, we reformulated the project thanks to an agreement with Verona Education Authority: the project will last 3 years and in 2016 about 60 chilldren will be taken in charge thanks to our care taking activities.

Phonological and visual processing skills of Dyslexics in Alphasyllabic Hindi orthography

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Hindi has a unique blend of two prominent orthographies; alphabetic and syllabic. This semi transparent, visually complex alphasyllabic language is underexplored in terms of its phonological and visual properties that affect reading. The present study is an attempt to investigate the role of phonological and visual processing vis-à-vis working memory among Hindi dyslexics. A total of 46 monolingual children (21 dyslexics and 25 skilled readers, M =113.3 months, SD=6.4) were administered on the measures of phonological awareness, phonological working memory, central executive, rapid naming speed, visual spatial processing and reading. A multivariate analysis of variance (MANOVA) was conducted. A significant group effect was observed for the variables of phonological awareness (matra identification, phoneme deletion and rapid naming), working memory (digit span, word span and updating), orthographic processing (word spelling) and reading (word and paragraph reading). Insignificant group difference was seen for letter span and visual spatial span. On the basis of findings of this study, constitution of Hindi consonants is discussed in detail as their syllabic property ending with same schwa vowel may contribute to “phonological similarity effect”.

Keywords: Alphasyllabary; phonological awareness; working memory

Rilevanza di un ambiente di cura intorno al DSA: interventi integrati su bambino, scuola e famiglia

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Scopo:
L'approccio al DSA come disturbo a base neurobiologica ha negli studi più recenti scotomizzato la rilevanza di aspetti psicoaffettivi. Recenti revisioni, tuttavia, mettono in rapporto stili relazionali variabili con il manifestarsi di disturbi del linguaggio e dell'apprendimento, così come evidenziano la presenza di un maggior livello di stress genitoriale di fronte alle difficoltà scolastiche del figlio.

Metodo:
Lo studio riguarda 24 bambini tra gli 8 e i 10 anni con diagnosi di DSA valutati e trattati nell'ambito del Progetto Regionale "La creazione di un ambiente di cura intorno al DSA: gruppi di potenziamento metacognitivo, interventi per la famiglia e la scuola" e 29 genitori che, come gli insegnanti, incontrano periodicamente l'équipe del progetto. I bambini sono stati sottoposti a test intellettivo e a prove specifiche per DSA. Inoltre è stato somministrato il test SAT (Separation Anxiety Test) ai bambini e ai genitori e il test PSI-SF (Parent Stress Index) a i genitori.

Risultati e Conclusioni:
Nel nostro campione, a differenza di quanto riportato in letteratura, il livello di stress genitoriale risulta nella norma. Tale dato è leggibile alla luce di una presa in carico globale e cospicua del bambino, dei genitori e degli insegnanti utile a contenere gli aspetti reattivi alla diagnosi di DSA. Si rileva, tuttavia, una particolare significatività delle risposte alla tavola 2 del test SAT relativa all'ansia di separazione madre-bambino il primo giorno di scuola e una correlazione positiva tra risposta del bambino e risposta del genitore.

ASPETTI GENETICI DELLA DISLESSIA
Analisi di un caso: studio su una coppia di gemelli

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Purpose:

Una fonte importante di dati sull'ereditabilità della dislessia proviene dagli studi sui gemelli. Numerose ricerche dimostrano il peso della componente genetica nello svilupparsi delle difficoltà di lettura. Risultano infatti affetti da dislessia entrambi i gemelli nel 100% delle coppie omozigoti e nel 52% di quelle eterozigoti, la concordanza appare maggiore per i gemelli omozigoti che condividono lo stesso patrimonio genetico, rispetto ai gemelli eterozigoti che ne condividono la metà. Il presente studio indaga, nello specifico, le prestazioni di due gemelle omozigoti nell'arco di sei anni con prove somministrate in quattro tempi (2008, 2010, 2012, 2014).

Method:

Nella presente ricerca verrà presentato il caso di due gemelle omozigoti A. e S. di 13 anni seguite presso l'ULSS 3 di Bassano del Grappa (VI) dal 2008 al 2014. Attraverso l'osservazione delle indagini cliniche di queste due sorelle, con pregresso disturbo del linguaggio e con diagnosi di Dislessia, sarà possibile evidenziare dal punto di vista fenotipico l'influenza genetica dei DSA. Le valutazioni neuropsicologiche e linguistiche dimostrano l'evoluzione del disturbo nel tempo. Le prove somministrate indagano le capacità intellettive, il linguaggio, la lettura e la scrittura in T1, T2, T3 e T4.

Results and Conclusion:

Nell'arco dei sei anni entrambi i soggetti sono stati seguiti con interventi neuropsicologici, trattamenti logopedici ed educativi. Durante le diverse somministrazioni effettuate nel tempo, le sorelle hanno mantenuto dei punteggi estremamente simili in tutte le aree oggetto di valutazione e si è osservata un'evoluzione positiva del disturbo ma senza risoluzione; tale andamento costante appare una probabile conferma della teoria eziopatogenetica del disturbo. Identificare i meccanismi specifici che determinano la dislessia potrebbe aiutare a comprendere quali processi di analisi appaiono compromessi e permetterebbe quindi la possibilità di creare protocolli di intervento maggiormente efficaci.

The Imagery-Language Connection for Improving Word Reading & Comprehension: A Multi-Country Analysis

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Purpose:

This research paper explores the universality of imagery and its key role in word reading and comprehension by highlighting student pre-post data disaggregated by the United States (US), the United Kingdom, and Australia separately.

Pre- and posttest data on students (mostly children ages 7-13) who received one-to-one reading and comprehension intervention between 2008 and 2015 was analyzed to determine the efficacy of imagery-based instruction addressing students' learning weaknesses in word reading or comprehension.

Method:

This study is based on two single-group pre/post designs in three different countries. Gains were measured with several reading and comprehension tests. Group 1 had Seeing Stars® instruction to develop symbol imagery for reading. Group 2 had Visualizing and Verbalizing® instruction to develop concept imagery for comprehension. Students and average hours of instruction by country were: Group 1: US (n=7,906, 109 hours), United Kingdom (n=186, 110 hours), and Australia (n=220, 110 hours). Group 2: US (n=5,038, 105 hours), United Kingdom (n=159, 100 hours), and Australia (n=151, 100 hours).

Results and Conclusion:

On average, students from the United States, United Kingdom, and Australia achieved comparatively similar improvements in reading and comprehension. They made large standard score changes on nearly all measures and statistically significant progress from pre to posttest on all measures. Imagery-based instruction leads to improved word reading and comprehension in a multi-country analysis. These findings validate the tenets of Dual Coding Theory and suggest the universality of symbol and concept imagery and their important role in language and literacy development.

Rotary youth exchange and dyslexia: It's Time to apply. Guidelines

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Rotary Youth Exchange (RYE) is an International student exchange program for students in secondary school. The increasing number of applications for the student exchange and the increasing number of diagnosis of SLD motivated RYE to make the project really accessible to all students.

It should be considered that many students with dyslexia have a low self-esteem and they think they are not able to afford a challenge like spending one year abroad.

This project emphasis that students with SLD, when they are moved from scholastic context, show admirable qualities and talents which they need to learn to recognize and use.

The aims of this presentation are: to explain the project to all participants (students with dyslexia, families, schools, dyslexia associations) at its different levels, explain step by step how to apply, explain which competences are required to get inside the system and try to experience schooling and living abroad for 1 year. The workshop will show previous experiences of the exchange students.

Since the end of September is the beginning of application, the presentation will explain step by step how to apply.

Another point of view on dyslexia and oral language comprehension: are tools and strategies enough?

Dott.ssa Michela Bettinelli, Phd.1, Dott.ssa Carolina Berticelli, Psicologa, Neuropsicologa2.

[1] *Tecnico dell'apprendimento, Cremona, Italy*

[2] *NPI Crema, Cremona, ItalyPurpose:*

Purpose:

In Italy there are 4-5%of children diagnosed with dyslexia. Since dyslexia is defined as reading disorder, common guidelines for learning and teaching strategies, as well as for testing the knowledge are applied to compensate for reading problems. However, considerable number of children do not benefit from these efforts, reporting problems also when inefficient reading is supported. When taken into account recent theories of dyslexia and linguistic abilities and overlapping between specific reading disorder and specific language impairment, these findings are not unexpected.

Method:

We examined linguistic abilities in children diagnosed with dyslexia(N32), specially oral and written comprehension and their preferences related to oral vs. written examinations. Children participated in the study were selected in Specific afterschool. All participants had diagnosis diagnosis of dyslexia. Only 5 of participants had in their anamnesis the diagnosis of language delay (but not SLI in the current diagnosis). Comprehension and lexical knowledge were assessed using standardized test. To investigate children's examination preferences questionnaire was developed and applied.

Results and Conclusion:

In this study 14 participants showed poor results in reception of grammar resulting in poor comprehension not only in written but also in oral language. The questionnaire administered in this study showed that participants do not benefit from compensatory strategies focused on reading alone. These results are comparable with teacher's reports which emphasize that certain number of dyslectic students struggle with language comprehension in general. The results of this study motivate professionalists to reconsider compensatory and teaching strategies used for children with dyslexia.

La discalculia evolutiva nella scuola secondaria di secondo grado

Biancardi Andrea, Nicoletti Claudia, D'Antuono Giovanni, Ferrigno Claudia, Finaldi Rossella, Baldassarri Valentina, Signorotti Lorenzo

La legge 170/2010, punto di arrivo di un lungo percorso di esperti italiani del mondo della scuola e della clinica, rappresenta anche il punto di partenza di nuovi scenari che si aprono negli stessi ambiti. Un fenomeno emergente attualmente è la richiesta ai clinici di diagnosi in casi di sospetto disturbo specifico dell'apprendimento in età adulta o per alunni che frequentano la scuola secondaria di secondo grado. In questo studio ci si propone di acquisire dati relativi all'andamento evolutivo delle abilità matematiche di base nei ragazzi che frequentano la scuola secondaria di secondo grado. Lo strumento utilizzato è la BDE2, Batteria per la Discalculia 2 di Biancardi, Bachmann e Nicoletti (2016). La Batteria è una scala diagnostica utilizzata per i ragazzi a partire dalla classe quarta della scuola primaria fino alla classe terza della scuola secondaria di primo grado, e fornisce indicazioni riguardanti diversi aspetti relativi alle abilità matematiche.

Lo studio è stato condotto su ragazzi frequentanti le cinque classi di diversi tipi di scuola superiore (liceo classico, scientifico, istituti tecnici) e, oltre ad essere di aiuto ai clinici nel creare un iniziale gruppo di dati utilizzabile per un'eventuale estensione della BDE2 alla scuola secondaria di secondo grado, permette di osservare come si evolvono le abilità in ambito matematico durante il biennio prima e il triennio poi della scuola secondaria di secondo grado.

An investigation into the relationship between Dyslexia, Anxiety and Depression in Higher Education Students

Panagiota Blouchou, Supervisor Prof Rod Nicolson

University of Sheffield, Sheffield, United Kingdom

Purpose:

The purpose of this research is to examine the correlation between dyslexia, anxiety and depression in higher education students with dyslexia, compared to those without dyslexia; and to assess whether there is an effect of dyslexia on self-esteem of dyslexic students compared to those without dyslexia. The study has two objectives:

1) to examine the levels of anxiety, depressive symptoms and self-esteem in dyslexic students' compared with students without dyslexia;

2) to evaluate the level of depressive symptoms, anxiety and self-esteem between males and females with dyslexia.

Method:

he tool consists of four self-report questionnaires concerning Trait Anxiety (including social and academic anxiety) (IPAT Self-Analysis Form; Cattell, 1957) and Test Anxiety (Westside Test Anxiety Scale; Driscoll, Holt & Hunter, 2005), Depression (Beck Depression Inventory; Beck, 1996), and Self-Esteem (Rosenberg Self-Esteem Scale; Rosenberg, 1965). Three hundred and seven students (140 with dyslexia, 167 without dyslexia) from the University of Sheffield participated in this study.

Results and Conclusion:

The results show that individuals with dyslexia experienced significantly greater social anxiety ($p = 0.01$), greater academic anxiety ($p < .001$), and greater test anxiety than controls ($p < .001$), and significantly more depression (p**) than those without dyslexia. There was no difference between dyslexics and controls in self-esteem ($p = .159$). Dyslexic students in higher education show higher levels of anxiety and depression than students without dyslexia. The anxiety is not confined to academic work but also affects social situations, especially in terms of emotional well-being.

DYSLEXIA AND SPECIFIC LEARNING DISORDERS IN THE WORKPLACE: AN ITALIAN PROJECT preliminary data

Sara Bocchicchio[1], Enrico Ghidoni[2], Fulvio Bovard [3], Susanna Marchisi[3], Enzo Cavagnoli[3], Giacomo Stella[1]

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Purpose:

Dyslexia and Specific Learning Disorders (DSA) persist throughout the life of people and result in difficulties and obstacles in adulthood. In Italy, boys and girls with DSA, during schooling, are adequately supported by tools and practices, set by Italian law N.170/2010 and its own Implementing Decrees, but there are no precise rules in the workplace.

Even in the scientific world there are not many studies that have investigated this phenomenon in the workplace and if we look at the Italian reality, research is almost absent: there has been no investigation and formal experience on the inclusion of people with DSA and furthermore employment conditions of these people is unknown.

The DSA Progress For Work project, created by the Italian Dyslexia Foundation (FID) and developed in collaboration with the University of Modena and Reggio Emilia, aims not only to obtain knowledge and data about employment conditions of these Italian workers, but also by spreading knowledge of dyslexia and DSA that takes account of all its aspects, both positive and negative, in order to support them to promote compensation processes with a view to personal and professional success.

This project is aimed to achieve a twofold positive situation (win-win): on the one hand the project wants to establish a path that will identify a set of practice, methodologies and tools that will allow Companies to assess the skills and talents of a dyslexic candidate properly; at the same time we want to provide DSA candidates and DSA workers with the tools and strategies necessary to bring out the real talent and to minimize fatigue and discomfort that arises from Specific Learning Disorders.

At the end of the project, dyslexics will be able to approach and face calmly all the stages of recruitment and selection, the job placement stages and the professional growth and they will benefit from an individualized plan of strategies oriented to success; “Socially Responsible Companies” will be able to assess the real talent of a dyslexic candidate and to facilitate their professional growth also taking in account of business objectives.

In addition, this initiative could lead to a national discussion involving professionals, researchers, companies, associations as well as government agencies to develop interventions and measures regulated by clear rules.

Method:

This research is set up as an action-research. Our study is still in progress, at present six Italian companies are involved, work has been completed in one company. The project has been divided into six steps closely related to each other and realized in a pre-set order. Project duration is estimated between 6 and 12 months depending on the Company. Each step is essential for a successful outcome of this project. Project activities have been carried out by a psychologist, researcher at the University of Modena and Reggio Emilia, and by the Italian Dyslexia Foundation staff.

The First contact with a Company consists of a preliminary meeting with Management aimed to present the project in its operational steps and identify a person in the Human Resource Managers staff who will cover the role of Corporate Tutor and will interface with FID staff during all project phases.

Below, you will find a detailed description of steps taken by each Company:

Environmental analysis: knowledge and data collection about recruitment and selection processes, corporate training and professional growth already in use in a Company, through a semi-structured interview built ad hoc.

Training: one training session about Specific Learning Disorders and their impact in the workplace, addressed to corporate resources responsible for the various processes of recruitment, selection and training (in particular Human Resource Managers).

Design and testing of a dyslexia friendly workplace: development of specific best practices for each company (delivered to company resources through a “pocket guide”) about methodologies of recruitment, selection and career development support.

Workplace Needs Assessment: Evaluation of the individual worker’s needs in order to establish an individualized plan of strategies oriented to success.

Audit and review: evaluation testing carried out 4 months after provision of a pocket guide verifying effective implementation of practices proposed. At this point a review of practices and methodologies is forseen.

Company Recognition: Upon completion of the verification phase the Companies will be officially recognized as "Dyslexia friendly companies" through the consignment of a logo certifying their authenticity.

There are four areas of evaluation, carried out at intermediate and/or final level, conducted through semi-structured interviews and questionnaires designed ad hoc: a preliminary investigation about knowledge of DSA phenomenon among corporate resources; an assessment of intermediate and final approval about training activities and regarding the whole project; an evaluation of learning to assess what knowledge, skills and attitudes have been assimilated thanks to training action; an evaluation of effectiveness to analyzing the consequences and impact that the initiative has had on all actors in this action-research.

Results and Conclusion:

The project is still in progress therefore the results will be discussed exclusively with a qualitative approach and are not to be considered as definite.

The environmental analysis has highlighted that obstacles for candidates and employees with Specific Learning Disorders are many and are starting in the recruitment and selection processes. These obstacles, moreover, are different in every company because of different methodologies used in recruitment and selection processes and in supporting professional growth.

In general, extremely little knowledge of the dyslexic phenomenon and DSA is known by the company resources involved: the most common error being to consider these disorders as those of disabled people who hinder working activity to a point of preventing professional success; moreover, it emerges that there is a belief that dyslexia and DSA are characteristics of people with mental disorders. On the contrary, following training it emerges that a particular interest in the specific features of these people are often in line with the specific requests of the employment market (think out of the box, creativity, innovation, visual thinking, etc.).

At the end of the activity of environmental analysis and training, it was possible to establish guidelines specifically for Companies able to follow those responsible for the management of personal in the realisation of a dyslexia friendly workplace. With regard to this, because of the difficulty in finding candidates and workers with DSA by the human resources personal, it was necessary to extend to all workers the method of recruitment, selection and formation dyslexic friendly promoting therefore a strategy inclusive to all workers.

At the actual state of affairs, the major criticism emerged regarding the difficulty to discover the presence of a DSA among the candidates and employees. This difficulty, motivated by ethic beliefs, companies, and the lack of a legal framework, has not permitted to carry out and experiment the so called Workplace Needs Assessment and obtain information regarding the conditions of the single worker with DSA.

In order to encourage the revelation of these people in the workplace and finally favour the awareness and use of strategies of compensatory measures, the working group has decided to intensify the visibility of the project inside the company (using the company’s internet site) and circulate to all workers an information brochure which addresses the phenomenon DSA and in return gives a series of self-help strategies .

The results obtained until now, permit the confirmation of the necessity to intervene to sustain these people and help also in the workplace and the importance of diffusing knowledge of the phenomenon Dyslexia and DSA that also takes account of the characteristics and the strengths and potential that these people have.

Offering companies an adequate training and the instruments necessary to realise a working environment that is dyslexia friendly, represents the first stage to sensitise the working world of issues and insure adequate working conditions for people with Dyslexia and DSA.

The Italian Dyslexic Foundation work group in collaboration with the University of Modena and Reggio Emilia, will continue to follow this innovative project so as to collect as much information regarding the

condition of these workers and to experiment and validate practice and method useful to support these people in the working world.

Dyslexia? Welcome to the library!

Saskia Boets

Head of Communicatons at Luisterpuntbibliotheek (Flemish public library for persons with print dissabilities), Brussels, Belgium

Purpose:

The IFLA Guidelines for Library Services to Persons with Dyslexia – revised and extended – aim to offer guidance to libraries worldwide on developing and implementing library services to persons with dyslexia.

These new guidelines assist libraries in providing these services with ideas, examples and suggestions on how to recognize library visitors with dyslexia, how to approach them and how to improve the library services.
But it is – of course – important for persons with dyslexia to know what they can expect from good library services, that they know that a library can provide in excellent reading (and other) content and devices.

Let us make our libraries accessible to persons with dyslexia! And yes, these improvements may also be helpful to other groups of users with reading difficulties. ☺

Method:

The IFLA1 Guidelines have been developed by an international working group working under the joint responsibility of both the Library Services to People with Special Needs Section (LSN) and the Libraries Serving Persons with Print Disabilities Section (LPD). Projectleaders: Helle Mortensen (DK) & Saskia Boets (B).

The working group appealed to the IFLA community for ideas and good practice. They consulted dyslexia experts of international renown, dyslexia associations, information professionals and library staff with direct experience. They collected many examples of best practice. And they drew from an extensive experience within their own organizations and their day-to-day professional knowledge and expertise. Draft versions were mailed for revision to many dyslexia and library professionals and we found some critical and constructive reviewers.

Results and Conclusion:

These Guidelines [English – PDF] also contain a checklist 'Dyslexia? Welcome to our library!' [PDF], an infographic overviewing useful topics, good practices from several public and specialized libraries, and a small knowledge base with a list of reliable and objective sources.

The intention is to provide a thorough and up-to-date compilation of what is known about library services to users with dyslexia (check IFLA LSN website).

I hate reading!
Dyslectic? Go for an audio book!

A campaign in Flanders for youngsters with dyslexia.

In March 2012 Luisterpuntbibliotheek (Flemish library serving persons with print disabilities) launched a campaign to challenge young dyslectics into trying an audio book.

We focus on youngsters age 8-14, hoping they will find enjoyment in reading Daisy books, as well as take advantage of the learning method of reading and listening at the same time.

[1] IFLA: International Federation of Library Associations and Institutions

This campaign, called “I hate reading!” is set up with Eureka ADIBib. ADIBib transforms textbooks into audio books (pdf), providing them for free to all students with learning disabilities.

We (still) try to reach children with dyslexia, their parents, their teachers and speech therapists through various channels.

www.ikhaatlezen.be

A new tool for identifying slowness in mental arithmetic.

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Purpose:

The aim of this research is to analyze as precisely as possible the ability of children to primary school to resolve arithmetic operations and build a new early tool for identification of difficulties in mental arithmetic.

Method:

The tool consists of two tasks: one of ten additions and the other one of ten subtractions. It is implemented within a software, and thus, the results of the screening (time and errors in each task) are immediately available after administration. It is designed for students in primary school, from age seven years (second grade) to ten years (fifth grade). The tests employed to assess the validity of the tool are additions and subtractions within and over the ten (BDE, Battery for the Developmental Dyscalculia).

Results and Conclusion:

The results show that the performance in additions is always better than subtractions. The number of the errors isn't significant but the time is significantly different between the classes. Infact the time decreases gradually from class two to class five. This new tool seems a rapid screening for identifying children with difficulties in simple arithmetic abilities.

Applying single versus multiple predictor models of dyslexia to Standard Indonesian

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Purpose:
Although our understanding of reading acquisition has grown, the study of dyslexia in Standard Indonesian (SI) is still in its infancy. An assessment battery for young readers of SI was recently developed to evaluate reading and reading-related cognitive functions and derive preliminary criteria for dyslexia. The aim of the present study is to use this assessment battery to test the feasibility of Pennington et al.'s (2012) multiple-case approach to dyslexia in the highly transparent orthography of SI.

Method:
Reading, spelling, phonological skills, and non-verbal IQ were assessed in 285 first-, second-, and third-graders. Deficits in reading-related cognitive skills were classified and regression analyses were conducted to test the fit of single- and multiple-deficit models to the data.

Results and Conclusion:
Naming Speed (NS) was the main predictor of reading and decoding fluency, followed by Phonological Awareness (PA), and Verbal Working Memory (VWM). Accounting for 33% of the cases that satisfied both methods of individual prediction, the Hybrid Model proved the best fit. None of the deficits in PA, NS, or VWM alone was sufficient to predict a risk of dyslexia in the present sample, nor was a deficit in PA necessary. Hence, there are multiple pathways to being at risk of dyslexia in SI, some involving single deficits, some multiple deficits, and some without deficits in PA, NS, or VWM.

Maximizing Differences in Types to Improve Dyslexics' Reading Performances

Emma Brambilla[1], Armando Toscano[1]
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Purpose

This study aims to investigate if maximizing the differences in types containing confusable visual stimuli may significantly reduce the difference in reading performance between LD and non-LD readers. Many types are capable of being confused because of their physical structure [e.g. p, q, b and d]. By manipulating upper and lower cases in order to differentiate these types, we created texts with really few possibilities to confound similar types. Visual noise was also reduced by choosing as a font Arial.

Method

A 2x2 design was provided to investigate whether similarity (low and high) had significant effects on reading performances in LD and non-LD subjects. A sample of 85 students [M=56%, F=44%; non-LD=85%, LD=15%] from an Elementary School in Northern Italy was chosen. Age ranged from 6 to 11 years [M=8.20, SD=1.52]; class and scholarization level, from 1 to 5, was considered as a control variable. Texts were taken from a reading book, and divided into class levels in order to match with children scholarization. ANOVA was performed on accuracy [errors number] and rapidity [syllabs/sec] in reading.

Results and Conclusions

By a two way ANOVA we found that similarity and LD seem to influence performance as a response variable, in both rapidity [$F=11.89$, $\alpha= .001$] and accuracy indexes [$F=15.87$, $\alpha= . 001$]. The results show an improvement in both non-LD and LD subjects in low similarity condition, with a stronger effect on LD subjects. We can conclude that maximization of differences between confusable types can improve reading performance in LD subjects without compromizing non-LD reading performance: this could be a useful tool for teachers to adopt for whole classrooms.

Tourette Syndrome and Learning Disabilities: correlations and rehabilitation in a neurodevelopmental approach

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Purpose:

People with Tourette Syndrome frequently show the presence of Learning Disabilities at school age. Literature investigating the correlation between TS and LD is limited and only describes these phenomena's characteristics. The most important evidence shows that in some children the onset of LD and tics coincided. In a neurodevelopmental approach, the origin of the specific symptoms of both TS and LD can be explained observing the Nervous System's maturation process during intrauterine time and the first two years of life. Adopting this perspective, relevant data about the origin of both disturbs can be acquired, in order to plan an integrated rehabilitation program for all specific symptoms.

Method:

The neurodevelopmental model refers to scales, recalling receptive channels (sight, hearing, touch) which should be re-opened with rehabilitation practices and expressive channels (mobility, manual competence, language) which should be re-educated when distorted by bad reception. A well-balanced neurological organization involves balance between automatic reflexes and voluntary movement and allows defined dominant laterality and eye-hand dominance coherence. In this perspective, data have been acquired through anamnestic interviews and clinical observations, to understand the onset of both TS and LD symptoms. Then a specific rehabilitation program has been formulated and applied.

Results and Conclusion:

Literature and clinical experience often show at the basis of TS and LD symptoms a not efficient organization of the Central Nervous System, due to insufficient or incomplete experience of the basic steps through which the related motor schemes are acquired. Tics and other TS symptoms seem to be compensatory strategies, activated by the CNS to achieve balance. On the treatment side, the adoption of the neurodevelopmental model to work on the causes of both clinical conditions (TS and LD) in an integrated approach, has shown significant results on the extinction of tics, the acquisition of lacking learning abilities and the enhancement of reading and writing performances.

Rhythmic Reading Training: Evidence of Effectiveness in Improving Reading Skills in Italian Students with Dyslexia

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Purpose:

Although the core deficit underling Developmental Dyslexia (DD) is still under debate, evidence shows difficulties in dynamic and rapidly changing auditory information processing to be related to DD. Many studies reported an association between music and reading skills, since music and language share common mechanisms. These findings suggest that interventions aimed at enhancing basic auditory skills of children with DD may impact on reading abilities. A computer-assisted training, called Rhythmic Reading Training (RRT), was designed to implement a treatment which integrates a traditional remediation approach with rhythm processing.

Method:

A test-training-retest study showed the efficacy of RRT intervention on reading abilities of 14 junior high school Italian students with DD, compared to a matched control group who received no intervention. A second study compared reading improvements after RRT to an intervention resulting from the combination of two already validated treatments for DD (visual hemispheric-specific stimulation, also known as Bakker method, and Action Video Game training) in a group of 32 Italian students with DD aged 8-13. Results showed that both interventions were significantly effective in improving reading speed and reading accuracy in a group of students with DD.

Results and Conclusion:

Hence, the efficacy of RRT in improving reading skills of students with DD is comparable to the effectiveness of the combination of two validated treatments. An ongoing study is measuring the effectiveness of the combination of RRT with a specific auditory training, carried out using music games specifically designed for improving auditory and rhythmic skills and providing an active engagement with music.

Dyslexia and Nonverbal Learning Disability a comparison among processes: pragmatic of language and visuospatial processing

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Purpose:

Children with dyslexia show difficulties with accurate and/or fluent decoding and weak spelling abilities (DSM5, 2013). Differently children with Nonverbal learning disability (NLD) show deficits in visuospatial and visuo-constructive skills (Semrud-Clikeman, et al. 2010), fine-motor coordination, and mathematics achievement (Mammarella et al. 2013), associated with well-developed language skills (Rourke & Tsatsanis, 2000). In order to highlight similarities and differences among these two disorders, the present study explores two main domains: pragmatic language abilities and visuospatial processing, related to verbal and nonverbal processes respectively.

Method:

Two studies were carried out comparing groups of children with Dyslexia, NLD and Controls. In Study 1 participants were presented with three subtests (metaphors, implicit meaning comprehension and situations) from the APL Medea battery (Lorusso, 2009) measuring pragmatic abilities of language. In addition, social perception skills were tested with the Theory of Mind subtest of the Nepsy II (Korkman, Kirk & Kemp, 2011). In Study 2 visuo-constructive and perceptual abilities were tested with modified versions of the Block Design Task (BDT) including patterns at various levels of Perceptual Cohesiveness (PC), stimulating global or local processes.

Results and Conclusion:

Although children with NLD performed significantly poorer than TD children in a metaphors task, our results do not provide empirical support for deficits in pragmatic and social perception skills in NLD. In contrast, children with Dyslexia performed more poorly than TD in most of the tasks measuring pragmatic and social perception skills. Moreover, children with NLD were impaired in the visuo-constructive version of the BDT task, whereas those with dyslexia were slower than the other groups in the perceptual version of the task. In conclusion, different cognitive profiles emerged between groups, with substantial differences in communicative and visuospatial skills.

Reading and Writing in English: a multi-sensory training

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Purpose:

This study tested the efficacy of a training on tact and intraverbal responses (Petursdottir & Haflidadottir, 2009) to increase foreign vocabulary and improve listening and writing skills in 3 adolescents with learning disabilities who showed academic difficulties during English lessons. We used a pre-post test single subject experimental design, in which the dependent variable was the number of correct responses to a Listening and a Writing test. The independent variable was the implementation of a training to teach new English words using a computer-assisted technology.

Method:

Pre and post-test consisted in a listening task from Cambridge Young Learners English Tests and a writing task designed through Quizlet program. During training, participants first were asked to tact in English pictures presented through flashcards on a computer; all responses were then compared to the ones emitted by the computer, which worked as a feedback. During the second training phase, participants were asked to emit the correct English or Italian word after the correspondent vocal and written presentation in the opposite language.

Results and Conclusion:

The results showed that this training was effective and efficient to increase English vocabulary in adolescents with learning disabilities, improve their listening skills, identification of written English words and transcription from Italian to English. The study used a multi-sensory training (Skinner & Smith, 2011) which combines flashcards training with a computer-assisted technology, to ensure simultaneous verbal, visual and auditory stimulation.

The *flippedclassroom* a model for the inclusive education

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[2] *Affiliation, Town, Country*

Purpose:

The aim of this research is propose alternatives to the traditional teaching for inclusive education. The FlipperClassroom is a method for its features benefits the processes dyslexic pupil learning, given its combined intelligence visual and auditive and to the fact of allowing more space and time to the customized teaching.

Method:

The tool consists of a new model pedagogical which transfers the work of certain learning processes outside classroom and uses the class time, the teacher together with the experience, to facilitate and empower other acquisition processes and practical knowledge in the classroom. This implies a change in the educational paradigm, facilitating the teaching customized.

Results and Conclusion:

The results shows that this implies a change in the educational paradigm, facilitating the teaching customized.

Apprenticeship of word spelling with the students having a dysorthographia : corrective and compensatory rehabilitation.

Nathalie Chapleau

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Purpose:

The objective of this study was: to assess the effects of the application of rehabilitative interventions on the knowledge and on the strategies to be used for the development of the capacities to produce words written by dysorthographical students of the ages between 10 to 12 years old. This communication will present the type of rehabilitative interventions when used, and their effects on the knowledge and the strategies in teaching word spelling. The intensive intervention, individualized and the specific strategies were directed on phonological, orthographic and morphological dimensions of the words.

Method:

The privileged methodology was that of an individual protocol (AB_1AB_2A) with multiple cases (N = 12). The assessment instruments used to evaluate the progress made are: the production of trained and untrained words, phonological and morphological awareness as well as orthographic knowledge. As part of this presentation, only experimental tests will be presented.

Results and Conclusion:

The percentage of progress achieved reflects an improvement in the development of knowledge in morphology. In addition, the use of the control card reveals progress made on the accurate production of written words. However, instability of production is noted with regard to the phonological and orthographic dimensions thus revealing the importance of scaling up interventions addressing these dimensions. Furthermore, in order to bring the learner to integrate phonological, orthographical and morphological strategies, one single intervention session should address these three dimensions.

The evaluation of the resistance to treatment in the diagnosis of dyscalculia

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Purpose:

A teaching method that has proven effective in the evaluation of resistance to the treatment in the diagnosis of dyscalculia will be at the centre of this presentation. According to the Italian Consensus Conference, the resistance to treatment is one of the main parameters to distinguish the learning disorder of dyscalculia from the learning difficulties. At the moment, a tested teaching method that provides objective data for the evaluation of resistance to the treatment in the diagnosis of dyscalculia, is not yet available. Therefore it is possible that different operators can produce different diagnosis for this disorder.

Method:

The method used in the evaluation of the resistance to treatment is based on an application running on tablet (GimmeFive) that has been designed to foster learning and internalization of mental calculation strategies of multi-digit additions and subtractions.

The method is very structured and provides 13 weekly meetings between tutors and students who tested positive on standardized tests, plus an almost daily commitment of the student about 10-15 minutes at home. The assessment of resistance to the treatment is based on data obtained automatically by the application and those measured by the tutor.

Results and Conclusion:

The experiments have involved two groups of students that resulted positive on standardized tests for dyscalculia. Previously these students had already received the diagnosis of dyscalculia or attestation of learning disabilities. The experiments questioned almost all of diagnosis of dyscalculia made previously (6 of 7), showed a strong improvement of students with learning difficulties. Further studies are needed to measure the possible improvements of students with dyscalculia in the medium and long term. The results were recently published.

Writing skills, praxis and visual-perceptual abilities in the specific learning disorders (SLD)

Città Santina[1], Di Blasi Francesco[1], Buono Serafino[1]

[1] *IRCCS OASI Maria SS, Troina (EN), Italy*

Purpose:

The aim of this research is was to evaluate the possible correlation between writing skills, praxis skills (fine and gross motor skills) and visual-perceptual abilities in two groups of individuals: one presenting with dyslexia, dysgraphia or dyscalculia, and the other one with typical development, paired by gender, chronological age, cognitive level and education.

Method:

A series of tools was administered to each sample to evaluate praxis (e.g. Movement Assessment Battery for Children –MABC 2 and NEPSY II -sensorimotor functions), visual-perceptual abilities (e.g. Rey's complex figure and Beery Visual motor integration - VMI) and writing skills (e.g. Concise Assessment Method for Children's Handwriting; acronym BHK) in order to explore the possible relationship between visual-perceptual, praxis abilities and writing skills in the specific learning disorders (SLD).

Results and Conclusion:

According to the study findings -also confirmed in the literature - it appears that praxis skills and visual-perceptual abilities correlate to writing skills in several - both quantitative and qualitative – factors. Specifically, balance skills and general dynamic coordination seem to be the variables which mostly relate to speed performance and quality of writing, both in people with typical development and in people diagnosed with SLD.

Silent reading fluency in skilled students: developmental trajectories from high school to University

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Purpose:

Silent reading is commonly used in everyday activities and it is the more dominant and faster style of reading for older students and proficient readers. Despite this fact, the majority of studies on reading models are focused on oral reading rather than on the silent reading mode. The main reason of this lack of studies is that the Silent Reading Fluency (SRF) is not an observable behaviour and, therefore, its evaluation is perceived as more challenging and less reliable than Oral Reading Fluency (ORF). Thus, the measurement of ORF is usually accepted as an useful method to assess the reading competence (Fuchs et al, 2001). Nevertheless, it is assumed that ORF correctly classifies about 75% of fourth-grade and older students, meaning that about one fourth of the students may be incorrectly classified (McGlinchey & Hixson, 2004). Silent reading fluency (SRF) is considered a suitable parameter for identifying older impaired readers, even when silent reading is their favourite way for decoding a text (Gagliano, Ciuffo et al, 2015). This study is aimed to measure the SRF scores of high school and university students in order to describe the developmental trajectories of reading fluency.

Method:

A new silent reading fluency task, appropriate for older students and adults, has been illustrated in a recent study (Gagliano, Ciuffo et al, 2015). It consists of a short text useful to measure precisely (syllables/second) the reading speed, even if the reader is reading silently. 261 high school and university students have been assessed by this task. They have been classified in 10 groups according to their different academic levels, from the first grade of high school to the fifth year of University. To the same participants have been also proposed the traditional ORF assessment tasks in order to compare the developmental trajectories of reading fluency between the different reading tasks.

Results and Conclusion:

Our results showed that the mean reading fluency in silent mode significantly increase (from 9,3 syllables/second to 12,38 syllables/second) from the first grade of high school until the last year of university. On the contrary, the average oral reading speed did not significantly increase moving from the first grade of high school to University (from 6,63 syllables/second to 7,26 syllables/second). Finally, as expected, the pairwise comparisons among the four different tasks revealed significant differences in reading speed for all 10 groups. In particular the ORF of lists of pseudo-words was significantly slower than the ORF of lists of words, this last was significantly slower than the ORF of the narrative text and, finally, the SRF was significantly faster than all ORF measures (all ps < .001). Our results showed that the developmental trajectories of reading speed are different between oral and silent reading mode. The reading fluency in silent mode tend to increase up to the last years of University and it may be considered the most rapid and efficient reading mode. This study highlights the importance of including both silent and oral reading modes in the assessment of the older students and young adults, since silent reading is the main reading mode for proficient readers. Therefore, SRF could be an objective measures able to enhance the validity of the assessment of older students and adults.

Developmental index of reading automatization

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Purpose:

Developmental dyslexia is a reading disability whose “core” deficit, according to many authors, lies in a lack of automatization of decoding and, to some extent, lexical access processes. Despite the key importance the concept of automatization has received in the recent literature about Dyslexia, it still remains vague and not well operationalized, so that, to our knowledge, it remains unclear how to measure it. The aim of the present study, following the was to develop a direct quantitative index of the degree of automatization in reading, that could be easily used in the clinical setting.

Method:

For this purpose, following preliminary studies, we compared reading and naming Tasks; the resulting discrepancy between these two related cognitive processes, were used as an index of “reading automatization”. Analysing developmental trajectory of this phenomenon during the first five years of reading acquisition, we were able to find out when the advantage of reading over naming takes place, and how much it increases over the years.

Results and Conclusion:

Results seem to indicate the feasibility of setting-up an index of automatization based on the discrepancy between reading and naming skill; children are gradually faster in Reading than in Naming therefore at the end of 2^ Grade the advantage of Reading over Naming reaches significant values and keep constant or increases in subsequent years. As expected, respect to Normal Readers, dyslexic subjects being slower in reading automatization and until the 5^Grade Reading never outperform Naming.

Qualitative analysis of students' misspellings and a systematic learning supportive instruction

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Purpose:

We aimed to investigate the effectiveness of an intervention for German children diagnosed with a spelling disorder based on the qualitative analysis of their spelling mistakes (Thomé & Thomé, 2014) combined with a systematic learning supportive instruction (Corvacho del Toro, 2014). The paper explains how qualitative analysis is used in order to select learning materials according to individual needs and what kind of didactic approach is considered appropriate to foster an understanding of the writing system. Main results of the intervention are reported.

Method:

The pre-post intervention design study with control group comprised sixteen pupils (ages 12 to 14; 6th - 8th grade) who were randomly assigned to the experimental (n = 8) and the control group (n= 8). Therapists of the experimental group were instructed to apply a series of linguistic and psycholinguistic criteria when developing the material for instruction and when carrying out the therapy. Therapists of the control group carried out the intervention without attending these criteria, but having knowledge about the pupil's patterns in spelling mistakes. The intervention included 20 sessions.

Results and Conclusion:

The ANOVA shows improvement for both groups in the standardized spelling test ($F(1, 14) = 15{,}05$, $p = .002$, $\eta 2 = .518$). Children within the experimental group show a significant higher achievement in the standardized spelling test ($F\ (1{,}14) = 4{,}70$, $p = .048$; $\eta 2 = .25$). These results support a combination of qualitative analysis and a didactic approach based on the regularities of the writing system, frequent spelling patterns and analogy. This approach relies on a high qualification for therapists that relates specifically to orthography and its instruction.

Could I be dyslexic and do I want to know?

Michelle Cowen

University of Southampton, UK

Purpose:

The decision on whether to request an assessment for dyslexia whilst at university is often one of the most complex and subjective decisions a student has to make. For most students it involves a careful examination of the implications; balancing any perceived benefits, against actual or potential disadvantages. Despite this, very little is known about factors which influence students making this decision. This exploratory study was designed to identify how many university students consider being tested for dyslexia, how they proceed and what may have influenced this decision.

Method:

A mixed methods approach was selected to both quantify the number of students who had considered being tested and to explore in-depth reasons behind their decision. Phase 1 consisted of an online survey available to 21,837 students registered at one UK University. In addition to obtaining responses from 674 students, phase 1 was used to recruit volunteers for phase 2, who would have been hard to identify by other methods. Phase 2 followed up 13 students through in-depth interviews, exploring reasons why students had chosen to go ahead and be tested, along with reasons why some did not.

Results and Conclusion:

Results revealed a myriad of reasons, with 100+ codes allocated, highlighting a variety of factors which encourage and inhibit students. Several key themes emerged relating to insight, emotions, logistics and the influence of others. Considered together the overwhelming factor revolved around information. Students had a poor understanding of how to get tested, compounded by lack of knowledge of what dyslexia is and how it might affect them. Guidance by others in some cases mitigated this and prompted an assessment, but only if they too understood the condition. We need to address this.

An immersive experience mediated by touch technology to learn mental calculation strategies

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Purpose:

The purpose of the presentation is to present the results of a research with the aim to define the conditions that permit to students with arithmetic learning difficulties to develop an immersive teaching experience of the strategies that the experts usually use in mental calculation. During the presentation we will describe what an immersive teaching experience is and we will explain the role that the technology can play in building the conditions so that an immersive teaching experience can occur.

Method:

The research was structured in two phases: design of the digital device to support student's learning and experimentation of that device. The digital device was ideated starting from a careful analysis of the type of competence involved in the arithmetic calculation, what distinguishes the mental calculation by the written one, what are a arithmetic skill and a mental calculation strategy. This type of study has been integrated by an analysis of the opportunities provided by the tablet technology with the aim to design a specific device (GimmeFive) able to allow students to realize the immersive experience above described.

Results and Conclusion:

During the presentation will be highlight that the features of interactivity available in GimmeFive allow to the students to concretely conduct an immersive teaching experience of the strategies used by the expert people in mental calculation of additions and subtractions. Through the analysis of a case of study it will be explicit that the students with arithmetic learning difficulties have the possibility of build their personal mental calculation strategies.

A professional survey of good practice in literacy education, what we can learn from Canada?

Leda Dadkhah,

London, England

Purpose:

The aim of this research was to explore approaches to literacy and dyslexia in Toronto. Following the publication of the PISA survey 2012 which demonstrated that Canada has the highest literacy rates in the English speaking world I became interested in why, and how, Canada approaches literacy and dyslexia. I was fortunate to receive a Winston Churchill Memorial Trust Fellowship to focus on Toronto and to explore interventions and strategies for low literacy as well as how dyslexia sits within the educational framework.

Method:

The tool consists of primary research; the use of structured interviews, visits, observation and attending local groups to reach the voice of grassroots organisations and individual students. Secondary research methodology was used to gather statistical and theoretical information. Rather than attempting to identify the reason for the PISA results in 2012, which have so many potential variables, the research looked at approaches to low literacy and dyslexia in Toronto, Ontario, to identify areas of good practice. This included both primary, secondary and adult education to explore early interventions.

Results and Conclusion:

The results suggest positive outcomes in reading development from a phonological approach in kindergarten followed by a whole language approach for dyslexic and non dyslexic learners. In addition, teacher involvement in the assessment and provision of reasonable adjustments appears useful. Focus on the development of oral language skills and vocabulary, use of assistive technology and flexible approaches to assessment programming further supports those with literacy difficulties and dyslexia. However, the dyslexic community express concerns around the terminology used to describe them by professionals, “learning disability” being used instead of “dyslexia.”

Efficiency of reading: a new single index for accuracy and speed (IEL)

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Purpose:

Diagnostic procedures currently in use, widely shared among members of the scientific community, involving the use of one or more standardized instruments and the exclusion of non-specific factors. Given the multifactorial nature and categorical measurement behavioral and therefore arbitrariness of reference thresholds than the continuity of the natural phenomenon, in many cases, the evaluation procedure leaves considerable uncertainty on whether to establish a diagnosis of Specific Learning Disorder (SLD). In the present study we addresses this issue, proposing the use of a scoring unit for correctness and speed in reading tests, defined Efficiency Index of Reading (IEL). Such a measure in many cases may help the clinician to more accurately detect a reading disorder and determine its severity.

Method:

The IEL, derived from the parameters of speed and accuracy of reading test through an equation that relates the execution time with the percentage of correct answers (IEL = TT / PSC), provides a comprehensive assessment of the performance of the subject and being a measure applied ex post, also it helps conserve valuable qualitative information and the ability to analyze them later. In a first phase of the study the measurement will be applied to a control sample to obtain a standardization of the scores. For this purpose will be used the assessment tools most used in clinical practice to perform diagnosis of SLD (sub-tests 4 and 5 of test DDE-2).

Results and Conclusion:

The IEL could be very useful for a score in the clinical evaluation phase. A measure of synthesis able to define with greater accuracy and less ambiguity presence and severity of the reading deficits. This is because speed and accuracy together generate an indicator of the "efficiency of reading", complex parameter can clearly estimate the incidence of the difficulties of the subject, in terms of performance, on the actual process of reading. In conclusion, the Efficiency Index of Reading could provide a better interpretation of the performance and a clearer indication of abilities in terms of process efficiency and facilitates the decision of the clinician, reducing the parameters of evaluation and providing a simple interpretation of the deficit effect on school activities.

Reading performance of Romanian primary school age children with dyslexia- a work in progress

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Purpose:

The aim of the current research is to address the specificity of dyslexia presentation in Romanian written language. Which would be the best symptomatic indicators of dyslexia? Do primary grades students with dyslexia present a sublexical and/or a lexical procedure deficit?

Research has consistently shown that in languages with transparent orthographies, the reading of students with dyslexia is characterized by a slower speed, and not as much by a deficit in accuracy (Wimmer, 1993). Also, results indicate that language specificity may partially explain the different procedures involved in reading,that are employed by students with dyslexia from different countries (Ziegler, Perry, Ma- Wyatt, Lander, and Schulte- Körne, 2003).

Method:

Students with dyslexia from second up to fourth grade were included based on criteria specified in Landerl et al. (2013). Of the total 41 participants, 39 remained that either had dyslexia (N=5), or reading performance in the average range (N=34). In order to elicit data regarding reading abilities, we used Prove MT by Cornoldi and Colpo, 2012, and the reading subtests from DDE – 2 (Sartori, Job and Tressoldi, 2013).Students with dyslexia were compared to students without dyslexia on measures of accuracy and speed of reading a text. The lexical procedure was investigated based on intra-individual comparisons of non-word vs. word reading, and high frequency vs. low frequency words.

Results and Conclusion:

The results shows that reading accuracy of students with dyslexia from upper primary was lower than that of younger average readers. Students with dyslexia displayed a slower reading speed as compared to students without dyslexia, consistent with Wimmer (1993)and Zoccolotti et al. (2005). Even though lexical and word frequency effects were evidenced in the case of non-dyslexia students, we did not find consistent lexicality and word frequency effects in our sample of dyslexia students. Students with dyslexia may rather employ the sub-lexical procedure, which is consistent with Ziegler et al. (2003).

Peeling the Onion: Interventions to stimulate, support, and sustain reading progress in a child psychiatry unit

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Our educational canvas is painted with student diversity and varied learning modalities. In addition, mental health vulnerabilities and their impact on the learning process only add intricacy to the teaching domain. As a special needs educator working for the last decade with students presenting enmeshed educational/emotional portraits, I have observed general instructive strategies often fall short in regards to "success for all" in student reading proficiency.

The aim of this workshop is to focus on how teachers can peel the educational onion to impart essential tools to students who exhibit complex scholastic backgrounds.

Merging research findings and interventions for students with reading disabilities and psychiatric vulnerabilities will be explored. As well, strategies designed to engage, motivate, and challenge students who demonstrate anxiety, depression, helplessness, or negative behavioral manifestations when faced with the realities of their reading/learning difficulties, will be shared.

A test of orthographic decision

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Purpose:

The aim of this research is a new test of orthographic decision examining the orthographic lexicon.

Method:

The test is composed of 40 words taken from "6095 lemmas of elementary lexicon" (Genoa CNR), chosen according to the frequency of use. According to "Dual Route Model" (Coltheart, Rastle, Perry, Langdon, Ziegler, 2001), superficial dyslexia is characterized by a deficit related to the lexical route in which the orthographic lexicon is one of the most important components.

Results and Conclusion:

The test has been given to a sample of students of the 2nd, 3rd, 4th and 5th year of elementary school and secondary school who have an average reading ability.

Line number and peer tutoring: procedures to improve the utilization of compensatory instruments

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Purpose:

his study tested the effects of peer tutoring to teach correct utilization of line number as a compensatory instrument (Fueyo & Bushell, 1998) to a 9-year-old student with Dyscalculia. We used a pre- post test single subject experimental design; the dependent variable was the number of addition math facts accurately computed using a line number. The independent variable was the implementation of peer tutoring to teach correct utilization of this compensatory instrument.

Method:

During pre and post-test a computation task on 15 addition math facts was presented, with and without utilization of the line number. During training the teacher presented the line number and worksheets containing addition match facts that the student had to compute with accuracy (the tutor showed how to solve facts using the compensatory instrument) and speed (fluency training).

Results and Conclusion:

The data confirm the results showed by literature (Fueyo & Bushell, 1998). It seems that fluency based training was effective in leading to an improvement on correct utilization of line number, since the number of facts accurately solved increased. Peer tutoring also contributed to an increase of the opportunities to practice and experiment success.

Reading skills as a function of school level in children with mild intellectual disability and borderline intellectual functioning

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Purpose:

Most of the studies on the role of IQ in reading disability indicated that IQ is not directly related to reading, although interactions with other cognitive functions have been reported. Children and adolescents with IQs below average show a wide range of inter-individual differences in reading, but it is unclear how these vary as a function of school level. The aim of this study was to examine fluency, accuracy and comprehension reading parameters in second-to-eight grade children with borderline intellectual functioning (BIF) and mild intellectual disability (MID).

Method:

We examined 106 second-to-eight graders with BIF (67 M, 39F) and 168 children second-to-eight graders with MID (107M, 61F). The two groups were comparable for chronological age (7 to 14 years). They received a battery of tests assessing fluency and accuracy in reading passages and lists of words and nonwords as well as text comprehension. Standardized scores allowed for the comparison of performances of the two groups to normative values. Anovas with group (BIF, MID), grade (using age as a covariate) and different reading parameters were carried out to analyze performances in the reading parameters.

Results and Conclusion:

The BIF group outperformed the MID group in 6 out of 7 reading parameters. Although word reading was better than nonword reading in both groups, this lexicality effect was unexpectedly small, due to defective word reading compared to norms (with relative nonword sparing). This difficulty increased as a function of grade. Furthermore, impairment in text comprehension tended to worsen with school grade both in BIF and MID. Relative sparing in reading nonwords indicates that children with BIF and children with MID rely on the sublexical reading procedure; this mode of processing may prove more ineffective at higher levels of schooling.

The value of positive reinforcement in the teaching of English language as L2 to 10 Spanish high-School students with DSA

Erica Di Francesco

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Purpose:

The aim of this research is to demonstrate how the positive reinforcement in teaching english to students with dyslexia reaches a satisfactory result.

With the intention of supplying teachers with working tools to make students affected by DSA feel at ease and comfortable while learning in stress free environment, I have analysed 10 Spanish students of English as L2 and I have found that in Valencia there is no law in enforcement stating that dyslexical people should be given special help and care. The theoretical framework of reference I applied is the one offered by psychologist's Roderick Nicolson in his seminal book Positive Dyslexia (2015). Basing my classroom working methodology on his approach proved essential in solving the learning disability problems of the students, whose diagnoses of dyslexia were all certified by hospitals 'consultants.

Method:

Positive reinforcement theory provided the only “tool” I used with all of them to overcome their learning difficulties even if they looked upset or discouraged at times.

I made sure students were carrying out their activities individually to highlight their own devised 'natural' method, always rewarding them with a positive feedback when they achieved the skill desired.

My didactic method impacted their acquisition of English in a Relaxed pleasant environment, in a way that was Playful and Personal and stress free with the adoption of personal learning methods. It was also an Experimental approach who combined different and diversified experiences with a constant insisted accent on iteration to consolidate the acquired competence as suggested by Michele Daloiso (2015).

Results and Conclusion:

The results shows that: by providing them with a very positive feedback they started, in some cases, to correct their own mistakes and improve their knowledge of the grammatical rules they were studying. Reducing negative experiences of punishing traditional teaching methodology still in current use in Spain for DSA subjects, the students, over a period of 5 months, were able to improve their English through positive experiences and build up their own strength, self-confidence that helped them to achieve the learning goals set.

Model of Integrated Training (modules and executive functions) in a case of Specific Learning Disorder

Di Somma, Andrea; Veneroso, Maria Cristina; Soria, Maria; D'Antuono, Giovanni; Benso, Francesco

Will be presented a case diagnosed with DSA undergo an integrated training model , aimed at the strengthening of executive functions (attention and memory) , the skills of reading, writing and arithmetic and the direct intervention of tutoring on the study together with the meta-cognitive stimulation of the intervention areas .

These elements delineate and give body and meaning to the work done in the educational, clinical and rehabilitative. At 5 months of training there is a greater diversification of processing strategies of information , improved academic performance , an improvement in performance relative to the read module(both in speed and accuracy) Lastly with regard to executive functions you highlight a profile better operation as regards Attentive functions , the re-updating in the Working Memory and Flexibility .

Children with Learning Disorders: the relationship between anxiety, academic achievement and self-esteem

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Purpose:

Learning Disorders (LD) can be a risk factor for the development of emotional problems, such as anxiety. Processing Efficiency Theory explains anxiety influence on cognitive processes by the presence of task-irrelevant thinking that interfere with WM, with a decreasing of available resources and, consequently, on performance. However few research previously explored the influence of anxiety on academic performance and self-esteem in LD children. Hence, the aim of this study is to investigate the relationship between anxiety, academic achievement and self-esteem in children with LD.

Method:

Children with a diagnosis of LD were involved in an initial screening phase for testing their anxiety levels through RCMAS-2 (Reynolds & Richmond, 2012). Our sample involved 28 children aged 8-13 years (M= 133,79 months, *SD*=19,12) attending from third to eighth grades. Performances on school achievement, mathematics anxiety, and specific aspects of self-esteem (related to the control of environment, school and family) were compared in two groups of children with or without high levels of general anxiety associated to LD.

Results and Conclusion:

Children with LD and high general anxiety showed higher mathematics anxiety and lower performances in reading comprehension and self-esteem related to school and to the control of environment than children without general anxiety. High positive correlations between general anxiety and mathematics anxiety were found. In addition, negative correlations between these variables and self-esteem emerged. These results revealed the influence of anxiety on complex academic achievement that requires more cognitive resources and the role of self-esteem as a protective factor.

Executive functions and dyslexia:nosography and difficulties in planning everyday life in a non-educational context

Domenico Dragone, Roberto Ghiaccio

The purpose of our work is to support the need to formulate not only a nosographic but also a descriptive diagnosis of the neuropsychological work in non-educational contexts, in order to prepare a rehabilitation path more suitable for everyday needs (Stein e Walsch 2007,Garzia 1998,Facoetti e Turatto 201, Benso 2010 – 2013). 20 boys aged12 and 13, with a I. Q. between 85 and 95, have been subjected to a valutative procedure (BIA (Vio), Torri di Londra (Vio Cianchetti – Fancello) Trail Making Test A e B (Scarpa/Toraldo) Frontal Assessment Battery Apprendimento motorio inverso, Test pianificazione vita quotidiana (Mazzocchi)) at the end of their seventh year of school. The sample of the research includes 10 children affected by D.S.A., with uniform I. Q., reading speed (M 2,5 sill/sec), text comprehension (RII). The aimis to evaluate the consequences of the possible damages of F.E on the extra-scholar activities .

The outcome is that the average performance service of the research sample is significantly and qualitatively inferior compared to the controlled group, highlighting the need to extend the evaluation to neuropsychological functions used in non-educative context, thus enforcing treatment plans not entirely focused on learning disorders. Moreover it's important to stress the need to develop frontal tests that can be generalized, avoiding the sharp distinction between warm and cold functions.

Factors to support students with dyslexia in tertiary education in Greece

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Purpose:

The aim of this research is to examine the factors which they have intervened to support adult students with neurological disorders emphasising to the specific learning difficulties (dyslexia) in tertiary education in Greece. We study papers into the bibliographical retrospection of factors which are implicated in direct supporting of adult students with diagnosis ‘’dys’’ and Attention Deficit Hyperactivity Disorder in the Agricultural University of Athens. Also, we have recorded the indirect supporting through individual teaching of Special Education and training in the University of Peloponnese in the Faculty of Humanities and Cultural Studies.

Method:

The tool consists of the bibliographical sources and papers between 2002-2016 and the method of interview. Also we have used the targeted, structured, inclusive program differentiating the instructions with learning readiness activities in reading and memory skills. The factors are written down as external and internal based on the study of interventions according to the frame of Analytic Program of Special Education (Christakis, 2013). We have also used the Experimental Analytic Program for Specific Learning difficulties (Drossinou, & Markakis, 2000) adapted to the adults’ teaching methodology.

Results and Conclusion:

The results shows that the external factors which affect the support refer to the implementation of the legislation for the entrance and the facilitation of adult dyslexic students. Moreover, we noted the attitude of professors, the parents, the specialized counseling services, the external psychotherapies. In the internal factors we found that the support is affected by their so far lived experience in the school career, the awareness of the individual way of studying and their reading and mnemonic difficulties, as long as their self-esteem. In conclusion, the adult dyslexics students have and other needs ‘’psychological’’ which cannot be included only in the external or in the internal factors.

Evaluation of the impact of automated feedback on writing for students with language based learning differences

Paul Edelblut

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Purpose:

The complexity and difficulty of the writing process is something that many take for granted and most never consider. In total, the process of writing requires a larger amalgam of basic skills than nearly any other activity and exposes the subjects' ultimate understanding of language. This complexity is compounded for educators working in classrooms where approximately 20% of the student population has some form of language based learning disability, undiagnosed in nearly 12%. This research investigates the impact of providing instantaneous, machine generated feedback for this sub-population.

Method:

This research investigates the impact of machine generated, instant feedback. The data is comprised of more than 18,200 student responses in 42 states. Students responded to persuasive writing tasks appropriate for the proximal grade level. Students were identified by their school administration as having a formal diagnosis. Papers were machine scored on both 6 point holistic and analytic rubrics. Scores and narrative feedback were provided during the drafting process and summatively. Narrative feedback was provided on Focus, Content, Organization, Language Use/Style and Mechanics. An analysis was conducted reviewing the average holistic score from submission one through submission five. Additionally, we looked at the Artificial Intelligence's ability to accurately and reliably predict the LBLD of the student.

Results and Conclusion:

After a detailed analysis we identified our study cohort to be approximately 7,000 students who met the study criteria of a diagnosed disability. Upon review of the first score and last score students showed an improvement of 18%. Most notably the increase in average scores was consistent from first submission to last submission. Given the large N and total population rather than a sample we believe this data to be exceedingly strong in its' support of machine generated feedback for these students.

WISC-IV Intellectual Profiles: how differs the subgroups of Specific Learning Disabilities?

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Several studies have shown that in WISC-IV profiles of children with Specific Learning Disabilities (LSD) emerge worst performance in the indexes of Working Memory (WMI) and Processing Speed (PSI). No research in literature focuses on the characteristics of different subgroups belonging to this diagnostic category. The purpose of this study is to evaluate the differences in cognitive profiles among children with normal learning ability, dyslexia, dysorthography, both dyslexia and dysorthography and mixed learning disabilities (dyslexia, dyscalculia and dysorthography).

The study was conducted on a sample of 90 subjects (61 M) aged between 7 to 16 years old (mean age 10.78±2.7) recruited at the UOC of Child and Adolescent Neuropsychiatry department at the Second University of Naples. All individuals underwent an assessment of cognitive profile and academic skills. The sample has been divided into 5 groups according to their performance: a control group of 16 individuals (CG); a group of 13 dyslexic children (D); a group of 16 dysorthographic children (DY); a group of 23 children with both dyslexia and dysorthography (DD) and a group of 16 children with mixed learning disabilities (DDD), comparable for age (p=,441) and sex distribution (p=,921). The results showed that Verbal Comprehension Index (VCI) (p=,009), WMI (p=,010) and PSI (p=,012) are significantly lower in subjects with SLD compared to CG. The comparison between subgroups showed that VCI is significantly lower in DD group (p=,034) than in CG. Perceptual Reasoning Index (PRI) is significantly lower in DDD (p=,022) compared to DD. Furthermore, WMI (p=,003) and PSI (p=,011) are significantly lower in DDD compared to CG. Full-Scale IQ is then significantly lower in DDD compared to CG (p=,025). The findings of our study support the hypothesis that deficit in VC, WM and PS in children with mixed learning disabilities determines a worst intellectual performance probably related to a greater involvement of different brain areas responsible for the information processing.

Learning Disabilities and Obstructive Sleep Apnea Syndrome in children

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Several studies have shown that in WISC-IV profiles of children with Specific Learning Disabilities (LSD) emerge worst performance in the indexes of Working Memory (WMI) and Processing Speed (PSI). No research in literature focuses on the characteristics of different subgroups belonging to this diagnostic category. The purpose of this study is to evaluate the differences in cognitive profiles among children with normal learning ability, dyslexia, dysorthography, both dyslexia and dysorthography and mixed learning disabilities (dyslexia, dyscalculia and dysorthography).

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What do Norwegian teacher students know about teaching literacy and reading and writing disabilities?

Ellen Kathrine Fossvoll[1], Anna Järnerot[2]

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[2]*Assistant professor, Norwegian University of science and technology, Faculty of Teacher and Interpreter Education*

Purpose

The purpose of this research is to examine the teacher students' knowledge, experience and their self-assessment concerning reading and writing instruction. This also includes specific adaptations that are necessary in helping dyslectic pupils to good learning in general and in their development of reading and writing more specific.

According to the current Norwegian school curriculum, all teachers share the responsibility to teach literacy. However, in the Norwegian teacher training, reading and writing is an optional subject. This leads to a hypothesis that few teacher students have a basic knowledge about reading and writing instruction on different levels.

Method

A survey was sent to 150 pre-service teacher students and first year in-service teachers. The survey focuses on knowledge, experience from their teacher education and their own assessment of how well prepared they are to teach literacy.

Results

Very few teacher students feel comfortable in teaching literacy. The majority show little knowledge and insight in what the progression in learning how to read and write is about. They do not even have the basic vocabulary to discuss and develop their own knowledge. Few think they can recognize and help dyslectic pupils in a good manner.

Individual Dyslexia profiles, the Fonologia test

Anna Fouganthine and Christer Jacobson

Linneus University, Växjö, Sweden

Purpose:

In Sweden current approaches to identifying individuals with dyslexia suffer from poor standardization and reliability. Dyslexia as a long lasting problem with phonological processing suggests that the impairment remains sufficiently constant to be reliably assessed with just one depth test across all ages.

Method:

Assessments of phonological processing with a newly developed Swedish dyslexia test will be presented. The Fonologia test, which still is in an experimental and developing phase, includes different phonological dimensions such as phonetic perception, phonological recoding of nonwords, lexical access, phonological memory and phonological awareness and RAN (Tunmer and Greaney, 2010). From these subtests we create an individual profile as a graph of the different phonological dimensions. The larger the surface that is covered in the graph, the larger the impairment of the phonological function.

Results and Conclusion:

The profiles are primarily analysed by the specific dimensions and the degree to which the individual deviates. The pattern of the profiles indicates a great variety among the participants, both concerning the dimensions and the degree of phonological impairment in all ages. The practical implications on the basis of the results shows that there is a need for national guidelines for how pupils' demands for support should be met and what possible support should be made available.

Dyslexia and digital classroom

Cristina Gaggioli[1]

[1] *University of Perugia, Perugia, Italy*

Purpose:

Since 2008 the Ministry of Education, Universities and Research has implemented many initiatives to promote digital innovation in the Italian school. The digital competence, today recognised among the eight key citizenship competences for the 21st century, may prove to be crucial for the access to knowledge, especially when assistive technologies are involved, as in the case of students with dyslexia. This research intends to observe whether the didactic work carried out in multimedia classrooms is beneficial to students with dyslexia.

Method:

The unit of analysis involved 10 digital classrooms from primary and secondary schools, located in seven schools of Umbria and Lazio regions, for a total of 180 pupils, 8,8% of which with dyslexia. The classrooms were provided with a computer for the teacher, multifunctional devices for each pupil, e-board, Internet connection device and classroom management software for didactic use. Quantitative (pre- and post-test trials) and qualitative (field observation, lessons video-recording and focus groups) methods were employed for the data collection and analysis.

Results and Conclusion:

By comparing data from the quantitative analysis and the observations carried out in classroom, it is possible to affirm that the introduction of technologies in classroom provides with the benefits described by international works on this topic (Singleton, 2009). The use of technology in the school may have a significant impact on some skills such as writing, but also on other aspects such as the personalisation of learning paths and the increase of motivation in students with dyslexia.

Predictors of Reading Development and Reading Disorders across Languages

Katharina Galuschka

Years of academic frustration lead many children and adolescents with reading difficulties to encounter problems such as low self-esteem and symptoms of anxiety and depression. The early identification of children at risk for reading failure is therefore of profound importance.

A wealth of studies have investigated the value of several cognitive, perceptual and behavioural factors in predicting later reading ability. To facilitate conclusions of this wide variety of data, a systematic review is critically needed to accurately assess and to compare the predictive value of previously investigated factors on later reading achievement.

For this reason, we work on a systematic review of prospective longitudinal studies that reported correlations between cognitive, perceptual and behavioural measures administered in kindergarten to first grade and later reading ability. We performed an extensive literature search in several databases and revealed 80 studies from different countries and orthographies that remained for inclusion.

The analysis is still ongoing, but initial results will be displayed and discussed in this presentation. This work aims to contribute to the development of improved screening instruments for a sensitive and specific identification of children at risk for reading disorders.

MONITORING OF UNIVERSITY COURSES THROUGH UNIMORE DATABASE

E. Genovese[1], G. Guaraldi[1], M. Zonno[1], A. Mega[1]

[1]*University of Modena and Reggio Emilia, Modena, Italy*

Purpose:
The law no. 170/2010 led to an increase in the number of students with learning disabilities enrolled at the University of Modena and Reggio Emilia.
The synergy between the right to education and the implementation of customized teaching strategies and methodologies has certainly contributed to the reputation of the University in the field of learning disabilities.

Method:
Given the increasing number of students, it was necessary to create a tool able to monitor the academic careers of students with disabilities and learning disabilities. For this reason it has been designed a database that manages information arising from ESSE3 and from the University Disability and Learning Disabilities Office related to enrolled students.
Different figures with different needs can access to the database, from technical and administrative staff to professors who wish to know the characteristics of their own students.
In the database are loaded all the data and information useful to know the clinical profile of each student.

Results and Conclusion:
The objectives to be achieved through the database are different:

- To assist students from the enrollment until the end of university courses;
- To provide tools and services that improve the learning environment;
- To provide targeted interventions according to the characteristics of each student;
- To monitor academic careers through systematic customized contacts to guarantee both the effectiveness of the tools and methodologies implemented by the University and the full inclusion of disabled and learning disabilities students in the academic world.

Systems and processes at the basis of calculation development

Alessandra Giacobbe, Eleonora Ardu, Francesco Benso

Purpose:

In relation to calculation system complexity, we can refer to Dehaene and colleagues' studies (2003), which have outlined three fundamental neuronal circuits. These circuits anatomically sustain numerical representation and manipulation, the attention orientation to explore the line of numbers, the recalling of multiplication table and more automated operations (linguistic aspects). In this research we have evaluated the influence of several components on calculation, by administering a battery of concurrent tests to examine different domains.

Method:

Seventy subjects of the fourth class of primary school were tested. Beside very simple written calculation tests (+, -. x, with numbers < = 5), others were administered to evaluate updating and executive attention, lexical access and visuo-spatial system.

Results and Conclusion:

A high correlation has emerged with lexical access (fast naming of colours r= .64), updating (r= .-544), visuospatial tests (r= -.368) and attention orientation (r= .31). Dahaene et al. (2003) multicomponential model has been confirmed, together with Executive Attention, which is essential for learning development (Cowan et al., 2005). According to us, the strong correlation with the linguistic domain is due to the simplicity of requested calculation, which is mainly based on mathematical operations.

Nuovi strumenti e metodologie per un'inclusione didattica e sociale di persone con Disturbi Specifici dell'Apprendimento

Emil Girardi, Davide La Rocca, Maurizio Girardi, Andrea Tommasini,

Canalescuola Coop. Soc. onlus, Bolzano, Italia

Purpose:

Negli ultimi anni, l'attenzione sui DSA è cresciuta notevolmente in ambito scolastico e educativo. Spesso gli interventi didattici sono però lasciati all'intuizione del singolo. La ricerca vuole dare il suo contributo affinché il lavoro con gli alunni con DSA possa vertere su strumenti e metodologie basate su modelli pedagogici condivisi e su pratiche didattiche sperimentate e validate in termini scientifici. Obiettivo della ricerca è quello di mettere nelle mani di educatori e insegnanti strumenti pratici e operativi per sostenere il lavoro inclusivo con gli alunni con DSA.

Method:

Campione: 104 studenti, 914 anni di 5 regioni con nessuna conoscenza su metodi di studio specifici ne padronanza di strumenti compensativi. 104 genitori. 112 insegnanti. Prove: lettura, comprensione, categorizzazione, elaborazione e sintesi di informazioni, autostima e motivazione autoetero percepite con test standardizzati e strumenti realizzati ad hoc. 1^ somministrazione: gli alunni, non avendo competenze specifiche, hanno affrontato le prove in modo tradizionale (carta e penna). Training didattico specifico in contesto laboratoriale: 15 ore in max 3 mesi. 2^ somministrazione: il campione ha utilizzato strumenti compensativi e sfruttato le strategie didattiche acquisite.

Results and Conclusion:

Nel complesso i risultati indicano quanto e come un metodo di studio personalizzato, centrato sull'uso consapevole di strumenti e strategie, favorisca, in un tempo limitato, maggiori risultati sul piano del rendimento scolastico, con un aumento di autostima e motivazione quindi di benessere autoetero percepito. Emerge un aumento dei tempi di esecuzione delle prove ma si evidenzia anche una maggiore percentuale di risposte date e di risposte corrette. Traspare quindi la necessità di educare a un metodo di studio che permetta agli studenti di sfruttare in maniera funzionale il tempo dedicato ai compiti.

Beyond the Broom Cupboard: examining the impact dyslexia training for teaching assistants

Dominic Griffiths[1], Kath Kelly[1],

[1] *Manchester Metopolitan University, UK*

Purpose:

In the UK The Rose Review (2009) identified the need for schools to develop their capacities to support children with dyslexia through developing staff knowledge and expertise.

Whilst Rose recommended the training of many more dyslexia specialist teachers, the reality for many English schools has been that it is teaching assistants (TAs) who are actually teaching structured programmes to support dyslexic children. It has been important, therefore, to develop specialist dyslexia training courses for these key members of the workforce. The present study examined the impact of this training on TAs in two English urban Local Authorities.

Method:

Semi-structured interviews were conducted with 21 TAs working across primary and secondary schools, based upon the Coldwell and Simpkin (2011) impact of training framework. The sought to tease out how this training had developed trainees' knowledge, attitudes and behaviours, to what extent TAs were carrying out the range of roles for which they were qualified and what contextual factors might be enabling or blocking their impact.

Results and Conclusion:

Findings suggest that TAs who had undetaken specialist dyslexia training showed important impacts upon their own thinking and practice. They were also recogonised as 'specialists' in school and many had the chance to influence practice at whole-school level in a conslutaive and training role for colleagues.

It appears that specialist training can enhance TAs parctice and status within schools and that they can act as agents for change, if school management teams nurture their potential.However, in some instances the very fact of their 'specuialist' status meant that their practice was considered as 'arcane' and not something relevant to mainstream teaching. This we term 'the paradox of the expert'.

Mind Reading for Teachers: Memory, Metacognition and Effective Learning

Dr Jennie Guise[1], Dr Gavin Reid[2],

[1] *Dysguise Ltd, Edinburgh, Scotland, UK*

[2] *Dysguise Ltd, Edinburgh, Scotland, UK*

Purpose:

The workshop will focus on working memory, long-term memory, metacognition and effective learning. These elements can have a significant impact on learning outcomes for children and young people with dyslexia.

Target Audience:

The target audience would include all professionals involved in the area - primary, secondary and adults.

Results and Conclusion:
The workshop will provide answers to questions such as:

- Why is working memory so important?
- How can we test working memory?
- What do memory difficulties look like?
- How can we support children with memory problems in class?
- How can we develop and improve memory skills?
- How can we promote independent learning and metacognitive awareness in young people with dyslexia?

Reading in dyslexic kids as derived relational responding: a pilot study of a Relational Frame Theory based training

Margherita Gurrieri[1], Davide Carnevali [1,2], Melissa Scagnelli [1,2], Giovambattista Presti [1, 3] , Paolo Moderato [1,2]

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[2] *IULM, Milan, Italy*

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Purpose:

The aim of this research is exploring the effect of an RFT based training on reading and spelling abilities in children diagnosed with dyslexia.

Method:

The tool consists of a training based on a conditional discrimination procedure with arbitrary matching to sample. Relational Frame Theory (RFT) provides a new theoretical and applied framework to understand language and related cognitive repertoires including reading and writing. Applications based on RFT have been demonstrated effective in teaching reading, spelling and math skills. Verbal proficient kids who learn to match a picture with its written word in capital and in small letter in a conditional discrimination task demonstrate emergent behaviors not explicitly taught that include reading written words. Ten 7-10 years old children diagnosed with dyslexia were exposed to the training.

Results and Conclusion:

The results shows that the intervention had positive outcomes in terms of accuracy from pre-intervention to follow up. Pre-post treatment and follow up scores in standardized tests (DDE-2) for dyslexia will be discussed.

A definition of dyscalculia based on systematic review

Stefan Haberstroh[1], Gerd Schulte-Körne[1],

[1] *University Hospital Munich, Germany*

Purpose:

Dyscalculia still lacks a consistent definition. ICD-10 defines dyscalculia as deficits in basic arithmetic operations. DSM-5 extends this definition to difficulties in preparatory skills like number and magnitude processing. Also various cut-off values to identify dyscalculia or at risk for dyscalculia exist. For this reason a systematic review was conducted to define dyscalculia and to test for different cut-off values based on actual evidence.

Method:

A systematic literature search in 6 different databases (English and German) was performed to find studies which compare persons with and without dyscaluculia. Each study was critically appraised and study characteristics and outcomes were extracted by two researchers. Outcomes were classified into four different hierarchical levels (from specific outcomes to composite measures) and two different scales (accuracy, response time). Multivariate (mixed) meta-analysis were conducted for each combination of outcome and scale.

Results and Conclusion:

Nearly 400 outcomes of 38 studies were analysed. Results show that dyscalculia systematically affects basic arithmetic operations and its preparatory skills (e. g. number and magnitude processing). Also there are clear deficits regarding working memory, especially visual WM, and executive functions like inhibition. The percentile rank used to identify dyscalculia doesn't have a significant effect on composite outcomes (e. g. working memory). As a consequence the definition of dyscalculia should be extended to skills affected and the validity of different cut-offs should be discussed.

Multi-paragraph Writing and Comprehension of Textbook Reading for Upper Elementary Students—Workshop proposal

Susan A Heinz

This session will explore three ways to assist students toward independence in writing multi-paragraph assignments and reading textbooks for learning new information after achieving basic skills from a Multisensory Structured Language Approach. Ideas are relevant for classroom teachers and tutoring situations; elementary and middle school students. Many students learn basic English language skills for reading and writing successfully when taught explicitly with a Multisensory Language Approach. However, these students often need additional direct instruction to develop skills and strategies for independent academic writing and learning from textbooks in the upper grades.

Selbstinstruktionstraining für rechtschreibschwache Schüler

Nina Hellwig

Legastheniker, die nicht selten auditive und visuelle Störungen sowie Probleme mit der Aufmerksamkeit aufweisen, benötigen besondere *Orientierungshilfen* (Faber 2005), um ihre Schwierigkeiten beim Rechtschreiben zu bewältigen.

Wir gehen in der Legasthenietherapie von dem „*sinnvoll-rezeptiven Lernen*“ (Ausubel, 1980/81) aus, das bezüglich des Rechtschreibtrainings darin besteht Rechtschreibstrategien gedächtnismäßig zu verfestigen. Das aufgezeigte Regelwissen ist dabei von rechtschreibschwachen Schülern zu verstehen, zu verinnerlichen, zu behalten und im schulischen Unterricht anzuwenden. Dafür brauchen sie visualisierte und verbalisierte Stützen in Form von Lernstrategien, die vom Pädagogen initiiert werden und es den Schülern ermöglichen, die erworbenen *orthografischen Kenntnisse* als *Denkschemata* zu habitualisieren und umzusetzen. Lompscher (1992) spricht in diesem Sinne von r*ationellen Gedächtnisstrategien,* die nicht nur „für effektives Einprägen und Behalten erforderlich sind, sondern u.U. auch für gezieltes Abrufen und Reproduzieren“.

Eine Art solcher Orientierungshilfen mit Gedächtnisstrategien ist das *Selbstinstruktionstraining.*

Als **Selbstinstruktion** wird das sprachliche Kommentieren (lautes Denken) der eingeübten einzelnen Teilschritte beim Lernen verstanden. Das selbstinstruktive Verbalisieren wird allmählich leise durchgeführt, bis es schließlich ganz ausbleibt und in eine Art *innere Sprache* übergeht. Die Selbstinstruktion darf als eine Technik der geistigen Tätigkeit verstanden werden (Vgl. Wygotski, 1980; Faber 2005, Krowatschek, 1995)

Die Schüler lernen, ihre Handlungen verbal, d.h. laut oder leise als Sprache zu äußern, und sich so selbst anzuleiten. Dabei wird der orthographische Lösungsweg vollständig versprachlicht. Sie lernen später, durch „inneres Sprechen“ ihre Aufmerksamkeit auf das konkrete Problem der Rechtschreibung zu fokussieren.

Beispiel einer Selbstinstruktion für das Schreiben des Wortes ***wirken,*** umgesetzt in die eigene Handlung:

- Ich lese das Wort.
- Ich gliedere den Wortstamm aus: -**wirk**-
- Der Stammvokal heißt **i**
- Ihm folgen zwei Konsonanten: **r** und **k**
- Ich darf kein stummes **e** nach dem **i** schreiben

Diese Selbstinstruktion ist von der vorher erlernten Rechtschreibstrategie abgeleitet, die besagt, dass vor zwei Konsonanten im Wortstamm nicht gedehnt werden darf, also keine **ie** und kein Dehnungs-**h** (vgl. Hellwig 2015).

Die Lenkung der Konzentration auf die Erarbeitung und Sicherung von spezifischem Wissen und Fertigkeiten anhand der vorbereiteten Kärtchen für die Selbstinstruktion, in denen bestimmte Schrittfolgen zum Überlegen visualisiert werden, hat sich in der Praxis als effektiv erwiesen (Faber 2005).

Die rechtschreibschwachen Schüler bekommen eine Orientierungsgrundlage, die von ihnen selbständig im Handeln umgesetzt werden kann (vgl. Galperin, 1972).

Systematisches Rechtschreibtraining mit Selbstinstruktion führt zur Verbesserung der

Konzentrationsfähigkeit, der Rechtschreibleistungen sowie zur Stärkung des Selbstvertrauens.

Die Schüler beobachten und kontrollieren ihr Handeln selbst.

Sie begleiten es sprachlich und leiten es dadurch an, d.h., sie geben sich Selbstanweisungen.

Sie regulieren die erlernten Strategien für einen bestimmten Rechtschreibbereich und können dabei auf Vorerfahrungen anknüpfen.

Die Schüler lernen, das eigene Lernverhalten zu steuern und Strategien anzuwenden.

In dem Workshop werden *Lernstrategien* zum Bearbeiten wichtiger *Rechtschreibbereiche*, wie Dehnung, Doppelung etc. vorgestellt. Zu jedem Bereich werden *Techniken zur Selbstinstruktion*, die aus der Praxis der Legasthenieförderung stammen, gezeigt.

Zielgruppe: Legasthenie- und Lerntherapeuten, Psychologen, Lehrer

Dr. Nina Hellwig

Erlangen, Germany

www.legatrain.de

Development of a Chinese adult dyslexia screening checklist

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[1] *The University of Hong Kong, Hong Kong, China*

Purpose:

The present study aimed at examining the adequacy of a behavior checklist to predict reading and writing difficulties of Chinese adults. This study served as the empirical foundation for developing an adult dyslexia screening checklist in Chinese.

Method:

A total of 3629 Hong Kong Chinese adults with at least secondary level of education of diverse background were invited to complete a behavior checklist of 22 items. The items were observable behavior on reading, writing, oral language, memory, organization, and arithmetic. 194 of these adults (51.5 % male and 48.5 % female) were later tested on nonverbal intelligence, 3 reading and spelling tasks, and 5 reading-related cognitive tasks.

Results and Conclusion:

Based on the sample of 3629 adults, an exploratory factor analysis has extracted two major factors (Problems in language and literacy skills and General learning related skills) in the 22 behavioural items. Results of regression analysis based on the 194 adults showed that these two factor scores predicted significantly the literacy and cognitive performance of the participants after controlling for age, education level, and intelligence. Each item score and the overall mean score of the behavioral checklist could differentiate between adults with reading difficulties and those without, with a sensitivity of 76.3% and a specificity of 76.3%.

Singapore Maths and Dyscalculia- A perfect match?

Judy Hornigold

Educational Consultant, BDA

This workshop explores to what extent the underlying pedagogy of the Singapore Maths approach can support learners with Dyscalculia and Maths Learning Difficulties generally. The work of Piaget, Vygotsky, Bruner, Skemp and Diennes will be set in the context of a problem solving approach to teaching maths. Links will also be made to current researchers such as Boaler and Dweck. The session workshop will be hands on and designed to promote discussion and debate. There will be the opportunity for small group work. The workshop will conclude with highlighting the relevance of the Singapore approach to struggling learners and will explain why it is ideal for learners with dyscalculia and Maths Learning Difficulties.

Repeated measurements in intervention studies

Christer Jacobson

Linnéus University, Växjö, Sweden

Purpose:

The aim of this research is to discuss the effects of repeated measurements in pedagogical studies. Sometimes in reading research but more often in pedagogical practice repeated testing with the same tests are used to measure eventual progress after an intervention period, e.g. six weeks. The results usually show that the intervention group has better reading performance after training. If there is a control group in the study, which unfortunately is not always the case, the intervention group hopefully outperform the controls.

Method:

The tool consists of repeated mesurements in different studies with repeated testing by the Wordchains test, where the task is during two minutes to separate unrelated words written together. This test was originally designed for repeated testing once a year and constructed to minimize the effect of memory. However, the time between the measurements seems to be crucial when interpreting the results. In one study the Wordchains were repeated five times under different conditions. In another study the test interval was either two weeks or six weeks and in a third study the test interval was about two. In all studies the participants was children in the age 10-12 years.

Results and Conclusion:

The results from these studies of repeated measurements show a substantial growth in mean reading performance despite no specific reading interventions. This is interpreted as an effect of the test procedure in it self and of memory of specific test items.
How can we separate the effect of memory of specific test items from the test procedure and the effect interventions?

Predictors of reading words and pseudowords in highly transparent orthography

Maja Kelić[1], Mirta Zelenika[1], Jelena Kuvač Kraljević[1]

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Purpose:

It is well-know that phonological awareness (PA), rapid automatized naming (RAN) and working memory (WM) are some of the best predictors of text reading, regardless of orthography. Less attention has been given to relationship between these predictors and reading of words and pseudowords in the period when child`s reading is nearly automatized. Accordingly, the aim of this study is to define the role of these three predictors (PA, RAN and WM) for reading of words and pseudwords in Croatian-speaking children who obtained three years of formal reading instruction.

Method:

26 typically developing children (mean age=10;06) participated in this study. Reading speed and accuracy were measured by lists of words and pseudowords. Phonological structure (number of syllables and syllable structure) of all items was controlled, besides controlling the word frequency in the word list according to the word frequency in the child language. PA was measured with three tasks: phoneme deletion, phoneme addition and spoonerism. Naming of colours was used as a measure of RAN and for WM standardised measure of digit span (WISC-IV-HR) and pseudoword repetition were used.

Results and Conclusion:

In order to define the predictive role of PA, WM and RAN for speed and accuracy of words and pseudowords reading the hierarchical linear regression was carried out. The analysis showed following: RAN and PA proved to be significant predictors of reading speed (46% of variance), while only RAN was significant predictor of reading accuracy (17%). For reading pseudowords only PA was significant predictor of reading speed (28,5%) and accuracy (42%).

It could be concluded that phonological awareness is the best predictor for reading of words and pseudowords in the period of reading automatization.

Features of cognitive-communicative development of students with dyslexia

Natalia Yurievna Kiseleva

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Reading has a cognitive and communicative focus. The cognitive-communicative development of children affects their quality of reading.

The aim of this research was to study the structure of dyslexia and features of cognitive-communicative development from students of 5-7 grades. The study included 38 children who suffer from dyslexia and 99 children whose reading skills were normally formed.

The first stage of the research included the study of technical and semantic characteristics of reading on traditional tests. For the second phase of the research it was designed a test to study cognitive-communicative development. This test included some tasks to detect formation of stylistic and genre competence; self written works in accordance with the specific characteristics of the companion; understanding non-verbal methods of communication; understanding of communicative intentions of the author by series of pictures and by the text; understanding and using emotionally-communicative vocabulary; structural and semantic analysis of the text.

The results showed that reading activity of students with dyslexia from 5 to 7 grades was not formed properly both structurally and functionally. Dominant impediment in dyslexia structure appears in poorly formed semantic reading performance. Students with dyslexia had asynchrony forming verbal and non-verbal components of cognitive-communicative development. Significant differences in formation of verbal components of cognitive-communicative development have been identified among students with dyslexia and students with a normally formed reading. The reliability of the differences in the index of verbal components by criterion of Student (T-test) showed a $p<0.001$. Non-verbal components of cognitive-communicative development among students with dyslexia corresponded to normal or higher than normal.

Reading should be included into the broader concept of "cognitive-communicative activity".

Metaphonological preschool training particularly promotes reading ability of children-at-risk: An analysis until grades 6 and 9

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Purpose:

Although cracking the alphabetic code will not occur in the same way for all children, early enough pedagogic measures are of vital importance. International research inspired by the groundbreaking study of Ingvar Lundberg and his colleagues on the Danish Island of Bornholm focused on these issues. Lundberg's metaphonological preschool intervention proved effective, removing a sizeable part of the gap in reading skill which usually emerges in the early grades between normally advancing and struggling readers (Lundberg, Frost & Petersen, 1988). The present paper raises the question whether or not children with an initial risk for reading difficulties show a similar positive long-lasting reading development. If yes, would their training-related benefits be larger or smaller than among unselected students?

Method:

A corresponding Swedish intervention of metaphonological language games, the so called Bornholm Model, was carried out in kindergartens and schools on the Åland Islands, an autonomous archipelago district between Finland and Sweden. Altogether 209 students, comprising two thirds of an annual age cohort, participated in the study. The intervention consisted of metalinguistic games and exercises, given in daily doses during the last year at kindergarten and at the beginning of grade 1. The program advanced in a hierarchic and structured fashion. The results showed that even less than a daily training dose had an effect (Kjeldsen, Niemi & Olofsson, 2003). The Åland study is one of few international studies which follows the students throughout the compulsory school for 10 years. The results showed immediate gains in word decoding which extended up to grade 6 in terms of better reading fluency. A benefit in reading comprehension could be seen still in grade 9 (Kjeldsen et al., 2014).

Results and Conclusion:

Our first analyses indicate that immediate progress in phonological skills is twice as big for readers-at-risk. Moreover, a favorable development of word decoding skills took place during the first six years at school. Seventy-five percent of initial readers-at-risk of the control group still occupied that position in grade 6, the corresponding figure for the trained readers-at-risk being 30%. An analogous training benefit was seen in reading comprehension in grade 6, the figures being 60% as opposed to 24%. Three years later, in grade 9, the reading comprehension figures were 53% and 25%, respectively.

In grade 6, the probability of still belonging to the group of struggling readers in terms of fluency and comprehension was at least twice bigger for the untrained students. The same held true for grade 9 reading comprehension. However, in grade 9 there was no statistically significant difference in reading fluency between trained and untrained students with an initial risk for reading failure. Even so, the results are encouraging as comprehension is the ultimate aim of reading.

Integrierte Intervention bei Dyslexie: Unterricht, Therapie und Eltern

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Purpose:

Das Ziel dieser Forschung ist die Realisierung verbesserter Integration und Koordination innerhalb der Lese- und Schreibförderung, mit der Absicht Kinder präventiv, besser und preisgünstiger zu unterstützen. In diesem Fachvortrag werden de Ergebnisse von einem Project, bei dem Legasthenie Experten aus der psychische Gesundheitspflege präventiv mit den Eltern und Lehrern/Spezialisten in der Grundschule zusammen gearbeitet haben, vorgestellt. Spezifisch wird im Vortrag erläutert, was die integrierten Interventionen beinhalten. Dabei werden 'practice-based' sowie 'evidence-based' Interventionen (inklusive ICT-Anwendungen) besprochen.

Method:

Entwicklungsforschung in den Disziplinen: Didaktik, Therapie und Kommunaler Politik. Es betrifft Daten aus Feldversuchen, Praxisstudien und Fallstudien.

Results and Conclusion:

Die Ergebnisse zeigen, dass 60% der Kinder die sonst außerhalb der Schule (isolierter) Therapie erhalten würden, innerhalb der Schule - in einer sicheren Umgebung - geholfen werden könnten. Die Behörden der teilnehmenden Städte haben diesen Ansatz, wegen der Resultate, des natürlichen Austausches, der unterschiedlichen Fachrichtungen, des Abbaus von Hemmschwellen und der Kostenreduzierung, als struktureller Anordnung adaptiert.

Out of the Mouths… Dyslexia; the Power of Words

Janet Koike[1], Kim Brown[2]

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Purpose:

The aim of this research is.to gather key words and phrases contributed by professionals (specialist tutors and assessors), students and the general public. Starting from UK data on the poster, this action research will allow us to gather further data and reflect with conference participants, on the similarities and differences between perceptions of dyslexia between the three groups and across different countries. There will also be an opportunity to listen to UK students talk about the language they use and hear around their dyslexia, where this comes from and how it affects their life.

Method:

The tool consists of a poster with 3 pairs of large lips, open and with a stream of words associated with dyslexia from each of the three perspectives, coming from each mouth.

Mouth 1; The Professional

Mouth 2; The Adult Learner

Mouth 3; The General Public

We will collect further comments from conference participants and invite them to add their contributions to the poster and to discuss and write or be recorded with further comments.

Q Codes will be set up so that participants can listen to Adult Learners in the UK discussing how others and they themselves describe their dyslexia.

Results and Conclusion:

The results will show the data we have collected at our college. This will be 'live action research' as more data will be added to the poster during the conference. We hope to initiate discussions about the discourses and experiences of adults with dyslexia across Europe. It may be that we will be able to encourage sets of 'lips' in classrooms in different countries. Or we may make links between our adult students in different settings to continue the discussion. Results will be collated and reported at a future conference in the UK.

Developing Assistive Technology Strategies among Dyslexic Students in Higher Education

Laura Kongskov, Erik Arendal

The Counselling and Support Centre, University of Aarhus, Denmark

Purpose:

This presentation addresses literacy practitioners, teachers and counsellors in further and higher education as well as AT specialists. The presentation explores the assistive technology (AT) potential among dyslexic students within Danish higher education.

Method:

The presentation addresses the use of AT and support options in Danish higher education. It furthermore has a practical focus and exemplifies AT solutions and approaches to supporting students in developing technology based strategies through literacy counselling.

Results and Conclusion:

Access to digital study material and AT has improved substantially, including access to online and mobile AT solutions. Studies among dyslexic university students underline the value of AT but also the need for developing individual technology based study strategies. Within teaching and counselling, it is therefore essential to identify the individual's AT potential and to establish AT objectives.

Attitudes of English (EFL) teachers toward inclusion of students with learning disabilities (LD)

Alex Kozulin & Haya Razam

Purpose:

While a considerable amount of research has been dedicated to challenges facing students with LD in the area of reading and writing in their native language, much less is known about their foreign language learning. Even the answer to the most basic question: “Is it desirable for students with LD to be included in foreign language lessons” is far from being unequivocal. At the same time in some educational systems students’ failure to attain a certain level of proficiency in English as a foreign language (EFL) may prevent their access to higher education. The purpose of our study was to explore the attitudes of EFL teachers toward inclusion of students with LD into regular EFL classrooms.

Method:

Seventy EFL teachers working in primary and middle schools in Israel responded to the questionnaire that probed their opinion regarding the possibility of exempting students with LD from EFL study, desirability of inclusion of these students into regular or separate EFL classrooms, the roles of EFL teachers vs. special education teachers, the degree of flexibility of EFL curriculum, the need for more teaching hours or assistance, etc. Teachers also responded to questions about their own level of education, pedagogical experience, and in-service training in LD.

Results and Conclusion:

The absolute majority of teachers (75%) did not agree with the idea of exempting students with LD from EFL lessons. At the same time, only 57% supported the inclusion of these students into regular EFL classes while the remaining 43% favored separate lessons. The later attitude was further reinforced by the fact that 84% of the teachers suggested that EFL lessons for students with LD should be given by special education teachers rather than “regular” EFL teachers. One may conclude that while EFL teachers recognize the importance of EFL for all students, they do not feel prepared for LD inclusion challenge and tend to shift the responsibility to special education teachers.

Working memory and phonological skills in first grade Polish students

Grażyna Krasowicz-Kupis [1,2], Katarzyna Wiejak [1,2], Urszula Oszwa[1]

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[2] *Instytut Badań Edukacyjnych, Warszawa*

Purpose:
The poster presents relations between phonological skills (rhymes, syllables and phonemes) and working memory on early stage of literacy acquisition. The theoretical base is the Grażyna Krasowicz-Kupis's model of phonological skills structure (Krasowicz-Kupis, Wiejak, Bogdanowicz 2015) and Klaus Oberauer's model of working memory (Oberauer 2000, 2003). The model of phonological skills includes subsyllable, syllable and phoneme simple skills as well as phonological awareness of a child. Oberauer pointed out three functional factors in the context of processing - simultanieous storage and processing, coordination and supervision.

Method:

The study involved 494 children aged 6;6 – 8;5, first grade students. Phonology was assessed by the Phonological Tests Battery (in Polish: Bateria Testów Fonologicznych IBE) (Krasowicz-Kupis et al. 2015), that gives general index, detailed scores for individual assessed skills and scores for subscales: syllable, phoneme, metalinguistic and fluency. Interactive Working Memory Test (In Polish: Test Pamięci Roboczej TPR) (Sędek et al. 2016) consists of 3 tasks solved by the child on the touch screen (tablet): (1) counting span, (2) set switching, (3) spatial short term memory. Counting span is the measure of processing in Oberauer's model, set switching as coordination and spatial short term memory as supervision.

Results and Conclusion:

The presented study results confirmed significant relationships between working memory measures and phonological test scores, but they are moderate and weak. The strongest relations were observed for counting span and set switching and the weakest one for spatial short term memory. Gender is significant moderator of the observed relationship. It means that in phonological processing the simultaneous storage and processing as well as supervision factors are more important that coordination one. The differences also appear when taking into account the type of phonological abilities (simple phoneme, syllable skills and phonological awareness).

Using the Executive Function model to understand & support a range of specific learning differences

Karisa Krcmar,

Loughborough University, Loughborough, UK

Purpose:
Metacognition is important for learning but also for the self-esteem and self-confidence that accompanies good mental health yet dyslexic students can frequently not meet the positive learning situations that help develop it. Discussing a student's executive function profile with her can help her to understand the effects of any weakness in executive functions; the student can then be guided to an understanding of her own cognitive style and can learn to control both skills and develop strategies to use. The student also develops confidence to take personal responsibility for making informed choices when using and transferring skills from one situation to another.

Method:
Executive Functions are the mental processes that allow the individual to control behaviour and perform a range of complex tasks like planning and organising; emotional control and internal monitoring of actions to avoid distractions and reduce procrastination. It is often associated with ADHD and in terms of assessment for specific learning differences but it is argued here that it can be applied equally usefully to all specific learning differences. In fact, it will be argued in the presentation that a consideration of the strengths and weaknesses within an individuals' executive function skills can be more useful for metacognition than, say, a label of dyslexia.

Results and Conclusion:
Good cognitive skills lead to improved self-esteem, which is a crucial factor in academic success due to the inter-relationship of belief, capability and action. Self-esteem, academic success and feelings of being more in control lead to better mental health.
Delegates are asked to come with a student in mind to explore together how this approach can help both student and specialist tutor develop an appropriate support package.

Mindfulness for Study

Karisa Krcmar, Tina Horsman,

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Purpose:

The aim of this research is to show how mindfulness, an easily learned, accessible tool leads students towards metacognition, self-advocacy and self-empowerment. Students learn skills to move from procrastination to action and towards more effective learning and study skills. There is growing evidence that mindfulness practice improves and supports executive functioning of the brain and in this presentation we will discuss the benefits of mindfulness and invite the audience to experience a mindfulness practice.

Method:

In our Mindfulness for Study programme we taught students the 3 basic anchors of mindfulness: mindfulness of breath, sound and body. We started each session with mindfulness practice of the 5 senses. This helped to focus the session but also, importantly, students developed a better understanding of how their brain worked. This developing metacognition leads to better self-advocacy, better mental health and better learning. These, along with practical tools (e.g. practices we called SNACK, PEAR and PLANE) and specialist study skills helped develop focus and attention.

Results and Conclusion:

Areas of executive functions that can pose particular difficulties for students with SpLDs include: impulse control; emotional control, working memory, work and personal management (time management, planning, prioritising and organising); task management and self-monitoring. Emotions, thoughts and actions are not separate mental activities, but are dimensions of the same process and mindfulness exercises stimulate the brain in specific ways that encourage connectivity. There is considerable growing evidence that mindfulness helps support and develop the executive functions.

REPRESENTATIONS AND MEANINGS of students with Specific Learning Disabilities. An explorative qualitative study.

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[1] *Human Science Department for Formation "R. Massa", University of Studies of Milano Bicocca, Milano, Italy*

Purpose:

The aim of this research is to explore representations and meanings given by students with Specific Learning Disability on their scholastic, learning and life experiences.

Due to the mayor risk for psychopathological diseases (cfr. review Vecchini (2012) and to a widespread existential worrying for those students –denying of SpLD influence, refusing help or support (Ferrazzi et al, 2013 – Lampugnani, 2014)-, a deeper knowledge of their point of view could give a contribute to a pedagogical approach at the problem of SpLD with preventing measures.

Method:

It was used a qualitative methodology, in a participant action research (Rapoport, 1970) to develop a bottom-up process.

Work was developed with 10 groups (109 SpLD students, 10-18) involved in theatre laboratories (Boal, 1977) to produce scenes about school, relationship with teachers and peers, use of technologies, learning strategies- and after to discuss in focus groups (Pranee Liamputtong 2011) contents come to notice in the improvisation, - life experiences, feelings and emotions, coping strategies-.

Each work session was video-recorded, transcribed and analysed thematically.

Results and Conclusion:

For students involved the most important area seemed to be relationship with peers – e.g. to be ridiculed or insulted; to avoid computer or didactical differantiation to be included-. Difficulties in relationship with teachers seem related both to difficulty of expressing to them learning needs, accepting differentiations, or beacuse not effective approaches of their teachers.

Results go towars different model of pedagogical approach to SpLD in the school.

Research is widening, in an ongoing research, to teachers', parents' and peers' representations and their influence on SpLD students.

Helping students with LD in Italian inclusive classrooms: the teachers' SLD coordinator as a crucial role for the inclusion of children

Alessandra Landini

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Purpose:

General educational theory and the Italian tradition suggest that the practice of inclusion is beneficial to learning: children can achieve better results and inclusion has an impact on their wellbeing. Therefore, educators need to make decisions regarding the resources made available for inclusion in their school, in addition to the special needs of the students with which they work. However, usually they do not have adequate knowledge in order to make the proper decisions appropriate to an inclusive environment, nor to the relevant learning techniques; they struggle to monitor the students' progress and therefore sometimes fail to create an appropriate learning plan for the students; they have doubts about the parents' role in the education plan. The role of the SLD coordinator in Italian school is oversee in order to further his crucial participation to an inclusive learning environment within the classroom.

Method:

This work is an attempt to assess the implementation of Law 170 as it has been applied in schools, starting from the perspective of personal and professional experiences. We will start with specific considerations of the role of a teachers' coordinator for special educational needs. We will then undertake an analytical overview of the impact, the methodological-didactic value and the complexity of his personal participation to individual planning for children with learning difficulties, teacher training and the family-schools relationship.

Results and Conclusion:

The summary will focus on the complexity of a new professional role, namely the coordinator for SLD: the importance of their skills in order to create a positive and organized climate, the discussions with teachers, the possibility of creating a continuous path between different grades, the task of designing processes for bringing about an agreement between teachers and parents for the production of learning development plans for students. Furthermore we stress the urgent need for vocational formation and training opportunities for coordinators and teachers. This should become mandatory, especially for in-service teachers, in schools at all levels.

Specific learning disabilities and project co-constructions in a network of schools

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[2] *A.U.S.L, Reggio Emilia, Italy*

Purpose:

The aim of this work is to undertake a careful consideration of the workers' opinions of the didactic-pedagogical procedures for workers with a responsibility in the areas of education and effective SLD prevention for children in primary education. The project, analysed in the study, has been carried out over an extensive area in Emilia Romagna, a region of Northern Italy. Furthermore, the study aims to illustrate the objectives and methodologies used in the SLD project. The overarching goal being to create a "communicative strategic alliance" that could produce a network among those relevant agents involved in the district, for the promotion of the exchange of knowledge and expertise.

Method:

The approach consists of an analysis of the objectives and methodology used in the project "Training for a correct approach to reading-writing in the 1st grade: inclusive didactic for SLD", produced by speech therapists from the National Health Service and primary teachers. We will highlight some of the principle features of the project, such as the opportunity for teachers to receive training on recent scientific research into SLD, supported by experts from the health services. Furthermore, we will produce an outline that will allow for an evaluation of the project, compared to the growing workers network. This will be undertaken through the use of an assessment questionnaire, which will be used to provide future possible developments for cooperation between schools and specialized health workers.

Results and Conclusion:

Following an analysis of the results, certain specific considerations of national health operators of the Reggio Emilia neuropsychiatry department, working in Montecchio Emila district, and of teachers' coordinators for special educational needs can be identified: we have produced an analytical overview of the impact, the methodological-didactic value as well as the complexity of this projects in our district. In particular the work underlines the crucial role of a growing network, where various participants are engaged: teachers, with their characteristic teaching-learning techniques and speech therapists with their specific knowledge in this field. In conclusion what has been produced is a reflective analysis of the significance of working as part of a network for SLD.

Specific Learning Disabilities Teacher Training in Europe: The EUSpLD Project

Colin Lannen[1], Dr Sionah Lannen[2],

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Purpose:
Major Erasmus Plus 3 year, €350,000 Project - To introduce Specific Learning Difficulties Teacher Training in Europe.

Method:
We will Outline the Project to date, including the creation of the world's first free and open SpLD online training resource. Using the EUSpLD website we will show the 3 levels of SpLD Teacher Training (Teaching Assistants/Parents; Teachers & SpLD Specialists), detail the Level 2 SpLD Teacher Training Units and detail the unique SpLD Teacher Toolkit.

Results and Conclusion:

For the first time Europe can take the next critical and essential steps to produce an EU Sp.L.D. Roadmap and create an effective and consistent European Sp.L.D. Adult Learner & Teacher Training Programme which would finally address the major problems with unidentified and, as a consequence, unsupported Sp.L.D.

Identification of children and adolescents at risk for Specific Reading and Writing Disorders

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Purpose:

Five years after entry into force of the Italian Law 170/2010 on Specific Learning Disorders (SLD), the prevalence rate of these disorders has increased in schools. Based on the most recent survey by The Ministry of Education, Universities and Research, the percentage of children with SLD has been reported to increase from 0.9% to 2.1%. However, a limited number of studies report unreliable data on dyslexia prevalence. This study describes a screening project on SLD carried out in 28 schools over a 4-year period in an area of the island Sicily, Italy. The screening involved a population of 4293 students aged 8-14 years attending the third and eight grade, and the first year of secondary school level.

Method:

Students' reading and writing skills were measured with a standard test protocol. Reading assessment included decoding skills (accuracy and speed) of passage reading, words and pseudowords. The dictation task consisted in writing down a list of regular words containing phonemes underlying syllabic conversion rules and a list of words with unpredictable transcription. The normative values were expressed in terms of grade-based speed and accuracy for words, pseudowords and text reading, and in terms of accuracy only for spelling. Evaluations were carried out at schools by trained teachers.

Results and Conclusion:

The prevalence of children at risk for dyslexia at the end of the study turned out to be 3.72% for students attending the third grade, 4.87% for those attending eight grade and 4.16% for those at the first year of secondary school level. The prevalence of children at risk for writing disorders at the end of the study turned out to be 4.94% for students attending the third grade, 5.12% for those attending eight grade and 5.39% for those at the first year of secondary school level. Altogether, seven percent of 4293 pupils were at risk for at least one specific learning disorders (dyslexia or dysortography).

Culture Cafè: Assistive Technology for Dyslexia and Dyscalculia

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[1] *Center for Assistive Technology, Dyslexia association of Finland, Helsinki, Finland*

Purpose:

The idea of the workshop is to collect information about the *local best practices* of using assistive technology (AT) for dyscalculia and dyslexia. The secondary purpose of the workshop is to offer new co-operation and networking possibilities among the organizations in the area of AT.

Method:

The workshop mode is ''Culture Café'', where the participants form groups and discuss about the predefined topics. The AT workshop starts with 20 minutes' presentation followed by 60 minutes' AT team work. Each session duration will be 15 minutes' and predefined questionnaires cover four topics:

1) Usability of AT at the local school level
2) The adaptation of digital AT
3) How the AT funding is organized?
4) The ideas for future networking among the AT professionals and/or organizations

The workshop is targeted for AT professionals, students and seminar participants with dyscalculia or dyslexia.

Results and Conclusion:

The workshop ends with the 10 minutes' wrap-up and the preliminary results are analyzed at the end of the workshop. The final version of the workshop results will be delivered to the participants after the conference.

Daydreaming or Inattentiveness Differentiating between Sluggish Cognitive Tempo (SCT) & ADHD within the classroom

Eleni Livaniou

President of the Greek Dyslexia Association

Athens, Greece

Purpose:

The aim of this presentation is to draw attention to the differences and similarities between Attention Deficit Hyperactivity Disorder (ADHD) and Sluggish cognitive Tempo (SCT). Children with SCT, as children with ADHD, experience adverse effects on functioning in many areas, which in consequence affect school performance. However, unlike ADHD' s whirling and distractive characteristics, SCT is characterised by lethargy, day-dreaming, staring, hypo-activity, slowness and forgetfulness.

This is an attempt to provide a focused analysis of SCT aetiology, symptomatology and 'treatment' so teachers and educators can have a concise overview which can inform their practice.

Method:

The presentation is the result of a meticulous and systematic review of research findings and empirical studies on Sluggish Cognitive Tempo symptomatology in Attention Deficit Hyperactivity Disorder. The key-terms 'Sluggish Cognitive Tempo', 'Slow Cognitive Tempo', Slow Tempo' were used in order to search in PubMed, PsycInfo and Web of Science. Forty-three studies on SCT were selected and they were the ones considered relevant to education - in terms of their findings in cognitive and behavioural functioning, and are presented and discussed in this slide-review from an educational perspective.

Results and Conclusion:

The present review on Sluggish Cognitive Tempo and Attention Deficit Hyperactivity Disorder research findings, focuses on the importance of differentiating academic as well as behavioural approaches within the classroom setting. There is emerging consensus of the adverse effects such neurodevelopmental disorders can have on children' s learning and behaviour throughout their schooling. Therefore, Educational and School Psychologists as well as teachers at all levels of schooling, need to be well informed about Sluggish Cognitive Tempo and Attention Deficit Hyperactivity Disorder characteristics. They need to know the historical background of SCT, and the description of its core symptoms in school. Children with SCT are hander to identify than children with ADHD- Predominantly Inattentive (ADHD-PI), and this is why differences and similarities between SCT and ADHD-PI are reviewed in relation to school and academic performance - teachers ought to distinguish the different learning profiles, especially, the fact that SCT is a different attention construct from Predominantly Inattentive type in ADHD. The significant difference between Selective Attention deficit and Sustained Attention deficit is stressed in relation to Working Memory deficits and as a result, the variability of a child's functioning contingent upon levels of interest in whatever is happening in the classroom. There are no SCT studies that have looked into specific intervention methods for school and homework use. Until now, all treatments are adaptations of the typical approaches to treating ADHD-PI. In concluding, ways to deal with such challenging classroom issues daily, are proposed and the importance of home-school cooperation is also emphasized because children need to progress without being negatively differentiated and sidestepped by peers or uninformed teachers.

Even though SCT appears a psychometrically valid construct with additive value in the clinical field of ADHD, the fact remains that it is not categorised /included in the latest DSM-V edition. Therefore, future research should focus on the identification of adequate SCT measurement, as well as on populations different from ADHD, so that eventually, SCT becomes a separate neurodevelopmental disorder with specific treatment proposals.

L1 (Polish) and L2 (English) vocabulary and working memory in Polish students with and without dyslexia

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Purpose:

Vocabulary knowledge and memory influence reading skills. In our study we aimed to examine the relationship between vocabulary knowledge in L1 (Polish), working memory, and vocabulary knowledge in L2 (English). We assumed that students with specific reading difficulties would manifest deficits in L1 verbal fluency and working memory, which would influence their limited L2 vocabulary, as many deficits characteristic of dyslexia can also affect the learning of foreign languages.

Method:

Native speakers of Polish (30 junior high school students with dyslexia, and 30 without) who learned English at the same schools participated in our study. They were matched for years of L2 instruction, age, and IQ. The participants completed a test assessing their verbal working memory, rapid automatized naming, single word reading in L1, and L2 vocabulary knowledge. The students of both groups declared that they did not like to read.

Results and Conclusion:

We found that students with dyslexia exhibited deficits in rapid automatized naming in L1. All participants exhibited limited L2 word knowledge, not knowing even the words of highest frequency, despite having studied the language for 7 years. No participant scored 100% of the points in any vocabulary task. Working memory and, to a lesser degree, access to L1 mental lexicon, predicted L2 vocabulary knowledge in both groups. This effect was stronger in the control group. Our results confirm the important role of memory in L2 vocabulary acquisition: phonological short-term and long-term memory.

Challenge Based Learning: From a big idea to promoting authonomy

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Purpose:

It's been a few years since several kind of workshops have been implemented all around to help students with LD manage their difficulties and be aware of how learning strategies may vary. After many years of working with traditional, though up-to-date, methodologies, we decided to experiment with a new pedagogic plan: CBL. Our contribution has the twofold aim to introduce all colleagues to this new methodology, to test it, and verify if a flipped, inquiry-based approach is better suited to promote autonomy.

Method:

Challenge Based Learning is an engaging multidisciplinary approach to teaching and learning that encourages learners to leverage the technology they use in their daily lives to solve real-world problems. The participant, 5 students with Learning Disabilities, were administered italian metacognitive AMOS test Subtest QAS for studying skills and QCA for attribution/locus of control, Cornoldi, De Beni, Zamperlin, Meneghetti). A control group of 5 other students (also with diagnosis of LD) was attending a traditional workshop and has been tested in the same way.

Results and Conclusion:

Though the project is still just half-way, the participants are showing great involvement and commitment to their challenge: developing a book applying all the learning strategies that they learn in the workshop. Testing will be all done by June 2016.

Memory for item and for order of verbal and non-verbal stimuli in children with dyslexia

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Purpose:

STM models distinguish between item and order memorization (Szmalec, et al., 2011; Majerus et al., 2012). The former refers to the content of presented stimuli, the latter to the order with which these items are presented. Recent studies point to a specific impairment of Serial Order STM in dyslexic children (Martinez Perez et al., 2012). The present study aims to explore how STM for item and order is affected by: the nature of the stimuli; sequential vs simultaneous presentation; visual vs auditory presentation modality; the presence of articulatory suppression and distracters.

Method:

Twenty children with dyslexia were matched one-by-one with a group of normally reading children, based on sex, chronological age and grade. Age ranged between 8 and 14 years (M =11.2 years, SD=1.9). A tailor-made software was designed and developed for online testing and data collection. The tasks included 18 different subtests, varying according to type (item vs order), stimuli (letters vs colors), sequentiality, modality, presence/absence of articulatory suppression and of distracters. Accuracy scores for Item and Order STM were compared in the two groups with General Linear Model (MANOVA).

Results and Conclusion:

Children with dyslexia score lower than CA-matched typically reading children on both item and order recall. In some conditions, however, there is a significant interaction between group and type, due to STM for order being more impaired than STM for item in dyslexia. These conditions include the presence of linguistic stimuli, and the absence of articulatory suppression (not allowing verbal recoding). With visual presentation and articulatory suppression, dyslexic children show a specific impairment in STM for item only. The verbal nature of the task is thus crucial in serial memory impairment.

Neuropsychological Functioning In Young People With Attention Deficit/Hyperactivity Disorder: The Impact Of Specific Learning Disorders

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Purpose:

Attention Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder, frequently associated with comorbidity, such as Specific Reading Disorders (RD). Several studies report low executive functioning in ADHD, but it is difficult to distinguish wheter neuropsychological deficits are due to ADHD or to comorbidities. We assessed cognition, memory, attention and executive functions in children with ADHD, ADHD+RD, and unaffected controls.

Method:

93 ADHD patients (28 with ADHD+RD) and 73 age and gender matched healthy controls participated in this study. All recruited participants completed a standardized neuropsychological battery, including Wechsler Intelligence Scale for Children IV, London Tower, Italian ADHD Battery, short-term memory tests (Corsi, digit-span), graphomotor fluency test, reading fluency and accuracy tests (short story, words and pseudowords), Results were compared with similar data obtained from controls.

Results and Conclusion:

Results on most of neuropsychological tests showed significant differences between patients and controls ($p<0.001$). ADHD+RD subgroup showed higher impairment in attention, executive functions and processing speed compared with ADHD group.

In conclusion, ADHD patients show lower executive functioning compared with controls, and ADHD + RD patients show the poorest neuropsychological functioning.

Specific learning difficulties in adults: diagnostic protocol and test validity in Piedmont

Alessandra Manassero, Azia Maria Sammartano, Roberto Albera

Purpose:

Learning difficulties in Italy are well known as worldwide in childhood but rather data are available for adulthood in our country. The problem of diagnosis in adult is based first on the lack of standardized protocols. In order to answer the growing need of diagnosis in July 2012 a multidisciplinary team began to standardize a protocol in eight different centres all over Italy. This research shows validity of protocol tests in Piedmont population and lays the foundation of an easier testing in adult.

Method:

In our research inclusion criteria were: 18 y.o. or more, cognitive level more than 85 Full QI, story of specific learning difficulties during childhood. Were excluded all disadvantages ,non specific learning difficulties and people under 18 y.o. All people included in the study underwent diagnostic protocol tests: neuro-psychological testing (memory/attention battery- cognitive test), reading testing (list of words, list of non-words and text), dictation testing (words, non-words and text) and math testing with also evaluation of quick calculation. A database was created.

Results and Conclusion:

231 patients: 127 male and 104 female. 179 underwent diagnosis, isolated or comorbidity: 66,23% dyslexia, 61,47%dysorthography, 5,19% dysgraphia, 41,99% dyscalculia and 5,63% deficit in comprehension. A database analysis of validity shows that some tests are less reliable than others to diagnose learning difficulties in adulthood. The ‘time factor’ in reading and math is the most statistically valid to diagnose dyslexia and dyscalculia in adult (in reading also text errors seem to be useful). Otherwise errors in text dictation are the only statistically useful to detect dysorthography.

The relation between dyslexia and internalizing symptomatology in primary and secondary school children

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Purpose:

In the last years numerous studies have investigated the relation between developmental dyslexia and internalizing symptomatology. Although several findings confirmed that children with developmental dyslexia (DD) had higher levels of internalizing symptomatology as compared to controls (C), other researches disconfirmed these results. The aim of this study is to evaluate whether the association between internalizing symptomatology and developmental dyslexia is different in primary as compared to secondary school grades level.

Method:

Forty-seven DD children and one-hundred twenty-eight controls (8 to 15 years) took part in the study. Anxiety, depression and somatic symptoms were evaluated using SAFA scales (Scale Psichiatriche di Autosomministrazione per Fanciulli e Adolescenti; Cianchetti & Sannio Fancello, 2001), an Italian validated self-report questionnaire useful to indicate the severity of internalizing symptomatology. We compare the internalizing symptoms in DD and C in primary and secondary school using the MANOVA.

Results and Conclusion:

Results evidenced significant differences between DD and C, showing higher levels of anxiety, depression and somatic symptoms in DD as compared to C. Furthermore, anxiety symptomatology increased in DD as compared to C subjects from primary to secondary school, while no difference was found between groups by school levels for depression and somatic symptoms. These findings confirmed the importance of the early recognition and assessment of internalizing symptomatology in children with DD and emphasized the increment of anxiety levels passing from primary to secondary school.

Impatto della modificazione del Maddox posturale, sull'identificazione delle parole scritte nei dislessici

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Purpose:

Abbiamo verificato se vi fosse una relazione tra il miglioramento o la scomparsa della eteroforia verticale labile ed il miglioramento delle capacità d'identificazione delle parole scritte.

Method:

35 bambini dislessici, di entrambi i sessi (10 femmine e 25 maschi) di età compresa tra gli 11,6 ± 1,5 anni, seguiti da più di 1 anno in rieducazione logopedica e per i quali il test di Timé3 mostrava un ritardo superiore ai 24 mesi nella lettura, , sono stati esaminati alla ricerca di una SDP e con misurazione delle eteroforie verticali al MP.

Sono stati esclusi bambini che presentavano uno strabismo, operato o no, una ambliopia anche se relativa, una anomalia refrattiva od una visione stereoscopica inferiore a 100' al TNO. Tutti i pazienti avevano beneficiato di un trattamento logopedico, con una frequenza di una seduta alla settimana. Poiché il disequilibrio posturale si verifica clinicamente sempre nel senso antero-posteriore, la ricerca della correzione delle eteroforie verticali è stata realizzata con uno o più dei metodi seguenti:

- prismi di 2 e3 diottrie (35/35) ,con una base posizionata inizialmente nell'asse teorico dei muscoli obliqui inferiori dei due occhi (125° a destra e 55° a sinistra) poi adattati con incrementi di 5° per tentare di ottenere una ortoforia verticale al MP.

- solette posturali, che comportavano sempre una barra retro capitale (35/35) e alcune volte dei cunei calcaneari interni in caso di valgo molto marcato (34/35).

- micro-stimolazioni orali (11/35), cioè piccoli spessori - denominati ALPH® - incollati sulla faccia coronale dei denti, atti ad agire sull'equilibrio posturale, modificando la percezione orale che dipende dal nervo trigemino, così come la propriocezione oculare.8,9

Tutti i dislessici hanno eseguito un test di Timé3 al momento dell'esame iniziale e al momento del primo esame di controllo, che ha avuto luogo dopo 3,6 ±0,6 mesi di trattamento.

Results and Conclusion:

A M3 l'insieme dei dislessici presenta una diminuzione media del ritardo di lettura di 3,4 mesi con delle forti disparità; la migliore risposta è stata una progressione di 20 mesi, la peggiore una accentuazione del ritardo di 22 mesi.

La progressione media dei dislessici in ortoforia verticale, (OV), è stata significativamente superiore a quella dei dislessici rimasti con EV ($p = 0,005$). Mentre I primi hanno progredito in media di 6,48 mesi, i secondi hanno accentuato il loro ritardo di 2,8 mesi. I progressi dell'insieme del gruppo sono legati ai progressi dei dislessici in OV.

Representational Redescription in the acquisition of spelling ability

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Università degli Studi di San Marino, San Marino

Purpose:

Based on the model of Representational Redescription (RR) of Karmiloff-Smith (1992) we tried to figure out if the RR process came into play in the learning of children's writing, highlighting what implicit or explicit there is when learning this skill and how much the evolving of its automatization coincides with a relaxation of the hypothetical stiffness of the system at the initial stages and therefore the progressive ability to voluntarily manipulating processes

Method:

In our work a dictated piece test was given to 262 children attending 2nd, 3rd, 4th and 5th primary classes asking them to voluntarily make mistakes. We then made cognitive-linguistic analysis of voluntary and spontaneous errors of each child and a comparison between the various classes in order to see the trend of cognitive flexibility and its relationship with the automation of processes.

Results and Conclusion:

The results show the real presence of the RR processes also in the evolution of writing skills with possible detection of representations of different levels depending on the age group. So we have found that with age, the system relaxes and representations regarding the orthographic processes disengage from the constraints present in the early stages of learning.

Dyslexia and dyscalculia: which neuropsychological processes distinguish the two developmental disorders?

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Purpose:

In the developmental neuropsychological literature there is a strong debate about the specific cognitive processes involved in developmental dyslexia and dyscalculia. Moreover, it is still unclear whether the children with both disorders show a neuropsychological profile similar to those with dyslexia, with dyscalculia or the summation of both.

Method:

After screening 1572 children from the third, fourth and fifth grades, 186 participants with difficulties in reading and/or calculation and a control group were selected. According to children's performance in the screening tasks, the selected sample was divided in four groups: 68 dyslexic, 14 dyscalculic, 15 children with dyslexia and dyscalculia in comorbidity, and 89 controls. An experimental battery of tests was administered in order to examine phonological awareness, phonological and visuo-spatial working memory and numeric representation.

Results and Conclusion:

Results are discussed in the context of the hypothesis of the domain-specific cognitive deficit, showing phonological deficits in dyslexic children; number processing and visuo-spatial deficit in dyscalculic children. Children with comorbidity showed additive deficits compared with subjects with pure developmental dyslexia or dyscalculia, due to the summation of deficits in these two developmental disorders.

Pratica e teoria di scuola guida per DSA, metodologie e nuovi supporti didattici

Michele Mastrosimone e Biagio Santella

Associazione delle Polizie Italiane

Scopo:

Studiare le norme del codice della strada, segnaletica, le strade e i veicoli, apprendere correttamente la pratica nella conduzione dei veicoli, può risultare davvero difficile per un ragazzo o ragazza con DSA.

Condurre un veicolo, comporta l'acquisizione e l'utilizzo di automatismi dei movimenti, tra loro coordinati, nel movimento destra/sinistra.

Creare un metodo didattico, studiato sul principio dell'inclusività, formando insegnanti ed istruttori di scuola guida.

L'apprendimento delle pratica di guida, dev'essere sviluppato su un concetto fondamentale, la sicurezza.

Metodo:

igliorare la formazione dei docenti delle autoscuole, l'utilizzo di strumenti ausiliari multimediali (LIM) per rinnovare e potenziare la lezione frontale, l'utilizzo di un metodo d'indicizzazione ed i analisi degli errori, adeguando le metodologie in modo inclusivo, la preparazione della comunicazione verbale e non, preparazione nel guidare i frequentatori ad applicare strategie compensative.

Per l'apprendimento della pratica, utilizzo del metodo decomposto, rivisitato ed adeguato alle difficoltà, il quale permette di apprendere separatamente gli automatismi necessari.

Resultati e Conclusioni:

la patente di guida è un momento importantissimo nell'autonomia di ognuno di noi, caposaldo per autostima, oltre a sviluppare vita sociale poiché patente di guida vuol dire mobilità per il tempo libero e lavoro.

Sviluppare un format, una linea guida sulle metodologie e sulle strategie, strumenti adeguati, basati sul principio d'inclusività, migliorando il percorso di tutti.

Legare le autoscuole aderenti ad una certificazione di metodo, che potrà essere sottoposta a revisione, sarebbe garanzia di qualità per la scelta, senza doverlo fare basandosi su feedback spesso non reali e comunque molto soggettivi.

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Production Text Difficulties of Children with Attention Deficit: a pilot study

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The present study examines the performance of two groups of children in a text production task, by comparison: a group of 13 children with symptoms of ADHD in comorbidity with Specific Learning Disabilities and a group of 13 matched controls with Specific Learning Disabilities. Several studies have investigated the relationship between ADHD and reading disorders, but there are few studies between ADHD and writing disorders, in particular expressive writing skills. We have been investigating whether children with ADHD have more text production difficulties than controls with SLD without ADHD. The tools consist of variables related to the quality of the composition (structure, vocabulary and grammar), but we also have been analyzing the number of words, phrases and errors. The results show that the hypothesis that frontal functions, typically compromised in ADHD children, are important in text production.

Reading improvement following tDCS in children with Dyslexia: short-term and long-term effects

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Purpose:

In dyslexics, traditional treatments increase not only reading ability but they also modify brain activity in critical areas, as the left parieto-temporal regions. There is evidence that a facilitation of neural pathways underactive in dyslexics by non-invasive brain stimulation modulates reading abilities of dyslexics. The study was aimed at investigating whether multiple sessions of transcranial direct current stimulation (tDCS) enhance reading and reading related abilities in dyslexic children and adolescents and, crucially, whether the effect is long-lasting.

Method:

Twenty-six children and adolescents with dyslexia received 18 sessions of left anodal/right cathodal tDCS (n = 13; mean age = 13.56 ± 2.36; mean IQ = 108.23 ± 12.44) or sham tDCS (n = 13; mean age = 13.96 ± 2.23; mean IQ = 107.15 ± 14.05) over the left parieto-temporal cortex combined with a reading training. Reading measures (text, low frequency word, high frequency word and non-word reading) and reading-related measures (lexical decision, rapid naming, working memory) were collected before, after treatment (6 weeks later), and in two follow-up evaluations (1 month and 6 months later).

Results and Conclusion:

Results showed that in the left anodal/right cathodal tDCS group, but not in the sham group, non-word reading speed improved even after 6 months later. In addition, low-frequency word reading efficiency increased one and six months after the treatment. No effect emerged in the other considered measures. None reported any discomfort or adverse effect.

In conclusion, the study shows evidence of feasibility and long-term efficacy of tDCS in improving reading abilities of children and adolescents with dyslexia and opens new rehabilitative perspectives for dyslexia.

MUSICOPEDIA
Exercises to enhance and strengthen technical skill for a comprehensive musical propaedeutic

Mauro Montanari

Milano, Italy

Purpose:

- What is musical attitude?
- Why a student learns without troubles and another student not?
- How to deal with Learning Disabilities (LD) to reach a comprehensive and effective teaching?

These are important matters that teachers have to wonder before and during the educational path of a student.

Musicopedia is an innovative instrument that represents identification of behavioral mastery for basic musical parameters: sound and rhythm.

Method:

A proposal that teachers and rehabilitators may use as standard model to examine and develop cognitive system of students with problems to automate phonological awareness of the language.

This method analyses underlying learning mechanisms relative to the music, and connects them to a complete set of exercises, divided into clear sections ready to be performer:

- Visual-proprioception of the sound and its intonation
- Correct approach with rhythmic structure
- Musical approach of short-term memory
- Development and musical profile of working memory
- Musical training of attention
- Analogical reading of music score: sound/act/sign

Results and Conclusion:

Musical experience allows and livens up discovery of powerful meta-cognitive mechanisms that make more flexible the cognitive system during developmental age.

Before approaching and acting with this method is mandatory to have a prior phenomenological evaluation of the person. Starting by this way will allow to the student to elaborate with major self-confidence the next clear step: musical reading and performance.

The Foundation of Reading and Writing in a Transparent Orthography: Language development and early literacy skills

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Purpose:

The vast majority of studies involving English-speaking students have confirmed that failure in word identification despite proper instruction is mainly associated with impairments in certain language processing skills. However, there is a dire need of studies that define the characteristics of reliable and valid early risk assessments for the future readers of transparent orthographies (such as Greek). Early assessment that incorporates screening for risk and monitoring progress is a preventive measure that assists in early identification of students with learning challenges in reading and the provision of extra resources to help them overcome these difficulties.

Method:

We examined the development of a variety of skills of approximately 105 Kindergarten children (stratified random sample of many school classrooms from four broad geographic areas). Individual assessments were completed 3 times within an 18-month-period (mid-Kindergarten, beginning and end 1st grade). We assessed the potential contribution of each of four constructs (receptive language, expressive language, metalinguistic awareness and emergent literacy) to reading and spelling achievement. A hierarchical multiple regression analysis was carried out to determine which language and literacy measures in Kindergarten were most predictive of reading achievement at the end of 1st grade.

Results and Conclusion:

Results indicated that emergent literacy (letter sound knowledge and invented writing) and metalinguistic awareness (morphological skills and phonological processing) contributed significant additional variance to the prediction of reading outcomes in Step 2 of the model after controlling for other language skills -entered in Step 1. Study's findings highlight the importance of additional aspects of language development for learning to read (particularly morphological skills and receptive language) while corroborate with outcomes from similar research in other orthographic systems regarding the most important predictors in learning to read.

The relationship between emotional experience with dyslexia and work self-efficacy among adults with dyslexia

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Purpose:

A recent systematic research review of factors influencing work participation of adults with dyslexia (AWD) recommended that more research should focus on explaining how work related dynamics effect one another and what type of association they have and how that association is to be understood (da Beer et al., 2014). In this way, policy and practice implications to promote positive employment experiences for AWD can be more confidently recommended. The purpose of this study was to predict the influence of emotional experience with dyslexia on work self-efficacy over and beyond the contribution of gender, age, educational and mental health history, relationship status and dyslexia severity.

Method:

This study involved a cross-sectional, web-based survey of 173 AWD with primary residences in the UK and US. The majority were female (56.6%) and on average 43.5 years old, and held a master's/doctoral degree (35.8%) or bachelor's degree (34.7%). The web-survey consisted of five sections: demographics, mental health, Vinegrad's Revised Dyslexia Checklist, work, and emotional experience with dyslexia (EED). Work-related questions were rated on a 7 point scale and guided by self-efficacy theory (Bandura, 1977) and previous research on AWD. EED items, namely feelings of stress, anxiety, sadness, and depression regarding dyslexia, were rated on a 7 point scale and used in previous research on AWD.

Results and Conclusion:

EED made a significant contribution to the variance explained in Attributes (20.1%), Confidence (22.9%), Inadequacy (23.3%), and Global work self-efficacy (35.7%). The more AWD experience negative emotional states regarding their dyslexia, the more difficult it is to possess: Attributes (create solutions), Confidence (manage deadlines), Inadequacy (a barrier in a corporate context), and Global work self-efficacy. Even with college degrees AWD are susceptible to negative emotional experiences and its impact on work self-efficacy. Practical implications such as the need for policy makers/employers/coaches to be aware of the effects of AWD perceptions' on performance will be highlighted.

Reading acquisition in a transparent orthography language: a contribution on the one route model

Claudia Nicoletti, Tiziana Sivo, Mario La Corte

(Stella 2009; 2010) proposed a model for acquisition of reading in italian, based on the assembling phonology strategy. The model postulates that, due to consistency of association between syllables and subword phonological segments and to the morphological structure of italian, word recognition is very similar in oral and written decoding. This means that semantic and lexical representations are both involved in the process of reading from the early stages,

and play an important role in the facilitation in word reading. So in consistent orthographies, children could rely heavily on grapheme-phoneme recoding strategies and “assembling phonology”.

The assembling phonology implies that phonological elements are elaborated and assembled sequentially to produce the right word. The model supposed that, after the visual analysis, the information about the written word is sent to the phonological system that makes the grapheme-phoneme processing.

In this presentation we propose a single case study, regarding a 5 yearold girl who showed a peculiar pattern of reading acquisition in Italian. When tested, she was attending pre-school and showed an exceptional ability of reading, although she has not yet been exposed to explicit reading and spelling teaching neither in school nor in family. However, when tested on reading ability, she showes to use a larger unit of the subword analysis, not phonological but bigger and composed by multiple letters.

This seems to suggest that the unit of phonological analysis used by children acquiring reading in a transparent orthography can vary individually and can be constituted also by multiple letters units not only by single letters.

Adhd and Learning Deficits in Mathematics

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Purpose:

The aim of this research was the Charismatics Students with Learning Disabilities (Double Exceptionality) and the researching subject: "The deficit that the students have for solving Mathematical Word Problems". We are aware that Reading and Mathematics are the pillars of education, while simultaneously they intersect at those problems, which include text for reading, arithmetic operations and formulations of responses. We knew that Dyscalculia and Dyslexia were the main factors, but we examined the additional role of ADHD and also the Educational Interventions in order to overcome such deficits.

Method:

The method attempted to reverse those factors which reduce the capability of the information intake and confuse the appropriate process. Inattention and Impulsivity: The characteristics of inattention influence the achievement of solving math's problems. The attention deficit comes up from two directions: 1) From external facts (vision or auditory) and 2) From internal thoughts. Especially for the children with Double Exceptionality the principal element is the control of internal thoughts. Furthermore the impulsivity directly affects to solve the mathematical word problems because the children respond rashly before the reading and the decryption of problem is completed, work extremely quickly, decrease the time needed for thought and often answer hastily and mistakenly.

Results and Conclusion:

In order to solve math's word problem, the role of executive functions is very important to self-regulate the mind for reading, visualizing, making a plan, solving and checking the result. Besides, the researching gave the results: "When they had to solve a difficult problem the children controled their mind and focused on it, but when the problem was easy and the teaching iterated, the students were pushed to task-unrelated thoughts". Educational Intervention: We detected these weaknesses and then it was necessary to evaluate the survey data for constructing the instruction. We used software for multi-sensory teaching. Those students had high intelligence, so they improved their academic performance, with a different instruction way.

Intensive Reading with Reading Lists — An Intervention Study

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Purpose:

The study aimed to examine how the decoding, for students with decoding difficulties, were affected by an intervention with reading lists.

Method:

A total of 60 students participated in the study, distributed randomly into intervention groups and control groups, one cohort of primary schoolchildren and one with junior high school students. Each group included 15 students. The study was conducted as an intervention with pre- and post-test where the students' decoding ability were tested. The intervention included 20 occasions of 10 minutes training with pseudo word and single word reading lists. The study also aimed to investigate how the decoding performance of the students in the intervention appeared depending on the age of the students. Therefore, the study was conducted with students from both primary school and high school.

Results and Conclusion:

The intervention group in primary school showed increased decoding ability compared to the control group at all tests. The results also showed that the intervention with reading lists had had a good influence on young children's development of decoding. In junior high school, the intervention group increased more, or equal, compared to the control group, and the largest increase for the intervention group was on the pseudo word reading test.

Teachers' perceptions of reading apps for reading impaired students following a RCT study

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Purpose:

Reading impaired students can read and write with the aid and support of tablets and apps. This study explores how teachers perceive the usefulness of tablets and apps for reading impaired students in Grade 4, 8 and in upper secondary education as well as perceptions of usefulness for pedagogical practice after leading a six-week assistive technology intervention.

Method:

After participating in the training, and after leading a six-week intensive intervention, the teachers were surveyed on their experience and the perceived usefulness of tablets and apps. The survey contained both closed and open questions and the responses were analyzed in terms of the social validity of the technology. Quantitative measures of teacher and student characteristics as well as reading measures were linked to teacher perceptions.

Results and Conclusion:

Results show that the teachers perceived the tablets and the apps as very useful for a majority of the students regarding motivation to read and write as well as facilitating the reading and writing ability. Several teachers also meant that the digital tools may be essential for their students to succeed in school and nearly all were positive of using tablets and apps as part of their pedagogical practice. Additional analyzes, involving the quantitative measures, are discussed at the presentation.

Math anxiety and motivation to study in Polish secondary school students

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University of Marie Curie-Sklodowska (UMCS), Lublin, Poland

Purpose:

The aim of this research is based on the review of the results of the psychological explorations on mathematical anxiety (MA) and its correlations with both cognitive and personality traits. There were to purposes of this research. Firstly, to investigate and analyse correlations between MA and motivation to learn (MO) in a group of Polish secondary school students (n=143). Secondly, to compare the level of MA and MO between students with low and high mathematical performance (LMP and HMP, respectively).

Method:

The tool consists of two questionnaires for students. The first one, FMAS SF: Fennema - Sherman Mathematics Anxiety Survey - Short Form (Mulhern, Gordon, 1998) was used to measure students' mathematical anxiety. The second one, WPI: Work Preference Inventory (Amabile et al. 1994) was used to measure students' intrinsic and extrinsic motivation to work and study.

Results and Conclusion:

The results show that there are some significant collerations between both groups of subjects. In LMP group there were found significant positive weak correlations between MA and MO (both intrinsic and extrinsic types). In HMP group the correlation between MA and intrinsic MO was significant positive weak, but correlation between MA and extrinsic MO was insignificant. The research results have confirmed significant differences in MA and MO between groups, depending on the level of mathematical performance. Students with HMP have presented higher level of MA and higher MO. Further research is recommended to compare the structure and students' level of MA cross-culturally and also to discern MA from general test anxiety.

English spelling skills in Italian students with dyslexia

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Purpose:

The present study aimed to investigate L2 spelling skills in Italian children with dyslexia.

Method:

An English word dictation task was administered to 13 children with dyslexia (CD), 13 control children (comparable in age, gender, schooling, and IQ), and a group of 10 children with an English Learning Difficulty (ELD), but no L1 learning disorder. Written words were examined for accuracy and type of errors, comparing dictated short and long words, disyllables and three-syllables respectively.

Results and Conclusion:

CD were poor in spelling English words. Furthermore, they made more 'phonologically' implausible errors than controls. In addition, CD errors were more frequent for short than long words. Conversely, the three groups did not differ in the number of plausible ('non-phonological') errors, i.e., words that were incorrectly written, but whose reading could correspond to the dictated word via either Italian or English rules. Error analysis also showed relevant differences between groups comparing syllable position of errors.

Starting handwriting at the beginning of Primary School: this is why cursive is better

Antonella Paoletti

ASUR Marche A.V.1 Pesaro, Italy

Purpose:

The purpose of the research is to understand which is the best method of teaching handwriting at the beginning of Primary School to prevent Dysgraphia and/or *bad writing*.

The research derives from considering two fundamental data: first, the more and more frequent exponential growth of handwriting problems, that is problems with Writing in its grafo-motory component; second, the enormous amount of work needed in Rehabilitation, both from the point of view of the therapist, and from that of the children, who, in general, are in the last term of Second Grade or beginning of Third, in which the fine hand motor behavior is already highly automated.

Method:

The research compares the written productions, towards the end of the Second Grade, of two different groups: "born cursive" children, that is those who had been exclusively or primarily exposed to cursive since the beginning of the First Grade, and "native print" children, that is children who had been exposed since the beginning of the First Grade to the four fonts, but who had primarily used print, as it happens in the large majority of the Italian schools.

Results and Conclusion:

The results of the research highlight that "born cursive" children have achieved a more correct handwriting, more smooth, flowing, intelligible and precise in form and size.

In the light of these considerations, speaking of Dysgraphia, or *bad writing*, the only really effective treatment would be Prevention, which should start since the beginning of learning Writing in the First Grade.

So, the best Prevention is to begin immediately with the *font* designated as definitive, the final one.

In Italy it is still *cursive*, that hasn't been abolished yet.

“Skies of Manawak”: a videogame for cognitive training

Angela Pasqualotto, Zeno Menestrina, Antonella De Angeli, Paola Venuti

University of Trento, Trento, Italy

Purpose:

The Executive Functions (EF) can be defined as the set of mental processes that enable us to regulate and control other functions and behaviours. Several studies showed a deficit in the EF domain associated with dyslexia, particularly for visual-spatial attention, working memory, planning and inhibition. Therefore it is fundamental to consider these aspects to plan more effective intervention programs. On this issue, the training of EFs is supported by tools coming from several years of research. However these products could result to be not so stimulating when compared to what is offered by the video game industry.

Method:

We are developing a new video game for cognitive training, called *Skies of Manawak*. Our project aims at the development of a video game for a purpose where the training becomes part of the design with the same importance of elements such as aesthetics and story. The study started in Spring 2015 involving designers, cognitive scientists and players (kids 8-12yo). The designers and the cognitive scientists decomposed a pool of training tools, used in the clinic for the training of the EFs, in game mechanics; the players have been actively involved in various phases of the design. In May 2015, we organized a series of game ideation workshops, involving 60 children, and consequently we implemented a first demo.

Results and Conclusion:

Since our aim is not simply to ameliorate the cognitive training with a game frame, in October 2016 we involved our target players in the evaluation of our first demo in order to check whether or not our video game was engaging and fun. The collected data, coming from the feedbacks of more than 250 children, have shown a strong appreciation. Beyond that, this information allowed us to identify a number of critical issues to be resolved, as well as additional suggestions for the continuation of the game, which took to a new iteration in the design process. Currently a new version of the game is under development and a further pilot is planned for May 2016 before proceeding with a study of its clinical effectiveness.

Neurocognitive training for Developmental Dyslexia

Angela Pasqualotto, Zeno Menestrina, Antonella De Angeli, Paola Venuti

University of Trento, Trento, Italy

Purpose:

Despite the most compelling theory of the aetiology of Developmental Dyslexia (DD) remains the phonological hypothesis, it was showed that these linguistic problems also interact with other cognitive deficits, belonging for instance to the Executive Functions (EFs) domain. Therefore the dysfunctions in DD might involve a multifocal network in which combined, different impairments lead to the resulting difficulties in reading acquisition and automatization. Since mounting evidence draws attention to the effectiveness of neurocognitive trainings of EFs, in this research we focused on an intensive computerize training and its effects on dyslexic children's brain functioning.

Method:

We used the software Brain-HQ for a five weeks-program: the children had to train for thirty minutes a week with three different exercises every week. From the Brain-HQ's platform we chose some exercises that specifically work out attention, memory, brain speed, navigation and intelligence. Each exercise has hundreds of levels that automatically adapt to the subject's skill level in order to train at the "threshold"—the right level for the brain to make real improvements. Before and after the intervention program we carried out the evaluations of the literacy skills and of several EFs. To assess the maintenance of the improvements we evaluate each subject after six months.

Results and Conclusion:

Even if the training was short, we observed significant enhancements in the attention and working memory, the inhibition ability, visual-motor integration skills, the cognitive flexibility and the fluid intelligence. Considering the literacy skills, the only significant improvements resulted in the accuracy of reading; however, the majority of subjects exceeded the criterion of clinical change - in other words, a wider improvement than expected without specific treatment. The follow-up, made after six months, showed a general maintenance of the post-training performance. The aforementioned findings suggest that cognitive training might have positive effects in rehabilitating dyslexia.

TELE-REHABILITATION OF DEVELOPMENTAL DYSLEXIA: TASK-ORIENTED OR PROCESS-ORIENTED TREATMENTS?

Pecini C.[1], Spoglianti S. [1, 2], Bonetti S. [1], Di Lieto MC. [1], Gasperini F. [1], Cristofani P. [1], Mazzotti S. [1], Martinelli A.[3], Salvadorini R. [1], Casalini C. [1], Baldetti M. [4], Guaran F. [5], Vio C.5, Brizzolara D. [1], Chilosi A. [1]

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[2] *Accademia di Neuropsicologia dello Sviluppo, Parma, Italy;*
[3] *Facoltà di Psicologia- Libera Università San Raffaele, Milano, Italy;*
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Purpose:

The aim of this research is oriented to compare two innovative tele-rehabilitation procedures for children with Developmental Dyslexia (DD): Reading Trainer®, a task-oriented treatment requiring a reading exercise and Run the RAN® a process-oriented treatment requiring a rapid visual naming exercise, strongly correlated to reading speed. Recent studies on DD sustain the efficacy of tele-rehabilitation procedures to increase reading decoding by strengthening lexical and sub-lexical representations (Tucci et al., 2015; Pecini et al.2015). Besides, further researches need to verify the efficacy of process-oriented trainings, targeted to the cognitive functions underlying reading.

Method:

The tool consists of two experimental groups: “RT” group was trained with Reading Trainer® and the “RANt” group with Run the RAN®. Both programs require 10/15 minutes of exercise a day for about 3 months. 30 children with reading difficulties were divided into the two groups, matched for gender, age, attended class, IQ and before treatment reading speed (in syllables per second). Children were examined pre and post treatment in reading abilities (MT and DDE-2 tests) and in rapid visual naming (Rapid Automatized Naming test, IRCCS Santa Lucia).

Results and Conclusion:

The results show that both procedures improved significantly reading speed, however while RT had significantly larger effects, in comparison to RANt, on non-words reading speed, the two trainings were not significantly different on reading speed of passages and words. Concerning reading accuracy, RANt produced larger improvements in words reading. Even in the rapid visual naming test (RAN), both treatments produced a statistically significant change, but there was a sharp advantage of RANt compared to RT.

This study contributes to provide useful information for choosing and integrating different types of treatments for DD.

Imparare ad imparare: l'esperienza del doposcuola specializzato dell'Associazione Oltremodo

M. Peroni, F. Ciceri, P. Cafaro, V. Di Trapani, S. Levi, A. Del Zozzo, S. Lipparini, A. Russo, M. Marzolla, L. Fazi, L. Malatesta, M. Baravelli, B. Lelli, C. Pelliconi, G. Cerbini

Associazione Oltremodo, Bologna

Scopo

I doposcuola specializzati per i ragazzi con Disturbi Specifici dell'Apprendimento (DSA) rappresentano un modo per imparare ad imparare. In questo contributo si delinea il percorso di presa in carico dell'Associazione Oltremodo di Bologna, come un modello di intervento metacognitivo sul metodo di studio, in continua evoluzione, anche sulla base della letteratura scientifica. Grazie a questa ed altre esperienze, l'Associazione, l'Università di San Marino, il GIpA e la Coop Anastasis hanno ideato il «Corso di Alta Formazione in Tecnico dell'Apprendimento in attività doposcolastiche per DSA».

Metodo

Il percorso inizia con il colloquio con la famiglia per scambiare informazioni e incontri con lo studente per far emergere l'efficacia delle strategie di studio rispetto al compito e allo stile di apprendimento. Segue l'inserimento in gruppo con un rapporto operatore studenti di 1:3 o 1:4 (alle superiori), per promuovere l'autonomia. Vengono «sfruttati» i compiti per ragionare anche sugli strumenti compensativi ad alta e bassa tecnologia. Il supporto alle famiglie continua con la relazione con la scuola, i colloqui e gli incontri di gruppo informativi, formativi e di confronto.

Risultati/ Conclusioni

Attualmente i ragazzi presi in carico sono più di 250. Questi sette anni di esperienza di Oltremodo nel lavoro con gli studenti con DSA, con le loro famiglie, in rete con la scuola hanno permesso di sistematizzare gli elementi efficaci dell'intervento, attraverso un monitoraggio longitudinale degli apprendimenti dei partecipanti.

La struttura e la metodologia di lavoro dell'Associazione è stata recentemente riconosciuta dal "Call Imprenditoria femminile" dell'ENPAP come uno dei migliori esempi in Italia di visione innovativa della professione degli psicologi.

We shall overcome!

Patrizia Piccinini

Istituto Comprensivo Lucca

Abstract:

We will discuss about a reading method based on the importance of the rhythm and of the setting of the mouth when phonemes are pronounced:

-Rhythm makes reading fluid, especially in isochronal languages.

-The symbols, recalling the setting of the mouth, are put above graphemes. The symbols help the child to properly position his/her mouth and to remind him/her thecorrect sound.

Conclusions:

The readings have been recorded and filmed.

The data confirm that:

-the use of isochronal rhythm and symbols are a great help for children

-the performance improves immediately

-children in need are able to merge consonant and vowel

This method has been successfully applied to Italian and Finnish children with special needs.

Target audience: Kindergarten and primary school teachers, teachers for pupils with special needs

But .. are the mathematical doors open to everyone?

Patrizia Piccinini

Istituto Comprensivo Lucca

Abstract:

We will discuss the importance of the mental imagery of the hands and the results of a research on computational skills reached by 60 1st class children at the end of teaching term.

At the treated group and the control group the tests of tactile agnosia were administered.

Aim of the research:

-remove the initial obstacles of the calculation

-prevent learning difficulties.

Conclusions:

The two groups were submitted a calculating test in which children could only use their fingers to perform calculation.

The results show that:

-The performance of the treated group have been better than those of the control group

-Solve the problem of tactile agnosia allows children to use their own fingers to calculate

-Tactile agnosia may have a relation with the calculation-numeracy process.

Target audience: Kindergarten and primary school teachers, teachers for pupils with special needs

Influence of classroom acoustics on the phonological and reading skills in primary school children.

Giuseppina Emma Puglisi[1], Andrea Prato[2], Arianna Astolfi[1], Giulia Concina[3], Eugenio Manassero[3], Roberto Albera[3], Benedetto Sacchetti[3], Tiziana Sacco[3]

[1] *Department of Energy, Polytechnic of Turin, Turin, Italy*

[2] *National Institute of Metrological Research, Turin, Italy*

[3] *Department of Neuroscience and Department of Surgical Sciences, University of Turin, Turin, Italy*

Purpose:

In this research project, we address the question of how and whether the classroom acoustic environment influences the phonological awareness and/or the reading skills in early childhood.

The phonological awareness, a meta-cognitive skill essential for the processing of sounds (phoneme) in language, represents a good predictor of success in learning to read. This ability is acquired progressively until at least the early years of primary school. A key process to achieve an appropriate phonology level stems by the possibility of correctly hearing the phonemes.

Method:

This study involved around 100 pupils, aged 7, from the five II-grade classrooms of three primary schools in Torino (Italy). Pupils involved attended lessons in classrooms with different acoustic conditions, in terms of reverberation time and speech intelligibility, which is defined as the proportion of speech that is understood by a listener.

Results and Conclusion:

The work conducted so far allowed administrating the reading tests and acoustically characterizing the classrooms. Preliminary results show that pupils attending lessons under poorer classroom acoustic conditions exhibit worst performances than their peers in better classroom acoustic conditions for the reading skills tested based on several trial tests. This study is a primary attempt to assess relationships between cognitive abilities and classroom acoustics and surely still needs to be deepened with further investigations, however the goals achieved so far are strongly encouraging.

Morphematische Bewusstheit – Eine große Chance für die Förderung der Schriftsprache

Purgstaller, Christian; Kargl, Reinhard

Inhalt:

Der Zusammenhang zwischen impliziter morphematischer Bewusstheit und Rechtschreibkompetenz konnte in mehreren Studien in Kooperation mit der Universität Graz nachgewiesen werden. Davon abgeleitet wurden zwei morphembasierte, multimediale Trainingsprogramme jeweils für Deutsch und Englisch als Fremdsprache entwickelt und neurophysiologisch evaluiert.

Zielgruppe:

Kinder und Jugendliche mit Problemen im Schriftspracherwerb und im Erwerb von Englisch als Fremdsprache

Zielsetzung/Folgerungen:

Evidenzbasierte Fördermethoden stehen im Mittelpunkt einer adäquaten Förderdidaktik. Die neurophysiologische Evaluierung der Programme stellt die Wirksamkeit auf einer völlig neuen Ebene (neuronale Plastizität) unter Beweis. Alle Studienergebnisse legen eine Implementierung morphematischer Konzepte in Lehrplänen und Förderungen nahe.

“A new test of picture naming”

Roberta Riccioni[1], Milena Del Monte[1], Daniela Rossi[1], Enrico Savelli[2], Giacomo Stella[3]

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[2]USL di Rimini, Rimini, Italia

[3]Università degli studi di Modena e Reggio Emilia, Italia

Purpose:

The aim of this research is investigate fast picture naming process in children who have a normal reading ability, in order to find out the average value expected from the age or from the class.Children involved are in elementary and in secondary school.

Method:

The tool consists of a test of picture naming, made of 70 items selected according to the frequency of use (Snodgrass, 1980).

Results and Conclusion:

The results shows a data standardization about children in 2nd, 3rd, 4th and 5th year of elementary school and in 1st, 2nd and 3rd year of secondary school. This research is a pilot study and it needs to be continued to extend the sample and to compare data with a sample of children with developmental dyslexia.

Learning disabilities evolution in a sample of young adults

Rossi D., Del Monte M., Riccioni R., D'Antuono G., Marcelli A., Savelli E., Stella G.

The present work aims at widening the knowledge of learning disabilities evolution, verifying after several years the cognitive and learning proficiency of about 50 students, with an average age of 20 years, who had been diagnosed with a learning disability since primary school. Although this is a preliminary study, the first conclusions highlight the persistence of a weak phonological awareness and a slow execution and decoding. Moreover, an increasing gap between students who have a normal reading ability and dyslexic students is confirmed. The study has the further goal to suggest an evaluation protocol for the adults.

“Houston, we’ve had a problem!” Un caso di trattamento della difficoltà nella soluzione dei problemi

Francesco Rovida

Purpose:

L’intervento ha lo scopo di documentare il percorso di abilitazione di uno studente della quinta primaria, senza diagnosi di discalculia, con difficoltà significative nella soluzione di problemi aritmetici.

Mette in evidenza la persistenza della difficoltà nella categorizzazione, intesa come comprensione della struttura matematica profonda, ipotizzando che possa essere l’abilità deficitaria in casi di “disturbo di problem solving”, al momento non riconosciuta nella Legge 170/2010 ed esclusa dalla CC e dall’ICD-10, ma prefigurata dalle indicazioni DSM 5.

Illustra alcune modalità di trattamento diretto e indiretto, evidenziando il potenziale ruolo delle funzioni esecutive.

Method:

Si tratta di una esperienza professionale di trattamento di abilitazione svolta in modalità 1:1, progettata anche come studio di caso.

1. Raccolta di informazioni da insegnanti e genitori; osservazione dello studente

2. Somministrazione test SPM

3. Trattamento diretto su alcune abilità coinvolte nella soluzione dei problemi, utilizzando un programma specifico, e sull’abilità cognitiva generale di problem solving.

4. Trattamento indiretto su memoria a breve termine, memoria di lavoro e capacità di inibizione

5. Nel periodo di trattamento è stato svolto anche un tutoraggio nello svolgimento dei compiti, con la costruzione e l’uso di uno strumento compensativo

6. Somministrazione test SPM

Results and Conclusion:

Al termine del percorso di trattamento si è evidenziato un significativo miglioramento in diverse aree dell’abilità di soluzione dei problemi e nell’autovalutazione.

Inoltre, è stato possibile verificare l’importanza di prendere in considerazione, nel trattamento, alcuni aspetti delle funzioni esecutive.

Permane, tuttavia, una significativa difficoltà nell’abilità di categorizzazione, che sembrerebbe indicare la possibilità di inquadrare l’esistenza di una specifica difficoltà nell’apprendimento relativa alla soluzione dei problemi che è possibile diagnosticare e trattare

DSA e sviluppo della psicopatologia: analisi di 10 casi alla luce della Psicopatologia dello Sviluppo e della Teoria dell'Attaccamento

Ciro Ruggerini[1], Elisa Lusuardi[1], Omar Daolio[2], Simona Tagliazucchi[1] , Sumire Manzotti[3]

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[3] *Minamiyachimata Mental Hospital, Tokyo, Giappone*

Scopo:

I bambini e gli adolescenti con DSA presentano con più frequenza della popolazione generale Disturbi Mentali. La relazione è, secondo la letteratura, mediata da fattori intermedi di vulnerabilità o di protezione. Lo scopo di questo lavoro è di mostrare in che modo agiscono questi fattori e in che modo la loro conoscenza orienta le azioni di terapia e/o di riattivazione dello sviluppo.

Metodo:

Si esamina un campione di 10 soggetti in età infantile o adolescenziale che ricevono una diagnosi di DSA e di Disturbo Mentale associato. La cornice concettuale di riferimento è quello della Developmental Psichopathology (DP). I fattori di vulnerabilità e di protezione vengono individuati sulla base dei dati raccolti nella indagine clinica; tra questi fattori si considera la qualità dell'attaccamento valutata sulla base dei dati clinici raccolti da psicoterapeuti formati alla Psicoterapia Cognitiva e/o attraverso la utilizzazione del test SAA (School Age Assessment of Attachement).

Risultati e conclusioni:

La qualità della relazione di attaccamento è uno dei fattori di vulnerabilità sopraordinati. Esso può agire: riducendo la possibilità del soggetto di manifestare i propri stati emotivi connessi alla difficoltà (itinerari di sviluppo evitanti); sollecitando comportamenti funzionali al controllo della relazione con i genitori o gli insegnanti in presenza di una difficoltà (negli itinerari ansioso-resistenti). In presenza di ulteriori fattori di vulnerabilità queste modalità di gestione delle relazioni possono condurre a Disturbi Mentali Internalizzanti o esternalizzanti.

Narrative Based Medicine and Dyslexia: a happy marriage between qualitative and quantitative data for Positive Young Development

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[2] Minamiyachimata Mental Hospital, Tokyo, Japan

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Purpose:
To present the research results of a retrospective follow-up for 10 years with the sample of 31 young adults diagnosed with Dyslexia at the age of 10 and to show how qualitative data and quantitative data give mutually complementary findings in.

Method:
Qualitative study: narrative story of each research participant is collected with semi-structured interview to trace different levels of subjective wellbeing perceived in each educational institution. For each wellbeing diagram the factors associated with positive or negative turns are identified as personal internal life experiences. Each factor, then, is coded according to the ICF.
Quantitative study: reading and writing abilities are examined with age standardized leximetric scales. The outcome in the Positive Development perspective of each participant is assessed with a questionnaire.

Results and Conclusion:
1. Diagnosis of Dyslexia is reconfirmed for 29 out of 31 participants
2. The level of wellbeing perceived during school ages is positively correlated with the state of positive development in young adulthood
3. The factors positively correlated with subjective wellbeing are: high school-teaching quality, family availabilities for study and psychological supports and positive peer social relations.

Quantitative study shows final outcome of each developmental process in both terms of abilities for school performance and of positive development while qualitative study tells us which factors bring about different outcomes.

Comprehensive diagnosis model of specific learning difficulties

Urszula Sajewicz-Radtke[1], Bartosz M. Radtke[1], Małgorzata Lipowska[2], Marta Bogdanowicz[3] Paulina Pawlicka[2]

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Purpose:

A general and comprehensive diagnosis model of specific learning difficulties will be the subject of this speech. Developed by the team led by Prof. Marta Bogdanowicz, it encompasses four conditions of a good diagnosis of dyslexia, since it is comprehensive, complementary, interdisciplinary, and divided into stages. The model is based on the results analysis of the research on the pathomechanism of developmental dyslexia. It takes into account clinical experience of several dozen years of diagnostic and therapeutic work with children with specific learning difficulties. Its underlying assumption is that of a necessary close cooperation between employees of schools, health clinics and specialist centers of psychological and educational diagnosis in the process of evaluation of the reasons for failures at school. The model includes both diagnostic procedures and diagnostic instruments, which have been developed to go in line with these procedures. Diagnoses relying on the developed model help also to plan effective and individualized therapy processes, which support children with difficulties.

This model is an example of a good practice, already effectively carried out in Poland. Its universal nature enables its implementation in any country.

This lecture is addressed to people involved in the diagnosis of people with learning disabilities (teachers, psychologists, educators, speech therapists, etc.).

Strengthening social inclusion of young people with comorbid learning difficulties and mental health problems

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[1] *the Diverse Learners' Association in Helsinki region (HERO), Helsinki, Finland*

[2] *University of Turku, Turku, Finland*

Purpose:

Comorbid learning difficulties and mental health problems have a significant impact on young people's risk of unemployment, social exclusion and early retirement. In recent years, especially the number of youth unemployment has been rising to alarming extent in Finland. To address this situation it was important to develop a tailored support model to strengthen the life management and work and study skills of the young with comorbid learning difficulties and mental health problems to ensure their social inclusion. Finland's Slot Machine Association (RAY) granted the Diverse Learners' Association in Helsinki region (HERO) funding for a three-year project to provide a model to this end.

Method:

The program *Towards an independent life* – a model for strengthening social inclusion of young people with comorbid learning difficulties and mental health problems was developed. The participants (N=40) were 15–29 years old. 43% had dyslexia, 23% ADHD/ADD and 60% mental health problems, mainly depression and anxiety disorders and neuropsychiatric disorders. The program includes dyslexia testing for all participants, neuropsychological evaluation, mental health exercises, instruction in learning techniques, finding out about different career opportunities and schools, workshops for devising your personal curriculum vitae and job application, financial advice, exercises in oral and performing skills, cooking sessions and nutrition counseling. The course lasts 16 weeks and the group meets three times a week for four hours a day.

Results and Conclusion:

Based on our evaluation study the participants became more socially active and self-guided. They gained a lot of knowledge about learning, working life and everyday life skills. A realistic short- and long-term plan was tailored for every participant. The model seems to meet the needs of the adolescents with comorbid learning difficulties and mental health problems and support their social inclusion.

A Qualitative Study into Dyslexic Students' Experiences of Enablers and Barriers to Success and Well-being in Higher Education

Georgina Sanderson

The University of Westminster London

Purpose:

The research draws upon the researchers own difficulties and experience with a late diagnosis of dyslexia during her undergraduate degree, which influenced the choice this MSc dissertation research topic. The research reflects on the core theoretical and conceptual issues surrounding the notion of the way in which dyslexia is viewed in Higher Education and aims to make recommendations for further research in the area of dyslexia and Higher education.

Method:

The research was based around a small-scale qualitative study which addressed the question: What are dyslexic students' experiences of the enablers and barriers to academic success and well-being in Higher Education (HE). In-depth interviews were conducted with two dyslexic students, an academic, and a disability support officer in a London University. Interpretive Phenomenological Analysis (IPA) was carried out from the researcher's own reflexive and narrative perspective in order to examine the principal meanings behind participants' shared experiences

Key findings:

(i) the core enabler to a dyslexic student's academic success was the provision of 'one to one' support from a specialist dyslexic tutor; (ii) the core barrier to academic success related to lecturers' approaches to assessment, and teaching and learning styles; (iii) the core enabler to a dyslexic student's well-being was the enablement of disclosure of the need for positive support; (iv) the core barrier to well-being was the social stigma and lack of knowledge and awareness concerning the label of dyslexia both personally, and from others involved.

Recommandations for future practice: greater inclusivity in the HE learning environment in order to reduce discrimination for all dyslexic students, and improved communication to implement the core policies and practices for assessing dyslexic students' work throughout all departments. Staff and student awareness advertising (using forms of social media and focus groups) should be implemented to enhance the educational community's knowledge in the area of dyslexia in order to reduce social pressures and stigma. Greater student safeguarding measures should be put into place to ensure a more robust form of individual intervention from the Higher Education Institution. Regular updates on dyslexic students' needs should be informed by current research findings and theoretical issues, some of which question the efficacy of dyslexia as a diagnosis (Elliot & Grigorenko, 2014).

Enabling Dyslexic Students' Success and Well-being in Higher Education

Georgina Sanderson

The University of Westminster London

Purpose:

This paper uses positive psychology to explore the enablers of success and well-being for dyslexic university students. It adopts a strengths-based positive dyslexia approach, and aims to bring new perspectives to reflexive reporting of dyslexia research. The paper is based on a small scale qualitative study undertaken as part of a Postgraduate Psychology course by author A, who is dyslexic. Author B supervised the study and is not dyslexic. In-depth interviews were conducted with two dyslexic students, an academic, and a disability support officer in a London University. Interpretive Phenomenological Analysis (IPA) guided Author A's own reflexive and narrative perspective in order to examine the principal meanings behind research participants' shared experiences. Enablers of success and well-being included one-to-one support from a specialist dyslexia tutor; and creation of an environment which encouraged disclosure of the need for positive support. Our findings have been disseminated to academic colleagues using a 'Human Library' dialogue between the authors as both 'books' and 'borrowers'. Therefore we conclude this paper with a similar reflexive dialogue between ourselves - as books entitled: Dyslexia: Spelled Out; and: I Had no Idea …We contend that this is a powerful way to enhance knowledge and understanding of the experience of dyslexia in academic and practitioner communities in order to reduce social pressures and stigma.

Improving reading effectiveness and reading patterns in dyslexic students through metacognition and eye training

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Purpose:

Literature on dyslexia shows that metacognitive abilities and emotional components can influence the ability to decode and understand a text (Midgley et al., 2000; Stankov, 2010; Efklides, 2011). On the other hand, research with eye-tracking techniques has revealed that persons with dyslexia display reading patterns with a higher number of regressions and fixations (Jones, Obrègon, Kelly & Branigan, 2008) when compared to neurotypical readers.

Against this background, the aim of this research is to investigate how the development of metacognitive abilities combined with specific eye training can improve the reading performance in students with dyslexia.

Method:

For this research, the experimental group (a total of 52 dyslexic subjects) was offered a reading course consisting of six sessions over a period of two months, which focused on metacognition, self-empowerment, as well as specific reading techniques and exercises. The course was attended also by 46 neurotypical readers in order to produce comparable results.

An AB design (i.e. baseline/ treatment) was applied to measuring reading effectiveness (a parameter which considers both speed and comprehension) through standardized reading tests. Moreover, eye-tracker acquisitions before and after training were analyzed and compared.

Results and Conclusion:

The results show that all participants improve their reading effectiveness, with a decrease in reading time and an improvement in comprehension. When comparing the two groups, dyslexic readers obtain higher improvement rates and at the end of the course score slightly better than normal readers at the beginning (Scagnelli, Oppo & Santulli, 2014). When compared with acquisitions obtained before the course, the reading pattern of dyslexic readers at the end of the course changes remarkablly, showing a reduction in the number and lenght of fixations. The number of saccades diminishes significantly, indicating that reading is more functional. On the whole, the post-training pattern suggests a more strategic reading behaviour.

Overcoming the challenges of establishing BDA accredited international courses

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Purpose:

Over the past 5 years, the BDA Accreditation Board has become increasingly aware of the challenge of establishing reliable training courses for specialist teachers and assessors that meet AMBDA criteria and enable much needed expertise to be developed internationally. We have been aware of tensions between the criteria applicable to UK training courses and the needs of international trainers and learners.

Method:

This presentation will summarise the experience of the Board across several international contexts, including European (Erasmus, TEMPUS and TACIS), Asian and South African contexts.

Results and Conclusion:

This exploration of the range of issues that can arise will provide the opportunity to discuss ways in which the development of international courses can be supported.

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Developmental index of reading automatization

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Purpose:

It is widely acknowledged that the hallmark of Developmental Dyslexia is a deficit in the automatization of reading skill. But despite the recognition of the importance of this feature, to our knowledge, no direct measure of the degree of automatization of reading has been as yet developed, so that commonly it is inferred by indirect measures of reading speed. The main aim of this study is to devise a specific test, suited for clinical settings, that could easily and directly measure the degree of automatization of reading ability.

Method:

The basic assumption underlying our attempt to set up an index of “reading automatization”, is that comparing the speed with which the same pronunciation is reached trough reading and naming respectively, we can measure the degree to which reading skill becomes more and more automatized year after year. In order to pursue this goal, pronunciation latency in Picture Naming and corresponding Word Reading tasks were compared and the resulting discrepancy between these two related cognitive processes, were used as an index of “reading automatization”.

Results and Conclusion:

Analysing developmental trajectory of this phenomenon during the first five years of reading acquisition, we were able to find out when the advantage of reading over naming takes place and how much it increases over the years. As expected, in dyslexic readers, reading speed never outperform naming. These results land support to our main hypothesis that the degree of automatization of reading skill increases continuously, likely as a result of continued daily exercise, and that it can be measured directly in each subject.

LA DISLESSIA, DALLA SCUOLA ALL'UNIVERSITA': percorso ad ostacoli tra normativa e didattica nell'Ateneo catanese

Stefania Scaffidi

Case Manager e Referente DSA del CInAP-Centro per l'Integrazione Attiva e Partecipata dell'Università degli Studi di Catania

Purpose:

In linea con la Legge 170/10 e il successivo D.M. n. 5669 del 2011, considerato l'accesso costante di studenti con DSA in tutti i Corsi di Laurea dell'Ateneo, il CInAP si propone quale punto di riferimento territoriale per coordinare percorsi comuni al fine di garantire il diritto all'istruzione ed assicurare eguali opportunità di sviluppo delle capacità in ambito sociale e professionale. Il CInAP, con questo contributo, intende presentare l'attività avviata in Sicilia per favorire una capillare informazione fra le famiglie, il personale scolastico e sanitario e per sostenere il delicato compito educativo degli insegnanti con strumenti efficaci.

Method:

Il CInAP, negli anni, ha promosso attività di sensibilizzazione per tutelare i diritti degli studenti con DSA mediante azioni integrate di prevenzione e di contrasto dell'insuccesso formativo. Nell'ambito del Tavolo Tecnico Interprovinciale sui DSA sono state definite le linee-guida di supporto alla strutturazione dei contenuti, al monitoraggio e alla valutazione di una piattaforma FAD (Formazione a Distanza) sul tema dei Disturbi Specifici dell'Apprendimento, destinata ai docenti degli Istituti Scolastici di ogni ordine e grado della provincia di CT, SR, RG e CL, con l'obiettivo di condividere e divulgare le buone prassi che ogni Provincia, in questi anni, ha portato avanti nelle scuole di riferimento.

Results and Conclusion:

Hanno aderito alla FAD 4.500 docenti e, per far fronte alle costanti esigenze, la rete del CInAP si è ampliata per far incontrare il mondo accademico con quello della sanità e della scuola per giungere ad una gestione ottimale di questi disturbi. Uno dei compiti fondamentali delle università nel contesto della Terza Missione è aiutare il territorio a compiere i "salti" che altrimenti non avrebbero le risorse per compiere, accedendo alle reti mondiali di produzione e circolazione della conoscenza (global value chains, GVC). Oggi, gli studenti universitari con DSA consapevoli dei propri diritti grazie al proficuo lavoro di scuole, enti territoriali e famiglie, sono in costante aumento e, da quest'anno, si garantisce l'iter diagnostico a Catania anche ai giovani adulti non costringendoli più a spostarsi in altre province.

Teachers Use of Smart Technology Solutions for Children with Dyslexia

Evelyn Schlenk[1], Johan E. Bengtsson[2], Serena La Barbera[3],

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Purpose:

Our field research study aims to find out how dyslexic pupils can be supported by ICT in the classroom and for homework. To what extent can teachers use technology for inclusive education? Should dyslexic children get more technology support than other pupils? The study context is the iSmart project, where tablets with camera, speech synthesis and speech recognition are introduced in the classroom. Our multiple-case study involves two study groups: classes where all pupils receive a tablet for receiving pedagogical materials and classes where only the dyslexic pupils receive them.

Method:

Literature review on technology enhanced learning systems, research on current innovations in the field of dyslexia, and a comprehensive European needs analysis underpinned the design of the educational app and online portal. The system has been tested since the autumn 2015 in schools in three different countries. After a full scholastic year of use, a summative evaluation will be carried out, to assess the value of dyslexia-friendly ICT in the classroom, and to compare the approach of giving dyslexic pupils extra technology support versus giving technology support to the entire class.

Results and Conclusion:

After the first months of piloting, it can be said that teachers started with rather low levels of expectation, however, their satisfaction increased during the first weeks of testing. Currently they are eagerly feeding the system with documents, diagrams, presentations, visuals, own web pages, videos, etc. Pupils in general are very happy to use a modern touchscreen device; dyslexic children especially appreciate the speech recognition and speech synthesis. Full evaluation results separated for teachers, pupils/classes and parents will be available at the conference!

The European Battery for Reading Assessment : normative data in Italian children on reading abilities

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Purpose:

The European Battery for Reading Assessment project aims to adapt the IReST battery to design a standardised assessment suitable for measuring a child's reading performances during his/her developmental age. It would be possible to set evaluation criteria equal for all the involved countries, having the length of the reading tests already been adapted into multiple languages.This tool could be used with bilingual and multilingual children, for both clinical and educational purposes. School and health operators have to deal more and more with bilingual children with learning disorders.

Method:

The tool, that maintain the linguistic complexity of each language, is the International Reading Speed Test. The battery consists of 10 reading texts with similar characteristics in all adapted idioms in terms of linguistic complexity. The languages are: German, Arabic, Chinese, English, Finnish, Swedish, French Hebrew, Italian, Japanese, Dutch, Polish, Portuguese, Slovenian, Spanish, Russian and Turkish.

We tested the battery on 370 Italian children attending the second cycle of primary school and the lower secondary school.

In the same time, all the subjects of our sample were evaluated using a list of single words and a list of pseudo-words to read aloud and a reading test.

Results and Conclusion:

The results seem to confirm that the IReST texts can also be employed in the evolutionary developmental field and not only in adulthood. We found different data that support this claim. The data collected on our sample attest that the average trend is homogeneous in all tests, which consist of word and pseudo-word reading, MT texts and IReST texts.

The significance of the Pearson's correlation coefficient shows the equivalence of the tests in assessing reading abilities.

A collective screening tool for early identification children with reading disabilities

Maristella Scorza[1], Claudia Daria Boni[2], Francesca Scortichini[3], Giacomo Stella[1]

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Purpose:

Our work aims to adapt and standardize for the italian language the screening test Letter Chain and Word Chain (Jacobson, 1995).

Method:

The tool created by Jacobson (1995) for the early identification of reading disorders within the Swedish population has been adapted for Italian. It consists of two tests administered collectively: the letter chain and the word chain.

The sample consisted of 675 children from primary school and 500 children from secondary school of first grade.

The tests employed to assess the validity of the tool are word and pseudoword reading tests from the DDE-2 battery and a text from the MT battery.

Results and Conclusion:

The results show how children identify words easier in the early learning phases (especially in primary year 1), by using a visual strategy. In advanced education (from year 3 to 8 year), children adopt a lexical strategy instead because most of them have reached a good level of automation of the reading acquisition process.

Furthemore, the word recognition index (a difference between the results of word chain and letter chain)increase rapidly form grade 1 to grade 8 and is there after constant. A low score on WRI indicates specific learning difficulties.

The new screening is a usefull tool for early identification of children at risk for dyslexia.

Early Discovery of Reading Deficits by Eye Tracking and Machine Learning

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The Marianne Bernadotte Centre, Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden

Purpose:

The earlier reading deficits are discovered, the more effective supportive interventions become. However, there are no fast and accurate methods available for early screening today. We introduce a method that can predict reading deficits in children in less than a minute with an accuracy of 95 % and a good balance between sensitivity and specificity. We use machine learning of eye movements during reading to detect children with reading problems, relative to expectations of what is typical for the age and grade level.

Method:

Although eye movements that deviate from normal are symptomatic rather than causal, our results demonstrate that eye movements can be highly useful for early discovery of reading deficits. Currently, we are evaluating how the method can be used for screening in a project where we collaborate with two municipalities in Sweden. The aim is to validate our results and develop the methodology together with those that will use the tools. Moreover, we have strived to do so in a setting and at a scale that is realistic.

Results and Conclusion:

Last spring, we screened 1 200 children in grades 1-3 at the schools. Currently we are repeating the process with 3 000 children, among which 800 also participated last year. This project is likely the largest eye tracking study ever performed on early readers. We will discuss the experiences we have had with using eye tracking in schools and present the solutions we have developed for recording, managing and analyzing data. We will also present results regarding the accuracy of our classification models.

Tablexia – cognitive training for adolescents with dyslexia

Andrea Šíchová[1, 2], Jana Černá[1,2],

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[2] *Charles University, Prague, Czech Republic*

Tablexia is an app for adolescents with dyslexia at secondary schools available for free in Czech, Slovak and German language for iOS and Android. Tablexia aims to support the development of cognitive functions which are traditionally deficient among individuals with dyslexia (e. g. phonological awareness, working memory, spatial orientation) via interactive games.

The presentation will describe experiences with development of Tablexia and its use among adolescents with dyslexia. Among others it will mention the professional supervision, and development of the games. The focus will be on testing its use among adolescents, and its adaptations into Slovak and German. Finally the research design confirming the effects on the cognitive functions will be discussed.

For more info visit www.tablexia.cz/en.

Evidence-based promotion of spelling acquisition based on individual fault analysis

Katja Siekmann

Universität Rostock

Studies about spelling difficulties have shown that especially those support frameworks are successful that are based out support to proceed individually. The Münster pilot study "Development and evaluation of targeted promotion spelling weak learners in classes 3-5 based on the Oldenburger Fehler Analyse (short: OLFA)" shows that the systematic promotion on the basis of a linguistic structure concept, which related to the individual vocabulary of students, is effective. The presentation will give an overview of the project, introduces the linguistic structure concept and the fault analysis.

The presentation will be held in German.

Dyslexic adults learning languages: alternative approaches for a second chance.

Anne Margaret Smith

ELT well, Lancaster, UK

Purpose:

Learning an additional language can be challenging for dyslexic students; for some adults this limits their employment options and quality of life. If - despite negative experiences at school - they do return to education, it is vital that they are offered alternative approaches to learning. This session outlines what these could be.

Method:

The use of natural environments and oral-only teaching methods boost self-esteem and motivation. This session presents a range of methods used to offer a second chance to dyslexic adult learners who have not experienced success in language learning before. Drawing on recent case studies, the key characteristics of successful tuition are identified.

Results and Conclusion:

The results shows that developing self-esteem, motivation and learning strategies is just as important as working on vocabulary and grammar for these learners. Teachers need to extend their repertoire of classroom techniques so that they can work with many different individuals.

Verbal fluency in adults with developmental dyslexia

James H. Smith-Spark [1], Lucy A. Henry [2], David J. Messer [3], and Adam P. Zięcik [1]

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Purpose:

Evidence shows that the ability to generate words starting with a certain letter (phonemic fluency) is impaired in those with dyslexia, whilst the ability to produce words belonging to a certain semantic category (semantic fluency) is typically unimpaired. However, this evidence is at the level of overall words produced. Alternative measures of verbal fluency allow the study of i) different performance components and ii) performance over time. The current study examined verbal fluency in adults with dyslexia using these finer-grained indices.

Method:

Twenty-eight adults with dyslexia and 28 adults without dyslexia were presented with phonemic fluency tasks, wherein participants named as many words beginning with F, A, and S as they could in one minute, and semantic fluency trials, where they named as many animals and boys' names as possible. Hierarchical regression models were used to control for IQ in Block 1 and to see whether the presence of dyslexia predicted performance in Block 2.

Results and Conclusion:

On the phonemic fluency tasks, the presence of dyslexia was associated with fewer words being produced, a smaller number of switches between phonemically-related word clusters, and lower output rates on three of the four 15 second quartiles. The presence of dyslexia was not related to the number of words produced within clusters. Working memory span predicted the number of switches made by adults with dyslexia. Dyslexia did not predict performance on any measures of semantic fluency. The results are considered in the light of executive functioning deficits in dyslexia.

A model for addressing the evaluation protocols of learning and attentional and executive skills in subjects belonging to the age 16/19 age group and results in terms of inclusion and participation in training contexts

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[6] *University of Genoa, Genoa, Italy*

Purpose:

The aim of this study was make a collection of regulatory data on how you play and organize the learning school of the students belonging to the age group 16-19 years ; check what relationship there was between the mnemonic and attentional aspects understood as the skills that belong to the Executive System with pupils skills of students themselves ; collect data direct measurement of spatial attention , warning, control of cognitive conflict and assessment of noise systems brought from the " Default Mode Network " with the study of parameters Mu , Sigma and Tau of the ex- Gaussian.

This study was performed to assess the intra - individual variability in reaction time (RT).

Method:

The methodology , quantitative , provides for the administration of tests for the assessment of the operation of reading modules , computation , comprehension skills and problem solving , and the administration of tests for the evaluation of different types of attention and memory. The entire battery of tests was administered individually to the research sample. Scholastic Institutes involved have identified specific rooms and the more lack of disturbance to the administration of the tests .

The battery of tests , provides for the administration of two tests of mental chronometry using paradigms in reaction time to directly measure the spatial attention , the alert and control to the conflict cognitive

Results and Conclusion:

The results indicate a development of attentional - executive system both in terms of improvement of the mean value in terms of distribution of the data that approaches the average value , as to say that , most boys settling improves its performance in values closer to the average as shown by the reduction of the standard deviation. It is assumed that the study of the processes underlying learning disorders can be functional to a better understanding of the patterns and then to set valid habilitation protocols and more effective educational - instructional interventions all with the aim of promoting the autonomy of the individual .

Early identification of learning difficulties in preschool age: a survey of population of San Marino

Silvia Stefanelli[1,2], Alice Guardigli[1], Alessandro Cenci[1], Alberto Righi[1], Riccardo Venturini[3]

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[2]*Università of San Marino, San Marino*

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Purpose

The literature shows that learning disabilities (LD), if not early recognized, can have consequences on psychological development of the child. The literature and the set of rules invite us to pay attention to early identification of risk of LD, showing some effectiveness already in preschool age. The aim of this project is promoting the well-being of the children through early identification of learning difficulties in all children, that are attending the last year of kindergarten in the Republic of San Marino. It wants, also, to become a longitudinal monitoring tool of health's infant population of San Marino.

Method

Before the project started, teacher attended a training on learning prerequisites. The sample was about 303 (M=154, F=149; mean age: 5.5 years) and children live in San Marino. They will attend, about 6 months later, the first class of primary school. Children were assessed with an individual protocol designed to study the level of letter knowledge through a standardized test (Savelli et al., 2013). Testing was divided into 2 sessions: January-February (test) and May (retest). Between the two sessions children did at school specific activities, which had the aim to improve phonological skills. Teachers in the class conducted the activities: 5 consecutive weeks, 3 times a week for at least 1 hour per day.

Conclusions

Letter knowledge is considered one of the best predictors of subsequent learning disabilities. By analyzing the level of the individual knowledge of the letters, the results show that children with a risk for learning difficulties are 56 (18% about total sample). There is an improvement of the knowledge of the letters in the total sample between two testing: the average rating is 34,45 at test and 41,51 at retest (range 0-60). The data are similar to the literacy11. Children of 5.5 years are able to recognize, to name and to write some letters, even if they don't receive specific teaching. Instead some children show a delay in the development of these skills.

This study examined the effectiveness of specific interventions to identify and support dyslexic trainees in workplace training and in their workplace

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Purpose:

The aim of this research was to evaluate the effectiveness of a wrap-around support package developed by Primary ITO to support trainees in apprentice–like training here in New Zealand. The wrap-around package has five components: -

- Screening for dyslexia
- Provision of complerte up to date information about their condition, including the positive features
- Encouragement of the dyslexic trainees to accept their own condition
- Educate all parties that come in contact with the dyslexic subjects.
- Provide technological and human supports for the subjects.

All subjects were in full time employment and completed their studies in addition to their day jobs.

Method:

The study consisted of semi structured interviews with 20 trainees (subjects), 10 employers of those trainees, 5 tutors at their off-job training providers, 5 mentors and 5 Primary ITO Training Advisors. The interviews took place before, during and after the interventions. All subjects were employees in the primary sector (agriculture, horticulture, equine sectors).

Results and Conclusion:

The results of this study were qualitiative, rather than quantitative. The most significant outcome has ben the fact that this project has spurned a much greater research project to explore the value of this wrap-around support package across the whole country for industry trainees and tertiary students in a range of sectors.

Specific findings were: -

- It is empowering for dyslexic folk to have a screening and to recieve quality information about their dyslexia.
- Informing all parties about dyslexia results in a change of culture about the condition.
- Technological interventions work – but dyslexic learners need training to use them
- Mentors are a powerful support for dyslexic learners
- Providing basic skills to tutors, employers and partners is very empowering for dyslexic learners
- Dyslexic adults learn a lot of coping skills and their is value in shring these with other dyslexic learners

Lexical frequency and sentence length influence on text reading aloud by Spanish adults with dyslexia

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Purpose:

Several studies reported that dyslexia persists into adulthood, where the main characteristic is reading slowness, especially when it comes to isolated low frequency words and long pseudowords. It has been reported that dyslexics differ from skilled readers with respect to reading expressiveness. Therefore, it is possible that adults with dyslexia present specific difficulties when reading a text including low frequency words and long sentences. The aim of the present study was to approach the text reading in Spanish adults with dyslexia, considering lexical frequency and sentence length.

Method:

To achieve this goal, a group of Spanish dyslexic adults were asked to read aloud a text and they were compared with skilled readers. Reading recordings were processed offline using Praat software, and several parameters were considered: reading rate (number, type and duration of pauses and utterances), articulation times of nouns (high and low frequency), articulation times of articles preceding the noun, pitch changes (rise and slope), and syllable duration.

Results and Conclusion:

Results indicated that Spanish adults with dyslexia were more affected by lexical frequency and length sentences than typical readers. They showed longer and more inappropriate pauses than typical readers, especially in long sentences with low frequency words. In addition, the articulation time of sentences, nouns and articles preceding low frequency nouns was marked by lexical frequency and the slope was determined by sentence length. These findings support that adults with dyslexia continue to have problems when reading texts, and they were determined by words and sentences characteristics.

A comparison of different instruments to assess reading in italian (i.e. mt-battery, dde-2- battery, and alce-battery): alternative or complementary tools?

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[2] *Child and Adolescence Neuropsychiatry Unit, ASST 7 laghi, Varese, Italy.*

Purpose:

Objective of the study is the comparison in terms of sensitivity and specificity between the instruments considered the gold standard for the diagnosis of reading disorder in Italy as suggested by the Consensus Conference, MT battery (a passage reading to assess fluency and accuracy, and a second passage reading to assess comprehension as separate tasks) and DDE-2 battery (single Word reading and single non-Word reading to assess fluency and accuracy), and the most recent instrument – ALCE battery - a single passage reading to assess fluency, accuracy, and comprehension at the same time with a single task.

Method:

We administered the MT-battery (fluency, accuracy, comprehension), lists 2 and 3 from DDE-2 battery (fluency, accuracy), and ALCE –battery (fluency, accuracy, comprehension) to a sample of 37 subjects attending primary school, come to our attention for suspected learning disability. Dyslexia was diagnosed when fluency and/or accuracy was below the 5th percentile.

Results and Conclusion:

17 subjects (45.96%) were diagnosed with dyslexia using MT and DDE- 2 battery: 7 subjects (18,92%) with only dyslexia, 10 subjects (27,02%) with dyslexia + comprehension deficit.
Using Alce battery 25 subjects (67,57%) were diagnosed with dyslexia: 20 subjects (54,05%) with only dyslexia, 5 subjects (13,51%) with dyslexia + comprehension deficit.
The batteries show levels of correlation by poor (K = 0.106) to good (K = 0.708), depending on the parameters considered.
Alce-battery shows an higher sensitivity to detect reading disorder, as it investigates simultaneously decoding and reading comprehension, in line with the simple view of reading model and with the DSM-5 diagnostic criteria.

Time processing impairments in preschoolers at risk of developing difficulties in mathematics

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Purpose:

Time processing problems in individuals with Development Dyscalculia has been studied to test the existence of a general magnitude system serving both modalities, as theorized by Walsh (2003). Time processing impairments were found in some cases, but they could be attributed to poor chronometric counting or poor calculations abilities, which can support reasoning on time in school-age children and adults. A way to disentangle this debate, is to explore the performance of young children, before they receive formal instructions for mathematics and develop these mathematical abilities.

Method:

For the present study, 30 5-years old children at risk for developing difficulties in mathematics (MD) and 30 typical developing peers (TD), matched for vocabulary, were selected from a larger group of preschoolers (N = 196) involved in a screening project assessing early numeracy. MD and TD children were administered with tasks investigating time reproduction and time discrimination skills; furthermore, their parents and teachers assessed participants' "sense of time", in terms of knowledge about the passage of time and use or comprehension of temporal words.

Results and Conclusion:

The MD group showed a poorer performance in time reproduction of 5-seconds intervals and in time discrimination; then, both parents and teachers reported a weaker "sense of time" for these children. By assessing time processing before children receive formal instruction for mathematics, we could rule out any possible confound played by explicit chronometric counting. These results are in favor of a common magnitude system that would be responsible for deficits in both numerical and temporal domains, already at early stages of life.

WISC-IV Intellectual Profile in Different Subtypes of Specific Learning Disorder: Similarities and Differences

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[1]*Department of General Psychology - University of Padova, Padova, Italy.*

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Purpose:

The assessment of intelligence is generally part of a diagnosis of specific learning disorder (SLD) because: a) intellectual disability must be excluded, and b) academic achievement should appear to be unexpectedly low given the intellectual level. However, recent studies suggest that SLD is marked not only by a discrepancy between academic achievement and intelligence, but also by particular discrepancies within the intellectual profile. Some studies also show that different neurocognitive profiles may underlie cases marked by different academic impairments. The aim of this research is to describe the average intellectual profiles of children with different subtypes of SLD.

Method:

Through the Italian Association for Learning Disability (AIRIPA), we obtained the intellectual profiles of 1383 children diagnosed with SLD (with reference to the ICD-10 coding system) and assessed using the Wechsler Intelligence Scale for Children, 4th edition (WISC-IV). Mixed linear models were used to compare the average intellectual profiles across the four major subtypes of SLD (considering reading, spelling, arithmetical, and mixed disorder). Furthermore, logistic regression models were used to estimate the discriminating power of the WISC-IV indexes, and the discrepancies among them, as diagnostic markers of SLD (as a whole) as opposed to typically developing children.

Results and Conclusion:

As expected, all SLD subtypes were marked by a weakness in the working memory and processing speed indexes. However, they also differed in terms of their strengths; in particular, reading disorder was characterized by very strong perceptual reasoning, while arithmetical disorder was weaker on this aspect and was relatively stronger in verbal comprehension; mixed disorder was marked by an overall lower intellectual profile, likely due to the overlap of different deficits. Importantly, the WISC-IV profile, and the discrepancies within it, proved to have fairly good power to discriminate children with SLD vs. typical development (AUC between .75 and .79 depending on which measure was considered).

Social Representation of Learning Disorder in LD Adults: a Network Analysis

Armando Toscano, Paolo Biffi, Emma Brambilla
Polo Universitario di Milano - Università degli Studi eCampus

Purpose

A child with learning disability is susceptible to find, before and after diagnosis, many obstacles during the schooling process: intrinsic learning difficulties could not encounter a responsive environment, and teachers competences could not match with the child's needs and features. Conversations, experiences and environmental feedbacks depending on the LD condition accumulate and consolidate into a Social Representation of LD. By Network Analysis (NA) we could identify semantic cores and links between them, and provide for a better undestanding of secondary consequences of LD condition.

Method

NA allows to build graphs basing on the identification of nodes and links. We posted an online questionnaire in two italian LD e-communities and got back 57 responses by LD diagnosed subjects [M=37%, F=63%; age=28, SD=14]; we asked them to write the first 15 words coming to mind about LD, and to evaluate each on a polarity scale (positive, neuter, negative). Each word has been transformed into its lexical entry and treated as a node, and the very preceding and following words as coming to and coming from links. We counted each entry's occurrence and calculated Polarity and Neutrality Indexes.

Results

Polarity Index is negative, revealing a globally more negative Representation [-.17], Neutrality Index is high and shows a tendency toward polarisation [-.74]. The more represented node is "difficulty", followed by "confusion" and "sense of incomprehension". There is an emerging lexicon which we can reconduct to motivation (“strain”), emotion (“fear”) and subjective experience (“feeling different”), but also to possible leverages for re- motivation: by re-elaborating LD as a specificity and valorising creativity as a typical LD feature.

Training effects on compounds by Greek typically-developing and dyslexic children: Is it better in the classroom?

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Purpose:

Following stages in later development, children are expected to make use of compounding as an option for the enrichment of their written texts; however compounds could be more challenging to dyslexic children, due to their lower frequency and greater complexity. This study aimed to evaluate the intervention effects on spelling of compound words by Greek typically-developing and dyslexic students.

Method:

The sample was consisted of 79 students, who were following the 4th, 5th and 6th grade of two primary schools in Greece, where each grade-class was divided in an intervention (N=42 children) and a control group (N=37 children). All students were evaluated before intervention by standardized tests of spelling and vocabulary. The experimental design of the intervention was based on the word-pair paradigm and included a pre-test, a training program and a post-test (n=40 pairs). The Training Program aimed to offer systematic, targeted and step-by-step instruction of morphological decomposition of words and delivered via PC.

Results and Conclusion:

The results showed that training was particularly effective in enhancing the spelling of compounds, most notably to produce significant transfer-of learning effects to homologous uninstructed words and pseudo-words. Intervention groups in every grade improved significantly in comparison with their control groups, but 4th graded students who received instruction improved significantly more than the 5th and 6th graded students. A closer inspection of six dyslexic cases equally entailed to each intervention group revealed that they improved to a small degree in comparison with their starting level and could not reach their typically-developing class-mates. Once they received more instruction on an individual scheme, showed significant improvements in comparison with their degree of gains in the classroom. These findings are consistent with the experimental literature (Goodwin & Ahn, 2013; Nunes & Bryant, 2006; Tsesmeli & Seymour, 2009) and particularly important for the development of alternative approaches to the educational interventions of individuals with spelling difficulties and/or developmental dyslexia.

Reading and Spelling in Dutch and English as a Second Language in Adolescents with a Familial Risk of Dyslexia

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Purpose:

English has a lower orthographic transparency than Dutch, which makes reading in English more difficult for beginning readers. In this study we investigated how Dutch adolescents with (a familial risk of) dyslexia read and spell in Dutch and English as a Second Language (ESL). Important questions are whether dyslexia affects Dutch and ESL similarly, and how the group with a familial risk without dyslexia (FRND) performs relative to non-risk controls, as some previous studies have found mild deficits in the FRND group as well (van Bergen, van der Leij, & de Jong, 2014).

Method:

Eighty-one adolescents (mean age = 14;1 years;months, SD = 7 months, 39 male) were included. There were 50 adolescents with a familial risk; they had a parent with dyslexia. Twenty-five participants with a familial risk were diagnosed with dyslexia. The control group consisted of 27 participants without a familial risk and without reading problems. In a MANOVA groups were compared on Dutch word, pseudo-word and loan-word reading fluency, English word reading fluency, and Dutch and English vocabulary and spelling. In a repeated measures ANOVA English and Dutch tasks were compared.

Results and Conclusion:

Adolescents with dyslexia performed significantly worse than the control group on all tests. Effects were large for reading and spelling in Dutch and English. The FRND scored lower than the control group but this difference was only significant for Dutch pseudo-word reading. This pattern is in line with a polygenetic inheritance and multifactorial origin of dyslexia. Effects were similar for English and Dutch, except for word-reading where the dyslexic group performed unexpectedly relatively well on English. Thus the lower orthographic transparency did not lead to larger deficits in English.

Oral language development: contribution of component skills

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Purpose:

Detection of below average development in language and/or emergent literacy skills is a very promising way to screen children for risk of future academic difficulties and to reduce the likelihood of reading disabilities, through the provision of early intervention. This investigation aims to explore concurrent relations of oral language skills in four, five and six-year olds in order to better understand language development and risk characteristics. We anticipate that study results will assist us in early identification of language delays that could potentially prevent children from succeeding in learning to read.

Method:

We assessed language skills of approximately 700 Greek students 4-7 years (stratified random sample of school classrooms from four broad geographic areas). Utilizing structural regression modelling we examined the contribution of both receptive language and metalinguistic awareness upon children's expressive language. Specifically, we tested the hypothesis that the purported effect of metalinguistic knowledge on expressive linguistic capabilities is at least partially mediated by the impact of the former on receptive language skills. Indirect effects of demographic variables on expressive vocabulary through receptive language and/or metalinguistic knowledge were also examined.

Results and Conclusion:

Significant indirect effects of gender, age, and rural residence were found on expressive language although corresponding direct effects failed to reach significance. With respect to gender, a positive direct effect was noted on receptive language, suggesting higher performance by girls, with direct effects of gender on both metalinguistic knowledge and expressive language failing to reach significance. With respect to age, the direct effects on receptive and expressive language did not reach significance. The pattern of effects associated with rural residence was identical to that associated with age albeit of opposite sign (rural residence was associated with reduced task performance).

DSA E SUCCESSO FORMATIVO: UN PERCORSO POSSIBILE

Maria Antonietta Vendra

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Scopo:

Il Liceo Guacci nell'anno scolastico 2013/14 ha attivato un percorso sia per l'inclusione degli alunni con disturbi specifici dell'apprendimento (DSA) sia per permetterne il successo formativo, monitorando i risultati scolastici ed apportando delle "correzioni" didattiche in itinere. Tale progetto è stato svolto per diventare guida di informazione e per attivare la buona prassi nell'accoglienza e nell'inclusione degli alunni con DSA all'interno del Liceo. Tutto ciò per permettere agli alunni una reale e fattiva inclusione mentre per i docenti essere occasione di formazione.

Metodo:

Il percorso si è concretizzato attraverso le seguenti procedure: 1) definizione e attuazione di un piano didattico personalizzato (PDP), calibrato sulle specifiche condizioni dell'alunno. Tale PDP è stato strumento di lavoro in itinere per gli insegnanti ed ha permesso di documentare alle famiglie le strategie di intervento programmate; 2) monitoraggio del percorso usando come indicatori i "risultati in itinere" per evidenziare l'andamento globale degli alunni; 3) tavolo di lavoro dei Consigli di Classe con attivazione delle azioni correttive; 4) valutazione dei risultati finali.

Risultati e Conclusioni:

I monitoraggi effettuati nel triennio 2013-2016 hanno evidenziato un deciso miglioramento dei risultati in itinere ed il raggiungimento del successo formativo di tutti gli alunni con DSA, avendo ottenuto delle votazioni superiori alla sufficienza alla fine dell'anno scolastico.

I risultati ottenuti hanno mostrato la validità del percorso che, tuttavia, richiede di essere ulteriormente perseguito, incentivando nell'ambito scolastico la diffusione delle buone pratiche già prodotte.

“From Theory to Practice”: an integrated educational project

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Purpose:
The aim of this study was to demonstrate the research hypothesis that the specific enhancement of high-level processes , such as the re-updating in the working memory, attentional shifting , inhibition of automatic responses and self-regulation is not only, possible within the academic curriculum but also how it can support development results in higher speed parameters for reading, writing, and calculating in a group of experimental subjects attending the first grade of primary school, compared to a control group of subjects of same schooling that did not follow this method .

Method:
The entire battery of tests was administered individually , the entire research sample going to investigate the Executive System operation and to test the level of basic learning (reading , numeracy , and problem solving, comprehension). The administration, of the valuation protocol pre/post took place in the months of October and June . The pupils skills (reading , writing, mathematics) were evaluated only in the post , as the parties attending the first year of primary school during pre had not yet been exposed to such learning; the functioning of the Executive System was evaluated in pre/post-intervention phases.

Results and Conclusion:
In Five Point Test that evaluated the Executive System in the fluency figural the t-test of independent samples in the post, shows a better performance of the experimental sample in the number of correct figures. Best the experimental sample also in the learning: reading (sill/sec reading words $t(44) = -3.917$, $p < .001$); fewer mistakes in a dictation test of words and dictated of text; in the calculation (fewer errors in the calculation in mind $t(44) = 4.246$, $p < .001$). One might conclude that the participation would contribute to the intervention, the experimental group, both to improve the performance in writing, reading and learning calculation is to strengthen the Executive System.

Matematica e fisica con le mappe: gli strumenti per i DSA come strumenti di apprendimento per tutti.

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Scopo:

Il Diario nasce dal desiderio di fornire agli studenti delle superiori, con DSA e non, un aiuto nello studio e nella comprensione della matematica e della fisica; attraverso una raccolta di mappe, schemi ed esercizi svolti si vuole fornire uno strumento per accedere ai contenuti in modo semplice e per memorizzare e recuperare efficacemente le informazioni sfruttando le immagini e l'organizzazione sequenziale.

Lo studente può usufruire di un volume pdf, accessibile attraverso la sintesi vocale, e di mappe modificabili e personalizzabili che evidenziano i collegamenti logici tra i concetti, le informazioni e le procedure; il docente potrà partire dal Diario per proporre una didattica inclusiva.

Metodo:

Gli argomenti del programma di matematica e di fisica sono spiegati attraverso esercizi svolti, schemi, formulari, mappe e grafici. Con i libri in pdf, sono disponibili le mappe in formato nativo personalizzabili dagli studenti a seconda delle proprie caratteristiche di funzionamento e dagli insegnanti per adattarle alle proprie esigenze didattiche. Partendo dalle necessità degli studenti, raccogliendo pareri e risposte ai bisogni, il materiale è stato scritto con il contributo di formatori AID che hanno suggerito indicazioni specifiche per migliorarne l'accessibilità. Attualmente sono disponibili in cartaceo e digitale il biennio ed il terzo anno di matematica ed il primo anno di fisica.

Risultati e conclusioni:

L'Associazione Italiana Dislessia ha accolto e sostenuto l'intento degli autori facendo del Diario un progetto nazionale, con il coinvolgimento di formatori AID[1] quali supervisori.

Il biennio di Matematica è stato distribuito in scala locale e, assieme a Fisica, è scaricabile gratuitamente da wwvv.accademiadellascienza.it

Il Diario III anno è stato inserito sul sito LibroAID, scaricabile gratuitamente dai soci AID, con le mappe concettuali realizzate con Supermappe (Anastasis) e personalizzabili.

Alcune classi utilizzano il Diario come testo di riferimento; si sono osservati importanti progressi tra gli studenti (soprattutto quelli con discalculia procedurale) che hanno usato le mappe.

[1] Daniela Pighin, Tiziana Gaspari, Adalgisa Colombo, Giuseppe Aquino.

Auditory Discrimination and Spelling Accuracy of Words containing Doubles: Teaching with Fluency

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Purpose:

This study tested efficacy and effectiveness of a fluency-based training (Binder, 1996) to improve spelling accuracy of writing words containing doubles during a dictation task from a standardized assessment for 2 8-year-old female students with Dyslexia and Dysorthography. We used a pre-post test single subject experimental design, in which the independent variable consisted in a fluency- based training on auditory discrimination between words with and without doubles.

Method:

During pre and post-test a dictation task from a standardized assessment (Batteria per la valutazione della Scrittura e della Competenza Ortografica nella Scuola dell'Obbligo, Tressoldi & Cornoldi, 2000) was presented. The first training phase was focused on building accuracy, while the second included fluency instruction, through 15 second sprints in which the students were asked to listen to a recording of a word list with and without doubles, and discriminate between them clicking on a counter at every occurrence of a word containing a double.

Results and Conclusion:

The results show the positive effects of a fluency-based training on the ability to accurately write words containing spelling difficulties and confirms the effectiveness of this approach to improve basic academic skills, according to specific literature (Andolfi, Cavallini, & Casarini, 2013; Huges, Beverley, & Whitehead, 2007), as well as its efficiency: actual training time was 5 and 8 minutes.

Reading comprehension failures in children with dyslexia. Data from MT-3's standardization sample

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Purpose:

Reading comprehension is a multi-faceted ability which involves decoding, oral comprehension (Gough & Tunmer, 1996) but also working memory capacity, vocabulary, lexicon and inferential abilities and may be independent from decoding (Cornoldi & Oakhill, 1996; Hulme & Snowling, 2009). It is known that children with dyslexia often have specific profiles in many of these abilities, but also an history of language disorders (DSM-5, 2013). The aim of this study is to verify if children with dyslexia have a specific profile also in reading comprehension abilities characterized by specific deficits compared to the typical children performance.

Method:

We referred to MT-3's standardization sample (Cornoldi & Carretti, in press): two different reading comprehension task, one narrative and one descriptive text, were administered to students from 3rd to 8th grade. Over 5000 children, from 3rd to 8th grade, with almost 4% of LD students, were considered comparing the performances of the LD students and typical students groups in the whole reading comprehension ability and in specific comprehension scores (such as Narrative text, Descriptive text, Specific questions, General questions). In particular a 2X2 ANOVA, considering text type and group, was run to analyse the presence of specific profiles in dyslexic students.

Results and Conclusion:

A series of ANOVA, conducted separately for each school grade, highlighted worse performances of dyslexic students in all the comprehension scores, both referring to a whole reading comprehension score or to the various specific scores taken into account. Subsequent in-depth analysis, carried out on the whole sample using z-scores, pointed out the presence of a significant interaction between text type (Narrative vs Descriptive) and group (with vs without dyslexia). Students with dyslexia present a particular difficulty with Descriptive texts. The effect is interpreted by considering that in the comprehension of descriptive texts students can rely to a lesser extent on general knowledge and must necessarily read accurately the text.

Early Identification and intervention for children with initial signs of reading deficits

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Purpose:

3-8% of school-aged children experience a significant impairment in the acquisition of reading skills. Since remediation of reading difficulties is more difficult the longer a child has struggled with reading, early identification and effective intervention for children at risk of reading disabilities (RD) are very important. The aim of the present triple-blind randomised-controlled study was to test whether valid risk identification is already possible in first grade and whether a phonics intervention programme can improve the reading ability of the children identified as at risk of RD.

Method:

We screened the reading ability of 234 children at midterm of first grade. In continuation, those children whose reading performance was below the 30th percentile were classified as at risk of RD and were allocated randomly to a six-week phonics or control intervention. Both interventions were implemented at school three times a week in small groups. After the training period the reading skills of all children were again assessed blindly to evaluate the intervention effects. Furthermore, a follow-up testing was performed at midterm of second grade to evaluate the validity of the risk identification and long term intervention effects.

Results and Conclusion:

The children who received the phonics instruction improved significantly compared to the control group. In a follow-up testing in second grade, the risk identification proved valid and sensitive. These results indicate that risk identification and subsequent specific intervention is possible and successful in reading deficits at such an early time. Thus, this study provides an important step in the development of a more effective evidence-based screening and intervention to prevent RD and potentially subsequent psychiatric disorders.

Does a touch-typing program make a difference in the keyboarding skills among students with dyslexia?

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Introduction and Purpose:

Often, the use of computers is recommended to students with dyslexia to overcome their handwriting difficulties. Since speech to text programs are not yet well established, keyboarding remains the main alternative to handwriting. In order to fully benefit from text production on the computer, students need to type in an efficient manner, i.e., fast and accurate, and allocate minimum attention to keyboarding. Yet, many students with dyslexia (as in the general population) are not efficient typists. This study examines efficient typing acquisition process of students with and without dyslexia.

Method:

The study included 3 groups of higher-education students: 26 with dyslexia, 17 with dysgraphia and 30 normally achieving (Mage=25, SD=3.05). After determining eligibility and group affiliation, using standardized measures, the students participated in a 14 bi-weekly touch-typing program using the ‘‘Easy-Fingers’’ software. Keyboarding speed and accuracy were recorded online using a keystroke logging program. Repeated measure analyses comparing the groups’ progress between lessons as well as the program's effect (pre-post and, delayed post-test- 3 months after post-test) were performed.

Results and Conclusion:

All groups were able to maintain high keyboarding accuracy throughout the study. Additionally, during practice, keyboarding speed of the students with dyslexia was similar to that of the students with dysgraphia, but significantly slower than of the normally achieving group. A significant increase in speed between pre- and delayed post-test was found among all groups. These results indicate that students with dyslexia can improve their keyboarding speed, emphasizing the importance of touch-typing acquisition among students with dyslexia.

Words with Spelling Connections Have Meaning Connections
Phonology + Phonics + Morphology + Etymology = Orthography

[1]Nancy Cushen White, Ed.D.

[1] *Pediatrics-Adolescent & Young Adult Medicine & Dyslexia Research Team-University of CA-San Francisco; Slingerland Institute for Literacy-Seattle, WA*

Workshop—Professional—Clinical View

Purpose—Topic

Morphemes are units of sound and meaning. Deficits in phonological processing may contribute to failure to discriminate similar-sounding words (*accept-except*), to recognize similarities of word structure (*ignite-ignition; erosion-corrosive*), or to store or retrieve words with precision—and all these deficits can affect word identification and spelling. English orthography preserves the *spelling* of morphemes even when *pronunciation* varies (*finish-finite*).

Results and Conclusion:

Spelling involves phonological, morphological, and orthographic codes. Related words are activated in memory when they have meaningful connections and share structure (morpheme level), especially when spelling reveals the connections (*science-conscious-conscience*). Morphological awareness also increases memory for differences between homophones (*site-situation; cite-citation*). Pattern recognition reduces load on memory and facilitates retrieval.

Has Handwriting Become an Instructional Dinosaur? Handwriting May Be More Important Than You Think!

[1]Nancy Cushen White, Ed.D.

[1] *Pediatrics-Adolescent & Young Adult Medicine & Dyslexia Research Team-University of CA-San Francisco; Slingerland Institute for Literacy-Seattle, WA*

Workshop—Professional—Clinical View

Purpose—Topic

Explicit, integrated handwriting instruction is important! Handwriting is complex and involves both cognitive and motor skills. A foundational skill for literacy, it influences reading, written expression and critical thinking. Sequential hand movements during handwriting activate brain regions associated with thinking, working memory, and language. Cross-disciplinary research has shown that handwriting is a critical skill to teach from preschool to high school.

Results and Conclusion:

Manuscript, cursive, and keyboarding all have advantages for different students at different ages and stages. A note-taking study comparing keyboarding and handwriting showed better comprehension and retention of content for handwriters. Elementary students composing by hand, not keyboarding, wrote faster, longer pieces with more ideas. Handwriting influences development of reading and writing for students of various ages and with diverse learning characteristics.

FLUENCY
Related to Prosody ➔ MUCH More than Speed

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Workshop—Professional—Clinical View

Purpose—Topic

Prosody is appropriate expression combined with meaningful phrasing. There is growing consensus that accuracy, automaticity, *and* prosody all make contributions to fluency; together, they influence comprehension. Oral reading fluency is demonstrated through ease of word recognition, *appropriate* pacing, chunking of words into meaningful phrases (prosody), and intonation.

Accurate and automatic word identification is essential for fluent reading, but accuracy and speed are overemphasized—perhaps because they are easily quantifiable. Excessive rate can impede comprehension by shifting focus away from understanding or by interfering with comprehension. While it is true that exceedingly slow word recognition hinders comprehension, skilled readers vary their pace depending upon text difficulty, the complexity of ideas encountered in the text, and the purpose for reading. To become a skilled reader, it is important to learn to be flexible, not simply fast.

FunFon – computer-based phonological skills assessment tool for Polish children aged 5-8

Katarzyna Wiejak[1,2], Grażyna Krasowicz-Kupis[1,2], Urszula Oszwa[1],

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Purpose:

The traditional method of assessing phonological awareness involves individual administered tasks in which the test administrator reads an auditory prompt to a child, requesting they either identifies or manipulates a specified phonological unit in the word. Variations in administrators' dialects, speech rate, or accent can make each presenter provide a different test stimulus. It makes uncontrollable level of inconsistency in the stimuli presentation. The aim of our team work was to create test that can provide more precise measurement of the development of phonological processing skills using a protocol that eliminates variability across testing situations. This test is designed only for scientific purposes.max 600 characters)

Method:

FunFon is computer-based tool, developed by Krasowicz-Kupis, Wiejak & Szewczyk (2015) to assess the phonological skills in Polish children 5-8 years old. The battery of tests FunFon is the first computer tool in Poland for evaluating phonological skills. The test battery consists of 10 tasks that measure various aspects of phonological processing: phoneme discrimination, phonological sensitivity, comparing the structure of phoneme strings, rhyme and alliteration abilities, the syllable and phoneme blending. All types of tasks are performed on the material of real words and non-dowords. The tests are evaluated in binary scale (0-1), both accuracy and reaction time are assessed.

Results and Conclusion:

Pilot studies were carried out on a sample of 250 children. In the research process, Classical Test Theory (CTT) and the Item Response Theory (IRT) were used. This allowed the preparation of the final version of the test designed for children attending the Reception Class and Grade I. To illustrate the possibilities of the assessment of phonological skills through computer-based test, we present a summary of the validity, reliability, and procedural benefits observed in using the FunFon. The use of computerized version of the test allows full control of the way of the linguistic stimuli presentation (both articulation and interval between items, interval between phonems and syllables included in items).

Effects of an early phonological training study: a latent growth curve analysis

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Purpose:

Several studies have shown that training of phonological awareness prior to, or in the beginning of, reading instruction has positive effects on early reading acquisition. However, there always seems to be a hard core of treatment resisters. In Sweden most children receive phonological training when they are six years old, and school starts at the age of seven. In this study a phonological awareness training program was implemented in 45 preschools to children aged four. The purpose was to investigate the effect of a phonological training three years before formal reading instruction starts.

Method:

Children were randomly assigned in small groups to a phonological training group (n = 117), or a non-phonological training group (n = 105). A non-trained control group was also included (n = 142). The phonological training was carried out in two waves during six weeks at the age 4 and 5. A test battery comprising tests capturing phonological ability was individually administered at the pre- and post-tests, and at the follow-up test at age 6. The effect of the training was investigated by a two-group latent growth curve analysis. The influence of fluid intelligence (Gf) was also examined.

Results and Conclusion:

Preliminary analyses show that there was a significant effect of the phonological intervention on children's phonological awareness skills after each wave of training. There was also an interaction effect of Gf and intervention in favour of the children in the experimental group with low Gf. Between the training periods the gap was narrowing between the groups. Yet, there was a remaining effect one year after the last wave of training, especially for the children in the 20th percentile. Early phonological training, thus, seems to be most beneficial for children with poor phonological skills.

Mindfulness has beneficial effects on attention and working memory in adolescents with learning disabilities

Luisa Zaccarelli

Psychology, Modena, Italy

Scopo:

Il nostro studio si propone di valutare gli effetti della mindfulness:

1) sulla regolazione emotiva e sulla modulazione dell'ansia, in particolare della dimensione ansia prestazionale
2) sull'attenzione selettiva
3) sulla memoria di lavoro
4) sulla rapidità, correttezza e comprensione in lettura
5) sul controllo ortografico
6) sul calcolo.

Nello specifico, la ricerca ha come obiettivi di valutare in che misura la pratica di mindfulness possa influire su queste variabili e quanto un maggiore controllo attentivo possa influire sulla regolazione emotiva e l'ansia e, viceversa quanto una migliore regolazione emotiva possa consentire alle risorse attentive di dispiegarsi al meglio e permettere una migliore funzionamento degli altri processi cognitivi.

Metodo:

La ricerca consiste nel somministrare test perla valutazione degli indicatori scelti a un gruppo di 11 adolescenti, quindi condurre 8 settimane di protocollo di Mindfulness per educatori "A still quiet place" di A. Saltzman. In seguito vengono effettuati i post test, per capire se e come cambino i valori.

Per la valutazione dei costrutti di working memory e attenzione sono stati utilizzati alcuni test della batteria BVN, edita da Erickson e implementata dal gruppo di Tressoldi.

La BVN 12-18 è una batteria di test per la valutazione neuropsicologica delle principali funzioni cognitive (linguaggio, memoria, percezione, attenzione, ecc.) in ragazzi dai 12 ai 18 anni, il nostro target. In particolare sono stati somministrati.

Resultati e Conclusioni:

Alla luce dei risultati presentati appare chiaro che le nostre ipotesi di partenza sono state ampiamente confermate.

I ragazzi appaiono migliorati in ambito psicologico, in particolare nella capacità di monitorare i propri stati interni e a riconoscere le proprie emozioni.

Sotto questo aspetto, essendo il campione molto piccolo, è stato possibile verificare l'effetto psicologico del protocollo anche con interviste dirette dei ragazzi interessati.

In particolare il soggetto 3, che mostrava una somatizzazione delle problematiche scolastiche molto accentuate, ha presentato un buon miglioramento delle stesse, grazie a una maggior consapevolezza delle emozioni negative direzionate alla scuola stessa e a una migliore espressione delle stesse.

A livello neuropsicologico i dati rinforzano l'ipotesi un miglioramento dell'attenzione, in particolare quella uditiva e visiva (test dell'attenzione uditiva delle BVN e trail making test a).

Tutti i ragazzi hanno svolto il tmta in minor tempo e con meno errori rispetto al pre test.

Miglioramenti significativi si sono osservati sulla memoria di lavoro uditiva, infatti quasi tutti i ragazzi, ed in particolare coloro che hanno frequentato con assiduità, hanno migliorato le loro prestazioni a livello di span di cifre all'indietro.

Migliorano anche le funzioni esecutive legate alla fluidità verbale (test sulla fluenza fonemica e categoriale) e alla flessibilità cognitiva (tmt b). Concludendo si può senza dubbio dire che la partecipazione al protocollo di Mindfulness ha dato i risultati auspicati anche in ragazzi adolescenti con DSA.

Sarebbe interessante, nel prossimo futuro, continuare ad osservare in modo informale e non strutturato (interviste) e risomministrando alcuni test, quali effetti vengono mantenuti a lungo termine, anche riguardo all'ansia.

Sarebbe molto utile anche poter ripete l'esperienza utilizzando un campione di controllo.

The evolution of the reading profile in children with Developmental Dyslexia in a regular ortographies

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Purpose:

Several researchers agree that in consistent languages (characterized by high grapheme-phoneme correspondence) the critical sign of dyslexia concerns the speed in decoding ("speed dyslexia", Wimmer, 1993).

The slowness in reading persists, especially in the reading of pseudowords where there is a lower increase in speed that seems to reach a ceiling ("ceiling effect") at the end of the secondary school level; in the reading of the text and of the words, instead, it occurs the lexical effect (Tressoldi et al., 2001; Stella et al., 2010; Shaywitz et al., 1999).

As regards instead the parameter accuracy, several authors show that the time lead to an increase in the accuracy of the master such that the gap between dyslexics and typical readers tends to shrink; we also know that in the transparent languages there is a lower number of errors compared to opaque languages (Paulesu et. al., 2001; Jimenez, 2012; Holopainen et al., 2001; Tressoldi et al., 2001).

The aim of this study is to investigate the evolution of the specific reading disorder over the years of compulsory education, from primary to upper secondary school. Furthermore, it has the aim to verify if there are different evolutionary trajectories of reading skills in relation to the severity of the disorder.

Method:

The study was conducted on a sample of 71 Italian dyslexic children (47 M ; 24 F) from different regions.

The diagnoses of the subjects in the sample meet the criteria set by the diagnostic manual ICD - 10 and the Consensus Conference (2007 ; 2011), according to the criterion of the discrepancy between reading ability and general intelligence.

The criteria by which the subject is that they all had a performance IQ > 85 1 and a verbal IQ > 85 , the latter obtained from the PPVT - R (Peabody Picture Vocabulary Test - Revised). Two groups were selected: children who met criteria for mild dyslexia (n=36) and a comparison group of moderate-severe dyslexics (n=35). All participants were tested at least twice in two different school grades. Comparisons were made on the average performances in each school grade.

For both group (mild and moderate-severe dyslexics) the study used a rotating sample design with participants interviewed at least twice during the years of compulsory education.

All subjects were proposed reading tests of words and pseudowords from DDE - 2 (Sartori, Job and Tressoldi, 1995; 2007), while for the reading of the text were used reading tests MT (Cornoldi and Colpo, 1995; 2012; Cornoldi et al., 2010) according to the school level.

Results and Conclusion:

The data derived from this study confirm what is shown in other studies: the gap between dyslexic and typical readers remains and that the decoding deficits recorded a different development in relation to the two parameters of speed and accuracy, in favor of the latter.

In addition, there are differences between the evolution of the reading of dyslexic mild and severe profile. The performance trajectory for the moderate-severe dyslexics shows some plateaus and a decrease in performances in the last year analyzed (1st upper secondary school) while the trajectory for the mild

dyslexics always show increases in performances. All subjects show a steady increase in word and text reading speed and a slower improvement in pseudo-word decoding.

In terms of accuracy, the trajectory is less smooth. The mild dyslexics group outperforms the moderate-severe dyslexics only in some school years. In other years, the performances are similar.

These findings are consistent with those of other studies on the subject, confirming that the critical sign of the disorder remains the reading speed so it is correct to speak of “speed dyslexia” (Wimmer, 1993) in consistent languages and specifically, in our sample, there are more difficulties in decoding speed of pseudowords.

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