All European Dyslexia Conference 2024

Programme

Athens October 18 – 20, 2024

Dyslexia & Dyscalculia across the lifespan

EDA® European Dyslexia Association

HELLENIC REPUBLIC
National and Kapodistrian University of Athens
EST. 1837

Programme

Day 1: Friday October 18

12:00 – 13:00 *Gasholder Amphitheatre*

Registration and coffee

13:00 – 13:30 *Gasholder Amphitheatre*

Opening Ceremony

Rosie Bissett, *president of EDA,* **Dr. Giannis Karagiannakis,** *Conference Chair,* **Assoc. Prof. Petros Roussos**, *University of Athens representative*

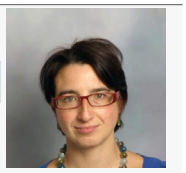
13:30 – 14:15

LIVE STREAMING

Keynote 1

"The Genetics of Dyslexia"

Professor Silvia Paracchini, *University of St. Andrews, Scotland*



	Creation of Environments *Gasholder Amphitheatre*	Technologies *Purifier **	Students' Perspectives *Innovathens*
14:20 – 14:40	**Using Universal Design For Learning To Make Dyslexia-Friendly Schools; The DislexiaON Project** Miren Urquijo, *University of the Basque Country* Carmen Anderson, *Dyslexia Association of Gipuzkoa DISLEGI*	**Back On Track: An Efficient Computer-Assisted Multi-Componential Remediation Program For Dyslexic Readers** Karine Harrar-Eskinazi, *Aix-Marseille Université* Johannes C. Ziegler, *Université Côte d'Azur*	**Listening To Students With A Profile Of Dyslexia Sitting For Their National Examinations** Ruth Falzon, *University of Malta*
14:40 – 15:00	**The Impact Of School Climate On Academic Emotions And Motivation Of Adolescents With And Without Ld** Anna Gerakini & Diamanto Filippatou, *National and Kapodistrian University of Athens*	**Speech-To-Text For Students With Dyslexia – Results And Implications From Three Research Approaches** Gunilla Almgren Bäck, *Linnaeus University* Silvana Fluetsch Keravec, *Pädagogische Hochschule Zürich*	**Dyslexic Students' Perceptions Of Success And Failure Factors In School** Helle Bundgaard Svendsen & Nina Berg Gøttsche, *VIA University College*
15:00 – 15:20	**Relationship Between Executive Functions, Emotion Regulation And Self Regulated Learning In Students With Sl D** Georgia Penekeli, *University of Macedonia* Vasiliki Giannouli, *University of Thessaloniki*	**Digital Screening Tools and Intervention Activitiesfor Attentional Control, Working Memory, and Language Skills** Angeliki Mouzaki, *University of Crete* Vasiliki Karkania, *University of Crete* Giorgos Papapanagiotou, *Inte*learn Multimedia Educational Applications* Papanagiotou Simos, *University of Crete*	**Experiencing Dyslexia Through the Prism of Difference** Keith Murphy, *Technological University Dublin*

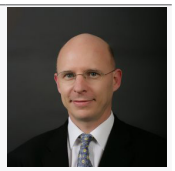
15:20 – 15:50 **Coffee break**

15:50 – 16:20 **Interactive Poster session 1**

** Please note that the presentations in the Purifier building will be in a downstairs room. Unfortunately there is no lift access to this room.*

Presentations will be delivered in English.

Programme

16:30 – 17:15 *Gasholder Amphitheatre*	**KEYNOTE 2** **"The Development of Reading and New Tests of Dyslexia and Subtypes"** **Professor Stanislas Dehaene,** *Collége de France, Paris, France*	
17:15 – 17:45 *Gasholder Amphitheatre*	**PANEL DISCUSSION**	
20:00 – *Kuzina Restaurant*	**CONFERENCE DINNER** *Only for those with prepaid tickets. Bring your ticket!*	

Day 2: Saturday October 19

9:10 – 9:55 *Gasholder Amphitheatre* LIVE STREAMING	**KEYNOTE 3 –** LIVE STREAM **"The Science of Reading Instruction: Facts and Myths and Why It Matters"** **Professor Timothy Shanahan,** *University of Illinois, Chicago, USA*	

	Diagnoses *Gasholder Amphitheatre*	**Intervention and Prevention** *Purifier **	**Technologies** *Innovathens*
10:00 – 10:20	**Cognitive And Reading Profiles Of Gifted/Learning Disa Bled (GLD Students)** Voulgari Athina& Susana Padeliadu, *Aristotle University of Thessaloniki*	**Improving Spelling Disorders In Children With DD Thanks To An Implicit Training Of Complex Graphemes** Elise Lefèvre, *Université Rennes* Gilles Leloup, *Université Côte d'Azur & Centre Hospitalier de Lenval*	**Unveiling The Power Of AI: Empowering Individuals With Dyslexia** **Workshop** Luca Grandi, *Italian Dyslexia Association*
10:20 – 10:40	**Screening For Dyslexia: A Standardized Procedure Based On Condi/Onal Inference Trees** Eddy Cavalli	**Building A Data Driven Intervention Aiming To Enhance Learning Disabled Students' Reading Competence** Susana Padeliadu, *Aristotle University of Thessaloniki* Faye Antoniou, *National and Kapodistrian University of Athens* Viktoria Kokkali, *Aristotle University of Thessaloniki*	**Office-Based Cognition In Adults With Dyslexia: Evidence From Non-Immersive Virtual Reality** James Smith-Spark, *London South Bank University* Rebecca Gordon, *University College London* Ashok Jansari, *University of London*
10:40 – 11:00	**Mapping Dyslexia Across Europe** Pernilla Söderberg, *EDA & Linnaeus University*	**Word And Nonword Reading In Basque, The Creation Of Assessment Instruments** Amaia Carrión-Castillo, *Basque Center on Cognition, Brain and Language*	**Technology's Role in Supporting People with Dyslexia in the Workplace"** **Workshop** Riikka Marttinen, *The Finnish Diverse Learners' Association*
11:00 – 11:30	**COFFEE BREAK**		

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Programme

11:30 – 12:15
Gasholder Amphitheatre

KEYNOTE 4

"Unraveling Dyscalculia: What do we know and where should we go?"

Professor Marie-Pascale Noël. *Université catholique de Louvain, Belgium*

	Maths and Prediction *Gasholder Amphitheatre*	Reading in School *Purifier**	Understandings *Innovathens*
12:20 – 13:00	**Dyscalculia In Practice: Informative Diagnosis & Tailored Intervention (Invited Talk)** Giannis Karagiannakis, *National & Kapodistrian University of Athens* *(Continues until 13:20)*	**Event Related Components And Lexical Decision Task In Children With And Without Reading Difficulties** Argyro Fella, *University of Nicosia*	**Exploration of Data Processing and Model Multiverse in Developmental Dyslexia Subtyping** Anna Leung, *Ludwig-Maximilians-University of Munich*
13:00 – 13:20		**The Role Of Executive Functions In Reading Fluency Among Children With Dyslexiae** Tzipi Horowitz-Kraus, *Technion Israel Institute of Technology*	**Metacognitive Skills Of People With Dyslexia In Higher Education.** Workshop Maria Drosinou-Korea, Nikos Panopoulos & Panagiotis Alexopoulos, *University Peloponnese* Artemis Kalamari, *University Toulouse*
13:20 – 14:30	**NETWORKING LUNCH BREAK (PURIFIER)**		
	Maths and Prediction *Gasholder Amphitheatre*	**Reading in School** *Purifier**	**Understandings** *Innovathens*
14:30 - 14:50	**What Predicts Mental Calculations Of Primary School Students With Reading Disabilities?** Anastasia Chideridou-Mandari	**Eye-Movements In French Dyslexic University Students While Reading Aloud A Text With Spelling Errors** Aikaterini Premeti, CNRS-*Université Paris Nanterre*	**Students As Constellations; Helping Dyslexic & Dyscalculic Learners Shine With Evidence-Based Approaches** Workshop Katrin "Kate" McElderry, *The Odyssey School*
14:50 - 15:10	**The Predictive Role Of Memory And RAN In Greek School-Aged Children With Dyslexia Learning English As A Second Language** Maria Ioanna Gkountakou & Ioanna Talli, *Aristotle University of Thessaloniki*	**The Relation Of Orthographic Representations With Efficient Word Reading In Students With And Without Dyslexia** Sofia Giazitzidou, *Institute for the Future of Reading*	**Assessment With Actionable Insights : Neurodevelopmental Disorders And The Comorbidity Factor In Inclusive Education** Workshop Eleni Livaniou
15:10 – 15:30	**Dyslexia Symptoms As Predictors Of Everyday Attentional Control** James H. Smith-Spark & Lia Sendler, *London South Bank University*	**The Interrelationship Between Fluid Reasoning And Reading And Morphosyntactic Skills In Adolescents With Developmental Dyslexia** Kyriaki Tsitsipa, Ioanna Talli, *Aristotle University of Thessaloniki* & Georgia Andreou, *University of Thessaly*	**Solving Number Problems: Healing The Achilles' Heel Of Pupils.** Workshop Anthi Kokkoni & Kleoniki Vlassopoulou, *Special Education Needs Teacher*

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15:30 – 16:00	**Coffee break**
16:00 – 16:30	**Interactive poster session 2**
16:30 – 17:15 *Gasholder Amphitheatre*	**Keynote 5** **"Neurocognitive Similarities and Differences between Dyslexia and Dyscalculia"** **Professor Bert de Smedt,** *University of Leuven, Belgium*
17:15 – 17:45	**Panel discussion**

Day 3: Sunday October 20

9:10 – 9:55
Gasholder Amphitheatre

LIVE STREAMING

Keynote 6 – LIVE STREAM
"Dyslexia and the Reading Brain in a Digital World."
Professor in residence Maryanne Wolf, *UCLA, USA*

	Comparision *Gasholder Amphitheatre*	**Diagnosis and Screening** *Purifier**	**Adolescence and Adults (Reading and Grammar)** *Innovathens*
10:00 - 10:20	**Oral Language Growth Differences Between Children With Persistent And Resolving Literacy Difficulties** Apostolos Kargiotidis & George Manolitsis, *University of Crete*	**The Indipote(Dn)S Project: How To Identify And Train Children At Risk For Specific Learning Disorder** Cristiano Termine, *University of Insubria*	**The Relationship Between Self-Reported Dyslexia Symptoms And Executive Functioning In Adults** Christina Protopapa, Rachael Elward & James Smith-Spark, *London South Bank University*
10:20 - 10:40	**Children With Developmental Language Disorder (DLD) And Children At Risk For Dyslexia (RfD). Can They Be Told Apart?** Aliki Chalikia, Asimina M. Ralli & Faye Antoniou, *National and Kapodistrian University of Athens*	**Screening, Formative, And Summative Assessment For Students With Learning Difficulties In Greece** Eftychia Sarakatsanou, Athanasio Tsolis & Sotiria Tzivinikou, *University of Thessaly*	**Teaching Grammar In The EFL Classroom To Students With Dyslexia"** Workshop Paraskevi Kaperoni, *Special Education English Teacher*
10:40 - 11:00	**Creative Thinking In Preadolescents With Dyslexia: School Level Differences In The Figural Creative Advantage** Alice Cancer, *Università Cattolica del Sacro Cuore*		**Preventing School Failure In Learners With Dyslexia In Mainstream Secondary Schools In England** Workshop Georgina Nnamani, *Manchester Institute of Education*
11:00 – 11:30	**Coffee Break**		

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11:30 - 12:15 *Gasholder Amphitheatre*	**Keynote 7** **"Social and Emotional Adjustment of Individuals with Learning Disabilities: Identification and Support across the Lifespan"** **Associate Professor Fotini Polychroni,** *National & Kapodistrian University of Athens, Greece*	
12:15 – 12:45	**Panel discussion**	
12:45 – 13:00	**Closing ceremony**	

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Abstracts

Day 1: Friday October 18

The abstracts are presented in order of appearance within each track.

Keynote 1

The Genetics of Dyslexia

Professor Silvia Paracchini, University of St. Andrews, Scotland

Creation of Environments – *Gasholder Amphitheatre*

Using Universal Design For Learning To Make Dyslexia-Friendly Schools; The *DislexiaON* Project

Miren Urquijo, University of the Basque Country/Euskal Herriko Unibertsitatea UPV/EHU

Carmen Anderson, Dyslexia Association of Gipuzkoa DISLEGI

Purpose

The *DislexiaON* project was established in the Tolosaldea region of Gipuzkoa, in the Basque Country, Spain. The main objective was to provide an evidence-based framework through which teachers might meet the needs of their dyslexic students, across the curriculum. It follows Universal Design for Learning (UDL) principles, explains the relevance of UDL with dyslexic students and trains teachers in this approach. The project responds to a need for improved identification of students with dyslexia in the Basque Country and a need for greater teacher training in "dyslexia friendliness".

Methodology

DislexiaON was developed by adapting the Dyslexia Friendly School quality mark (UK) to local educational context, especially new legislation for inclusion in schools. It has three phases. In the Red phase, detection and training in dyslexia is undertaken. In the Orange phase, action areas of Management, Quality of Learning, Climate for Learning and Relations with Families and other Stakeholders are developed and training in UDL principles ensures maximum "dyslexia friendliness". In the Green Phase, implementation of curricula with UDL is assessed through a gamified platform for teachers..

Results

Assisted by the NER group of companies, ten schools signed up to the first pilot of *DislexiaON*, from in-

fant to vocational training. Approximately 5200 students and 540 teachers have learned to use detection tools and tools to ensure the accessibility to learning of these students. Screening for dyslexia was undertaken on 2954 students, and 16 students were diagnosed and provided with specialist help. Training sessions were undertaken for teachers, including expert sessions on UDL and dyscalculia. *Dislexia-ON* was presented in the Basque Government and a second pilot opportunity is being sought.

The impact of school climate on academic emotions and motivation of adolescents with and without LD

Gerakini, A. & Filippatou, D. National and Kapodistrian University of Athens

Previous research has highlighted the significant relationship between the academic emotions and motivation of students with learning disabilities. According to Pekrun's "control-value" theory and Self – Determination Theory students' motivation and achievement or avoidance goals affect their academic emotions while environmental factors also affect students' goals and emotions. Research examining the relationship of school climate with LD students' motivation and academic emotions is scares. The purpose of the present research is to examine the effect of perceived school climate on motivation and academic emotions of students with learning disabilities. The sample consists of 80 adolescents with learning disabilities (average age 14.6 years), 120 adolescents without LD and their teachers (N=110). For collecting data, four self-report questionnaires were administered such as Achievement Emotion Questionnaire, Academic Motivation Questionnaire, What's Happening In This School? Questionnaire for students and Delaware School Climate Survey, Teacher/Staff. The results of the study highlight the significant effect of school climate on students' academic emotions and motivation. The results are discussed in relation to improving learning environment for all students accelerating academic achievement and student engagement.

Key-words: *Learning Disabilities, Academic Emotions, Motivation, School climate, Adolescents*

Relationship between executive functions, emotion regulation and self-regulated learning in students with SLD

Penekeli Georgia, University of Macedonia, Thessaloniki

Vasiliki Giannouli, Assistant Professor of School Psychology - University of Macedonia, Thessaloniki

Purpose:

Specific learning disorders (SLD) have been found to be associated with executive dysfunctions and deficits in emotion regulation (ER) and self-regulated learning (SRL). A theoretical distinction exists between the cool and hot aspects of executive functions (EF). Yet the specificity of these deficits associated with SLDs remains still unclear. The aim of the present study is to investigate the longitudinal relationship of executive functions (EF) with emotion regulation (ER) and SRL of students with SLD (dyslexia, dyscalculia) and students without special educational needs.

Method:

The research is a 3-years longitudinal study and data are still collected. In this study, students (N = 120) (70 students without SLDs and 50 students with SLDs- dyslexia,dyscalculia) were given both cool (Evaluation of EFs in greek primary school) and hot (decision making) EF tasks, the Emotion Regulation Questionaire (ERQ) and the 4 components of the Children's Perceived Self-Regulated Learning (CP-SRLI) tool. Statistical analyses with SPSS v.27 of initial (4th grade), intermediate (5th grade) and final assessment (6th grade) performance of the same students with and without SLD is carried out each year.

Results/conclusions:

Findings from the 2 years showed that SLD children are more impaired than typically developing children, in particular in EFs domain. Regarding ER there are no score differences between the two years in any of the groups (low Cronbach's A 0.657). Good Cronbach's A was found in SRL (students improved in the 2nd year) and important differences in the 1st year scores and in the SLD group, that are lost in the second year. SLD negatively correlates weakly with higher scores in Emotional suppression, Deep level learning strategies, Monitoring and Persistence scales .The results from the 3-year assessment's will be presented and discussed during the EDA conference.

Technologies – *Purifier*

Back on track: an efficient computer-assisted multi-componential remediation program for dyslexic readers

Karine L. Harrar-Eskinazi, Ambre Denis-Noël, Bruno De Cara, Gilles Leloup, Julie Nothelier, Hervé Caci, Sylvane Faure, Johannes C. Ziegler

Contact details:

Johannes C. Ziegler, PhD in Neurosciences, Research Director, Aix-Marseille Université, CNRS, LPC, ILCB, Marseille

Karine L. Harrar-Eskinazi, PhD, Post-doctoral student in Neuropsychologie Speech and Language Therapist, Université Côte d'Azur, LAPCOS, Nice

Purpose:

In line with multi-deficit models of developmental dyslexia, the purpose of this study was to design and evaluate a three-stage multimodal and multi-componential computer-assisted remediation program, which aimed at enhancing both underlying cognitive processes (audio-phonological, visual-attentional) and reading and spelling procedures. All dyslexic children received the three training programs and the specific content of each training was tailored to the specific deficits of each patient.

Method:

144 dyslexic participants, aged between 8-13 years, were included in a multicenter, longitudinal, cli-

nical trial that contained three stages. In the first stage (within-subject pre-intervention baseline), they received weekly speech and language therapy. In the second stage, they received the three types of intensive computer-based interventions, audio-phonological, visuo-attentional and audio-visual in addition to their weekly speech and language therapy. The order of the first two training programs was crossed. In the third stage (post-intervention baseline), they continued weekly speech and language therapy and the intensive interventions were stopped.

Results and Conclusion:

Compared to the pre-intervention baseline, the three intervention programs had a cumulative and significant effect on improving reading fluency. Furthermore, each intervention program significantly improved reading. At the end of the program, 48.8 % of the participants were free of reading disorder. These findings show that it is possible to implement an inexpensive and highly effective intervention program in the homes of dyslexic children that brings a large portion of them in the normal range of reading after only 6 months of intervention.

Speech-To-Text For Students With Dyslexia – Results And Implications From Three Research Approaches

Gunilla Almgren Bäck, Linnaeus University, Sweden

Silvana Fluetsch Keravec, Pädagogische Hochschule Zürich, Switzerland

Purpose:

The two presenting researchers both investigated in their PhD projects the Speech-to-text technology (STT) for learners with dyslexia. Both projects, situated in Sweden and Switzerland, examined the impact of the tool on lower-level and higher-level processes of text production, writing motivation and students' experiences of using the tool in school. This presentation aims to bring together the complementary findings, to show what can be learnt from them for practical use and to identify areas for further research.

Methods:

Gunilla conducted a Single-Case multiple-baseline study using a praxis-based intervention including eight participants. An interview study of nine students´ experiences from a 5-year follow-up using assistive technology complements aspects of the technology implementation in school.

Silvana conducted a quasi-experimental study with mixed methods with 109 fifth-grade students with dyslexia. The EG received an introduction to a tool and used STT in writing classes. Silvana investigated the effects on writing competence and writing motivation and conducted interviews with teachers and specialists.

Results/conclusions:

Results indicate mixed findings on the effectiveness of STT. While it is a helpful tool for some students with dyslexia to overcome barriers, it is challenging for others. Co-morbidities, such as AD(H)D or specific

language impairment, make it more challenging to use STT successfully, but conditions at the school environment level also need to be met. Monitoring student progress is crucial to tailor interventions and enhance STT effectiveness, considering individual needs.

Digital Screening Tools And Intervention Activitiesfor Attentional Control, Working Memory, And Language Skills

Angeliki Mouzaki, Primary Education Department, University of Crete

Vasiliki Karkania, Medical School, University of Crete

Giorgos Papapanagiotou, Inte*learn Multimedia Educational Applications

Papanagiotou Simos, Medical School, University of Crete

Purpose

The present work presents basic psychometric properties of three digital screening tools constructed to assess attentional control in visual and auditory domains and visuospatial working memory. These executive functions constitute the cognitive background for the effective development of complex language functions that play a key role in the ability to process verbal information and the successful comprehension of written and oral language. Screening outcomes were used to inform provision of digital intervention activities in young children with ADHD, LD or DLD. Preliminary data examined intervention effectiveness toward improving the language abilities.

Method

Screening assessments were normed with typical Greek-speaking elementary school students (N=1078) aged 6-12 years attending grades 1-6 who were tested over a six-week period. Re-examination within 2 weeks was carried out to assess test-retest reliability. A second randomized pilot study offered preliminary data for the effectiveness of digital intervention activities in supporting attention and executive abilities and ultimately promoting growth of language skills. 31 Greek-speaking children aged 6-8 years, with ADHD, LD or DLD were pseudorandomly assigned to intervention and control groups. Children in the first group participated in 12 hourly intervention sessions over a 6-week period.

Results/conclusions

Our findings support the validity and reliability of the developed standardized tools and their potential value as part of a screening procedure of suspected learning difficulties in elementary school. Detecting difficulties in attentional control and working memory could inform diagnostic decisions that will lead to immediate provision of early intervention. Preliminary data from the randomized control trial of the developed intervention activities also provided convincing evidence of the added clinical value of a fully automated environment that can be used at the school or at home to promote a range of cognitive and linguistic skills in young children with language difficulties.

Abstracts

Students' Perspectives – *Innovathens*

Listening To Students With A Profile Of Dyslexia Sitting For Their National Examinations

Ruth Falzon, University of Malta

This presentation presents narratives of Maltese students with a profile of dyslexia and their experience of national examinations (Camilleri et al., 2019). The study gives voice to their concerns, frustrations, successes, and recommendations. Interviews were carried out with seven Maltese 16- and 18-year-olds. One-to-one or paired audio-recorded interviews were carried out. The students opted to participate in the study voluntarily and an opt-in recruitment procedure through the Malta Dyslexia Association was employed. The findings were analysed using Thematic Analysis. The rich in-depth experiences present how students with dyslexia view themselves as learners, how they experience learning in classrooms and, most of all, how they experience examinations. National examinations caused these students a great deal of anxiety as they felt that, because of their profile, they could never show their full potential in examinations. They also believed that they had different skills, such as creativity, that were not being assessed by traditional examinations and that the medium used was unfair to them. The students made several suggestions as to how they thought that examinations could be made fairer for students with a profile of dyslexia. They offered valuable insights into how high-stakes examinations can be fairer for students with a profile of dyslexia to allow them to run the examinations race and be successful. One main suggestion is for examination boards to listen to what they have to say. A booklet for secondary school students was also created out of these narratives.

Keywords: Dyslexia, examinations, fairness, participation, students' voice

Dyslexic students' perceptions of success and failure factors in school

Docent Helle Bundgaard Svendsen (presenter), **Associate professor, ph.d. Nina Berg Gøttsche** (presenter), Associate Professor Marianne Samuelsson Laursen, Assistant Professor Sara Mose Lindholm Pedersen, Research Centre for Language and Literacy, VIA University College, Denmark

Purpose:

Students with dyslexia often experience low self-efficacy and low self-esteem. This has a negative impact on their academic development and well-being (Burden, 2005; Swalander, 2012; Taube, 2011). In Denmark, there have been many initiatives in schools targeting the academic well-being of students with dyslexia in the last decade (Svendsen et al., 2023), and we see a tendency towards increasing students well-being (Egmont Rapporten, 2018). However, we still see studies that indicate a lack of understanding and insight into what students with dyslexia need in school (NOTA, 2021). In this study, we explore what students themselves articulate as important to their academic well-being in school in order to develop school practice.

Abstracts

Method:

The study consists of 42 qualitative interviews (Kvale & Brinkmann, 2015) with students in upper secondary school and upper secondary education. The interviews were conducted between August and December 2023. The students were selected by the school's reading counselor as students with high and low academic self-efficacy, to ensure different student profiles. The schools were selected based on a criterion of geographical spread, different school sizes, country/city and representation of all categories of upper secondary education in Denmark (upper secondary and vocational).

Results/conclusions:

We expect to be able to present the results of the interview study. Our preliminary hypothesis is that a number of important points emerge in the analysis under the following themes (Pedersen & Hjort, 2016).

Students' articulation of:

- Written language difficulties
- Self-efficacy
- Strategies for learning
- Educationally relevant relationships
- Educational organization and scaffolding
- Assistive technology

References:

Burden, R. (2005). *Dyslexia and Self-concept Seeking a dyslexic identity* (M. Snowling, Red.). Whurr Publishers.

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NOTA. (2021). *SNYDER DU ELLER HVAD? - EN SURVEYBASERET RAPPORT OM ORDBLINDHED, FORDOMME OG HJÆLPEMIDLER*.

Pedersen, A. L., & Hjort, K. (Red.). (2016). *Uddannelse og skriftsprogsvanskeligheder: Grundbog i lektiologisk pædagogik*. Hans Reitzel.

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Swalander, L. (2012). Selvbillede, motivation og dysleksi. I S. Samuelsson (Red.), *Dysleksi og andre vanskeligheder med skriftsproget* (s. 178–191). Dansk Psykologisk Forlag.

Taube, K. (2011). Læse- og skrivefærdigheder, selvbillede og motivation. I *Børn læse og skriver—Specialpædagogiske perspektiver.* Dafolo.

Abstracts

Experiencing Dyslexia Through The Prism Of Difference

Dr Keith Murphy, Technological University Dublin

Purpose:

Within the body of research conducted in HE, few have focused on the overall experiences of students with dyslexia studying in HE. My study addresses this gap in knowledge as it provides an insight into how students with dyslexia navigate, HE. Contemporary discourse and literature surrounding dyslexia is often dominated by notions of disability, deficit, lack, vulnerability, and social expectancies around achievement in education. Accepting dyslexia as an integral part of the self and viewing it through a prism of difference as opposed to a deficit, were emerging themes in this study, as motivators to success. Institutional and attitudinal barriers also emerged as common themes in this study as did the impacts on academic self-worth, self-esteem, and self-confidence as a result of studying in third level education with dyslexia.

Method:

Ethnography was used as the principle method of research in this project. The participants varied in age range and identified as different genders. The range of programmes studied by the participants were at undergraduate and postgraduate level and my research participants were attending four different HE institutions. The methodological tool I employed mainly was participant observation, which is the distinguishing feature of ethnographic research. Ethnographic research is well-suited as the basis of an analysis of dyslexia as a lived reality in the everyday practices and experiences of those living with the hidden disability.

Results:

My research found that when students identify dyslexia as a limitation, it becomes a barrier to successful learning and has a negative effect on their identity, which impacts them socially and academically. However, an easier pathway to success is achieved when viewing dyslexia as a difference and this approach enabled my participants to achieve academic success, not despite their dyslexia but in partnership with it. This research and its findings are therefore relevant to several stakeholders such as policy makers, third level education institutions, disability support staff and teaching staff.

Keynote 2

"The development of Reading and New Tests of Dyslexia and Subtypes"

Professor Stanislas Dehaene, Collége de France, Paris, France

Abstracts

Day 2: Saturday October 19

Keynote 3 – Live Stream

"The Science of Reading Instruction: Facts and Myths and Why It Matters"

Professor Timothy Shanahan, University of Illinois, Chicago, USA

Diagnoses

Cognitive And Reading Profiles Of Gifted/Learning Disa Bled (GLD Students)

Voulgari Athina & **Padeliadu Susana**, Aristotle University of Thessaloniki, School of Philosophy and Education

Purpose:

It has been widely acknowledged that dyslexia can be diagnosed in students with above average intelligence. However, there is considerable debate regarding the appropriate identification criteria for students who are both gifted and learning disabled. Further, there is growing concern that disability and gifts may mask one another, leading to serious lack of diagnosis of GLD students. Therefore, documentation of cognitive and academic strengths and weaknesses becomes crucial for securing fair diagnosis and education for GLD students. Our goal in the current study was to investigate the cognitive and reading profiles of GLD students when compared to both a) gifted students and b) dyslexic students with average intellectual ability.

Method:

Participants in the study were 30 GLD students, 30 gifted students and 70 dyslexic students of average intellectual ability. All students were assessed with WISC-V, and standardized reading tests. Gifted students achieved a FSIQ score equal or above 120. GLD students had an official dyslexia diagnosis and had achieved a) a FSIQ score equal or above 120 b) two Primary Indices Scores equal or above 120, c) one Primary Index higher than 130. Dyslexic students with average ability had an official dyslexia diagnosis, average intellectual ability and no Primary or Supplementary Indices' Scores above 119.

Results:

It was revealed that GLD students exhibited larger intra-individual differences in their cognitive profiles compared to gifted students. Furthermore, GLD students exhibited significantly lower scores in the Working Memory Index when compared to gifted students. However, no differences were observed regarding Processing Speed. In regard to reading profiles, when compared with dyslexic students of average intellectual ability, GLD students achieved greater reading scores in decoding and comprehension but not fluency. Results are interpreted within the framework of appropriate identification of GLD students.

Screening For Dyslexia: A Standardized Procedure Based On Condi/Onal Inference Trees

Eddy Cavalli (presenter), Elise Lefèvre, Lynne G. Duncan, Abdessadek El Ahmadi, Pascale Colé

Purpose:

The focus of this study is on providing tools to enable researchers and prac//oners to screen for dyslexia in adolescent and adults. The first aim is to validate and provide diagnos/c proper/es for a set of tests designed to discriminate individuals with and without dyslexia. The second, more general, aim of this study was to devise a standardized and confirmatory procedure for dyslexia screening from a subset of the ini/al seven tests.

Method:

A combined sample of students with dyslexia (clinical valida/on group) and students without dyslexia (norma/ve group) provided data to determine the diagnos/c proper/es (i.e., sensi/vity, specificity, and cut-off scores) of seven tests including a one- minute word reading test, a two-minute pseudoword reading test, a phonemic awareness test, a spelling test, the AlouePe reading fluency test, a connected-text reading fluency test, and the self-report adult reading history ques/onnaire (ARHQ).

Results and Conclusion:

Results showed that combina/ons of 3 or 4 tests (ARHQ, text reading fluency, phonemic awareness, pseudoword reading, spelling) and their rela/ve condi/onal cut-off scores op/mize powerful discriminatory screening procedures for dyslexia, with an overall classifica/on accuracy of approximately 90%. The novel use of the condi/onal inference tree methodology (a supervised machine learning approach) offered a way of moving towards a more efficient screening baPery using only a subset of the seven tests examined. Both clinical and theore/cal implica/ons of these findings will be discussed.

Abstracts

Word And Nonword Reading In Basque, The Creation Of Assessment Instruments

Amaia Carrión-Castillo[1,2], Nekane Galparsoro, Maite Redondo, Manuel Carreiras[1,2,3] Marie Lallier[1,2]

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2 Ikerbasque, Basque Foundation for Science, Bilbao, Spain

3 University of the Basque Country, Bilbao, Spain

Purpose:

In bilingual societies like the Basque Autonomous Community, where the educational system is primarily in Basque but most individuals are bilingual with Spanish, assessing reading skills in the native language is crucial for identifying specific difficulties. However, Basque, being a minority language and linguistic isolate, lacks adequate assessment tools, leading to reliance on Spanish instruments even for Basque-speaking children. This study aims to bridge this gap by developing and validating reading tasks tailored specifically to the Basque language.

Method:

We developed word and nonword reading tasks for Basque speakers, leveraging the language's transparent orthography to assess decoding skills. The word task had four conditions (high/low frequency, short/long length), and the nonword task included two lists. Task versions varied by grade level, transitioning from uppercase to lowercase format. Children read lists while evaluators recorded accuracy and time on tablets. Reading efficiency was computed (100*accuracy/time). Norms were established with a sample of 3,200 children. Psychometric properties were assessed for relia- bility and validity.

Results and Conclusion:

As expected, children showed improved word and nonword reading scores across grades. Reading efficiency tracked this trend most consistently. Home-language dominance significantly influenced reading outcomes, underscoring the need for tailored norms. Both tasks exhibited strong psychometric properties: high reliability, stability, and validity. Our findings support the use of these validated tasks to assess Basque reading abilities, highlighting the importance of adapting assessments to sociolinguistic contexts.

Abstracts

Intervention and Prevention

Improving Spelling Disorders In Children With DD Thanks To An Implicit Training Of Complex Graphemes

Elise Lefèvre, Aurélie Vinceneux, Claire Wattelet, Louise Lebel, Gilles Leloup

Contact details :

Elise Lefèvre, PhD in Cognitive Psychology Post-doctoral researcher, Laboratoire LP3C, Université Rennes 2, Rennes, France

Gilles Leloup PhD in Language Sciences, Speech and Language Therapist, Université Côte d'Azur (EA 7276) & Centre Hospitalier de Lenval, Nice, France

Purpose:

Spelling difficulties are one of the main symptoms of developmental dyslexia (DD) and are particularly resistant to remediation. In addition to the cognitive deficits associated with dyslexia, the inconsistency in French phoneme-to-grapheme correspondences (PGC) significantly amplifies the exposure needed for their acquisition through statistical learning. However, individuals with DD are prone to have a reduce reading exposure. To address this issue and improve lexical spelling skillsin children with DD, the study presents implicit training of 3 complex graphemes (ILL, EAU, SS).

Method:

The trained group was composed of 35 DD participants (TGDD) aged 8 to 11, while the business-as-usual control group (CGTR) comprised 18 typical readers aged 10. Both groups were assessed on their spelling and reading skills in pre and post-tests. The TGDD completed the training protocol at home, with the following stages: reading from a screen 12 isolated words containing the same complex grapheme, then copying them, and performing an immediate written recall. The training material consisted of 36 words (12 per grapheme). Training took place over 4 weeks (5 minutes a day, 4 times a week).

Results and conclusion:

At the pre-test assessment, the TGDD exhibited lower average reading and spelling scores compared to those of the CGTR. The TGDD showed a significant reduction in spelling errors at the post-test assessment, which was not the case for the CGTR. At the post-test assessment, the TGDD's spelling performance was still inferior to the one of the CGTR. This intervention, conducted at home combining reading, copying and immediate written recall, shows successful results in strengthening the spelling of complex graphemes in children with DD.

Abstracts

Building A Data Driven Intervention Aiming To Enhance Learning Disabled Students' Reading Competence

Padeliadu, S., Aristotle University of Thessaloniki

Antoniou, F., National and Kapodistrian University of Athens

Kokkali, V., Aristotle University of Thessaloniki

Purpose

This study aims to she shed light on the challenges that students with Learning Disabilities face in reading comprehension. It emphasizes the strength of qualitative analysis in guiding the development of effective educational interventions. Teachers are guided systematically to employ student data to distinguish their students' strengths and weaknesses across three comprehension types: textually explicit, textually implicit, and scriptually implicit. Subsequently, these insights informed the design and implementation of an intervention program for 5th and 6th-grade students with Learning Disabilities. Therefore in the current study we highlight the effectiveness of a reading comprehension program which was implemented within 2 months in the experimental group, while the control group received traditional teaching.

Method

Data on students' reading comprehension skills were collected through the Reading Comprehension (RC) test, standardized in typical Greek-speaking students (N=1800) aged 6-15, spanning grades 1-9. The intervention program was created based on various aspects of the reading comprehension test and subsequently administered to 36 students with Learning Disabilities (LD). The implementation, implemented by resource room teachers, totaled 28 teaching hours. The control group, comprising 44 students, followed standard instructional practices. Assessment for all students occurred both before and after the intervention through the RC test.

Results/conclusions

Our findings affirm the significance of conducting a valid, reliable and qualitative assessment in order to structure an effective reading comprehension intervention. Further, identifying challenges in reading comprehension can inform diagnostic decisions, enabling the prompt implementation of reading interventions. The results highlighted its value, since the experimental group exhibited significantly higher mean scores in reading comprehension compared to the control group.

Abstracts

Technologies

Unveiling The Power Of AI: Empowering Individuals With Dyslexia

Luca Grandi, Pedagogue, expert in technologies to support learning, Italian Dyslexia Association

Workshop Overview:

In this interactive workshop, we will delve into the transformative potential of artificial intelligence (AI) to enhance the lives of individuals with dyslexia, a learning disorder affecting reading and spelling. Explore how AI-powered tools and technologies can revolutionize educational experiences, foster independence, and bridge the literacy gap for individuals with dyslexia.

Target Audience:

This workshop is designed for educators, therapists, parents, and individuals with dyslexia seeking to understand and utilize AI to support their learning and overall well-being.

Workshop Objectives:

- Gain insights into the impact of dyslexia on individuals and their learning journey
- Explore the latest advancements in AI-based solutions for dyslexia support
- Discover practical applications of AI in the classroom, home, and personal life
- Learn how to effectively integrate AI tools into daily routines
- Discuss strategies for empowering individuals with dyslexia to achieve academic and personal success

Workshop Conclusion:

By the end of this workshop, participants will be equipped with a comprehensive understanding of how AI can empower individuals with dyslexia to overcome challenges, enhance their learning, and achieve their full potential. We will leave with concrete strategies for integrating AI into our daily lives and advocating for the widespread adoption of AI-powered solutions to support dyslexia.

Office-Based Cognition In Adults With Dyslexia: Evidence From Non-Immersive Virtual Reality

James Smith-Spark[1], Rebecca Gordon[2], and Ashok Jansari[3]

1 London South Bank University, London, United Kingdom,
2 Institute of Education, University College London, London, United Kingdom
3 Goldsmiths, University of London, London, United Kingdom

Abstracts

Purpose:

Dyslexia-related difficulties with executive function and prospective memory (memory for delayed intentions) have been reported in adults. However, there is very little direct evidence of the impact of such problems on cognition in the workplace, despite the importance of ensuring that employers are aware of the full range of challenges that employees with dyslexia may experience and that support is well targeted. To explore this issue, two studies (one already published, one in progress) were conducted to investigate office-based cognition in adults with and without dyslexia.

Method:

In Study 1, the non-immersive virtual reality office environment JEF® was used to assess different aspects of executive function and prospective memory in adults with and without dyslexia. The participant groups were matched for age and short-form IQ but differing on measures of reading and spelling. In Study 2, the JEF was again presented to adults with and without dyslexia. Further measures of prospective memory were obtained using the CAMPROMPT (Wilson et al., 2005) clinical test and a published self-report questionnaire probing everyday experiences of prospective memory.

Results/Conclusions:

The results of the two studies are consistent with previous laboratory-based research in highlighting the areas of executive function (such as planning) and prospective memory that are affected by dyslexia. They also indicate areas of relative strength for adults with dyslexia in office-based work environments. These strengths could potentially be harnessed in support of their office-based cognition and also ensure that employers allocate job tasks and roles in such a way to benefit both the employee with dyslexia and the employer alike.

Technology's Role In Supporting People With Dyslexia In The Workplace

Riikka Marttinen, Specialist of Technology, Assistive technology center, The Finnish Diverse Learners' Association

This workshop explores practical examples of how virtual learning environments and AI can be utilized in vocational training and worklife. We will discuss the benefits and challenges new technologies offer to dyslectic people.

Target Audience:

People with dyslexia, vocational teachers, workplace representatives

Conclusions:

Continuous learning is vital in our fast-evolving digital society. While digitalization presents challenges for those with dyslexia, it also opens up opportunities for participation, teaching, and information sharing. The potential of new technologies remains underutilized among people with reading difficulties. The Finnish Diverse Learners' Association has leveraged technology in various initiatives, yet awareness and usage of these new technologies remain low among those experiencing reading difficulties.

Abstracts

Keynote 4

"Unraveling Dyscalculia: What do we know and where should we go?"

Professor Marie-Pascale Noël, Université catholique de Louvain, Belgium

Maths and Prediction

Dyscalculia In Practice: Informative Diagnosis & Tailored Intervention (Invited Talk)

Giannis Karagiannakis, National & Kapodistrian University of Athens

Reading in School

Event Related Components And Lexical Decision Task In Children With And Without Reading Difficulties

Fella, A.[1], Christoforou, C[2]., & Papadopoulos, T. C[3]

1 School of Education, University of Nicosia, Cyprus (fella.a@unic.ac.cy)
2 Division of Computer Science, Mathematics & Science, St. John's University, USA
3 Department of Psychology & Centre for Applied Neuroscience, University of Cyprus

Objective:

The present study investigated the differences between children with reading difficulties (RD) and their controls (Grades 3 and 6, age range = 7.7–12.08 years, females = 24) on a lexical decision task, using Event-Related Potentials (ERPs).

Method:

The ERP data collection was performed using the BioSemi Active-two system (BioSemi, Amsterdam, Netherlands) at a sampling rate of 512 Hz. Participants were fitted with a standard 64-electrode cap following the international 10/20 system. During the lexical decision task, the participants had to identify the real word from a nonword containing similar letters, presented simultaneously on the screen. The word reading task consisted of 120 word pairs, each forming a 2x2x2 factorial design in terms of frequ-

ency (high/low), orthographic regularity (regular/irregular), and length (disyllable/polysyllable).

Results:

EEG data recording elicited the N200 and N400 components. MANOVA analyses showed that the Grade 3 RD group produced significantly longer N200 than their chronological age-matched controls (CA) controls when length and familiarity were factored into the equation. No differences were observed in the N200 component between the Grade 6 groups. Furthermore, children with RD in both Grades presented reduced N400 amplitudes compared to their counterparts.

Conclusions:

The enhanced N200 in the Grade 3 RD group may reflect an increased processing effort in decoding the visual features of presented items at a pre-lexical stage (Kast et al., 2010). Furthermore, the reduced N400 amplitudes in RD children imply less well-defined orthographic representations or difficulties accessing the orthographic lexicon and applying grapheme-phoneme conversion rules (Hasko et al., 2013).

The Role Of Executive Functions In Reading Fluency Among Children With Dyslexia

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Kennedy Krieger Institute, Baltimore, Maryland, USA

Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

Purpose:

To determine the role of executive functions in reading fluency among 8-12-year-old children with dyslexia using an executive-functions-based reading intervention. This reading program embeds executive functions principles by deleting the letters from the screen speedily and including comprehension questions following each sentence. This manipulation trains the working memory capacity and visual attention while tracking the letters, as well as prevents regressions to the beginning of the sentence (i.e., trains inhibition).

Methods:

Behavioral and neurobiological data were collected from English-speaking children with dyslexia and typical reader participants before and after eight weeks of training with the EF-based computerized reading program. Functional MRI data were collected using a lexical decision task and resting state condition, pre and post-intervention. The long-term effect was determined three months post-intervention. Functional connectivity matrices within and between EF networks and visual/auditory networks were defined and compared between the participants and conditions. Prediction models connecting behavioral and neurobiological changes were conducted as well using regression analysis.

Abstracts

Results/conclusions:

Improved reading fluency and greater executive function abilities, as well as increased functional connectivity within and between executive functions and attention networks, were found in children with dyslexia. Greater short-term executive function gains (inhibition and speed of processing) moderated long-term reading fluency gains (3 months following training). The results of these studies point to the central role of executive functions in reading fluency and support the studies suggesting these components should be considered as part of the Simple View of Reading model.

Abstract

Dyslexia, a developmental reading difficulty, is characterized by slow and inaccurate reading, which continues into adulthood, despite repeated exposure to literacy. One of the theories explaining the causes of the lack of reading fluency in dyslexia is the asynchrony theory, suggesting that a lack of synchronization between the auditory and visual modalities underlies their reading difficulty. In this talk, findings from training with an executive-functions-based reading program, based on the speed of processing, visual attention, working memory and inhibition among 8-12 y.o children with dyslexia and typical readers, will be shared. Findings suggest that improved reading fluency in children with dyslexia was associated with improved executive functions as well as greater involvement of neural circuits supporting visual and auditory modalities as well as executive functions. The results of these studies point at the central role of executive functions in reading fluency, an important component of the reading process (see also the Simple View of Reading model). It may also suggest that this specific executive-functions-based reading intervention increases the synchronization between the auditory and visual modalities by engaging executive functions. Doing that, it may reduce the neural noise in children with dyslexia.

Abstracts

Understandings

Exploration Of Data Processing And Model Multiverse In Developmental Dyslexia Subtyping

Anna Yi Leung[1,*], Daniel Kristanto[2], Carsten Gießing[2,^], John PA Ioannidis[3,4,5,6,7,^], Andrea Hildebrandt[2,†,^], Xenia Schmalz[1,†,^]

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6 Department of Biomedical Data Science, Stanford University, Stanford, California, USA
7 Department of Statistics, Stanford University, Stanford, California, USA

Purpose:

Psychologists have sought to identify subtypes of developmental dyslexia by grouping poor readers according to their relative underperformance in different reading-related cognitive tasks. The subtyping methods vary across studies, resulting in discrepancies in subgroup discovery. Heterogeneity manifests itself in the theoretical model, data pre-processing, and model specification. Our study aims to review the multiverse of subtyping methods applied in dyslexia research.

Method:

We conducted a systematic literature search using four databases without year restrictions. Out of a total of 1362 search entries, we identified 259 empirical studies that adopted methods for identifying the cognitive subtypes of developmental dyslexia. We aggregated all the possible decision steps involved in the reported subtyping methods: Sample characteristics, theoretical models, data preprocessing, statistical models, result validation, and the subtypes identified. We developed an R- Shiny app to visualise the identified multiverse of subtyping methods in an interactive manner.

Results/Conclusions:

We found high variability in the theoretical models adopted (e.g., dual-route and multiple deficit theories), data preprocessing (e.g., standardisation), performance indices used (e.g., accuracy vs. reaction time), statistical models (e.g., quantile classification, cluster analysis) and specifications. Most studies did not analyse model robustness, especially when subtyping small datasets ($n < 40$). We also found inconsistent subgroup prevalence and definitions across studies that subgrouped the same dyslexic readers. We call for the development of reporting standards for dyslexia subtyping.

Abstracts

Metacognitive Skills Of People With Dyslexia In Higher Education

Drossinou Korea, Maria, University Peloponnese

Panopoulos, Nikos, University Peloponnese

Alexopoulos, Panagiotis, University Peloponnese

Kalamari, Artemis, University Toulouse

The workshop focuses on the educational support of students with dyslexia in metacognitive skills at the Agricultural University of Athens and then at the University of the Peloponnese, in Greece. The starting point of the research study was known factors such as exam stress but also unknown parameters in 2002 regarding dyslexia in higher education.

Initial thinking on practical and verbal skills, has emphasizing the hypothesis of whether particular practices can help students to cope with specific learning difficulties due to dyslexia.

The workshop aims at the bibliographic consideration of dyslexia and its practical applications in this field.

Metacognitive skills programs for people with dyslexia enhance quality in Higher Education Institutions when they combine knowledge with realism and pedagogical criteria in Equal Access of people with disabilities. These apply theories such as the linear continuum to the neuroeducation of dyslexia, new technologies as well as co-occurring behavioral problems reflecting perspectives and limitations of contemporary and longitudinal literature

Maths and Prediction

What Predicts Mental Calculations Of Primary School Students With Reading Disabilities?

Anastasia Chideridou - **Mandari**, Sophia Giazitzidou, & Angelos Sandravelis

Purpose:

Several research studies have revealed that mathematical and cognitive factors play a significant role in mental calculations. Calculating "in the head" requires a deep understanding of number sense, the ability to manipulate numbers in a flexible way and the knowledge of arithmetic facts. Moreover, the executive functions of inhibiting a learned strategy and switching to a new strategy have been strongly related to mental calculation competence. However, the unique predictive role of the above factors has not yet been clarified.

Method:

We conducted a cross-sectional study in order to examine the role of specific factors for predicting mental calculation ability of students with Reading Disabilities in Grades 2 and 6. In total, 87 students were administered three mathematical tasks measuring number sense, arithmetic facts and mental

calculations. The executive functions of switching and inhibition were measured by Children's Color Trail Test 2 (1996). Three working memory measures for phonological loop (Digit recall), visuospatial sketchpad (Mazes) and central executive (Listening recall) were used as control variables.

Results/Conclusions:

The results of hierarchical regression analyses indicated that mental calculation competence was highly predicted by arithmetic facts in Grade 2, whereas number sense was found to be a more powerful predictor in Grade 6. Executive functions contributed to the prediction only in Grade 6, but lost their predictive value after number sense and arithmetic facts entered into the model. The findings of the study imply that prerequisite mathematical skills may have a stronger role than cognitive resources in executing mental calculations for both younger and older students with Reading Disabilities.

The Predictive Role Of Memory And RAN In Greek School-Aged Children With Dyslexia Learning English As A Second Language

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1Aristotle University of Thessaloniki, Department of Italian Language and Literature, PhD Candidate
2 Assistant Professor

The purpose of the present study is to investigate the relationship between phonological and verbal short-term memory (PSTM and VSTM respectively), working memory (WM) and reading skills in Greek (L1) and English (L2) in children with and without dyslexia. In particular, forty (DYS=20; TD=20) school-aged children (9-12 years old), basic users of English (level ranging from A1 to A2), carried out a battery test in L1 and L2 respectively. Reading (word/nonword decoding, fluency) tasks were assessed along with the cognitive measures of VSTM, PSTM, WM (forward digit span, non-word repetition, backward digit span) and rapid naming (RAN) in both L1 and L2. Between groups comparisons indicated statistically significant differences in all tasks. Correlation analysis revealed significant and strong relationships between memory and reading concerning DYS and TD participants. Regression analysis contributed significantly for both groups. Specifically, for the DYS group L1 predictors for L2 reading were PSTM, RAN and WM, while L2 predictors for L1 reading were PSTM and RAN. Regarding the TD group, L1 predictors for L2 reading were PSTM and WM, whereas L2 predictors for L1 reading were PSTM, RAN, VSTM and WM. Differentiations for DYS among predictors are indicated by higher R-squared values due to their memory deficits. The most significant finding is that L1 and L2 RAN predicted both L1 and L2 reading in DYS, while in TD only L2 RAN predicted L1 and L2 reading. Thus, RAN is a stronger predictor in DYS in both languages. The present results shed light on the Linguistic Coding Deficits Hypothesis and the Linguistic Interdependence Hypothesis supporting a language transfer effect from L1 and L2, in which underlying cognitive processes play a vital role, in line with the Central Processing Hypothesis. Finally, we highlight the significant role of memory as a strong predictor even for two different language systems, i.e. transparent vs. opaque.

Abstracts

Dyslexia Symptoms As Predictors Of Everyday Attentional Control

James H. Smith-Spark and **Lia Sendler**, London South Bank University, London, United Kingdom

Purpose:

The everyday control of attention in adults with dyslexia is underexplored, despite the potential impact of difficulties on successful functioning across work, home, and social settings. The current self-report questionnaire study sought, therefore, to explore the relationship between dyslexia symptoms and two aspects of the everyday control of attention, namely mind-wandering and the frequency of everyday attentional errors.

Method:

An online survey was presented to a community sample of adults whose first language was English and who reported no neurodevelopmental conditions except dyslexia. Dyslexia symptoms were measured using the Adult Reading Questionnaire (Snowling et al., 2012). Two published mind-wandering questionnaires were presented, together with the Attention-Related Cognitive Errors Scale (Cheyne et al., 2006). To control for co-occurring (but undiagnosed) ADHD, the ADHD Self Report Scale (Kessler et al., 2005) was administered. To date, over 100 participants have returned a full set of valid responses.

Results/Conclusions:

The preliminary results show that adults self-reporting greater levels of dyslexia-related difficulties also reported experiencing more frequent attention-related cognitive errors. However, the relationship between dyslexia symptoms and mind-wandering problems was limited to more frequent mind-wandering failures when interacting with objects. The findings highlight the relationship between dyslexia symptoms and the everyday experience of attention in adults, indicating areas of strength and weakness. They also show ways in which problems with daily cognition differs between dyslexia and ADHD.

Abstracts

Reading in School

Eye-Movements In French Dyslexic University Students While Reading Aloud A Text With Spelling Errors

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2 ICAR UMR 5191 CNRS, ENS de Lyon, Université Lyon 2, France.

Purpose:

Dyslexia is as a multifactorial deficit, involving both phonological and visuo-attentional troubles. This study examined dyslexic students' eye movements in a more ecological reading situation, namely a text extracted from a French daily newspaper containing spelling mistakes. We aimed to investigate the oculomotor patterns associated with the processing of these mistakes to determine whether dyslexics could perceive them in real time. We hypothesized that an abnormal oculomotor pattern would be even found in university dyslexic students despite their good reading experience.

Method:

Eye movements were recorded with EyeLink 1000 in forty French university students (20 with and 20 without dyslexia) during reading a text extract from a daily newspaper. We modified 16% of words belonging to different grammatical categories to create orthographic errors (par ex. *attindu versus attendu (expected)). Reading times, number and amplitude of saccades, and number and duration of fixations were measured both in the whole text and on each mistaken word. After reading, participants had to answer five questions relating to the text and to detect the errors in the text.

Results/Conclusions:

Dyslexic students made significantly more fixations both in the overall text and on mistaken words and more retro-saccades with respect to non-dyslexic students. Moreover, they struggled more with error detection. Interestingly, the reading comprehension performances were similar in the two groups. These findings suggest that dyslexic students may employ compensatory strategies to quickly build a coherent interpretation of the text read. However, they still showed difficulties in processing spelling errors most likely due to both phonological and visuo-attentional deficits.

Abstracts

The Relation Of Orthographic Representations With Efficient Word Reading In Students With And Without Dyslexia

Sophia Giazitzidou, Anastasia Chideridou-Mandari, & Susana Padeliadu, Institute for the Future of Reading

Keywords:

orthographic knowledge; efficient word reading; dyslexia; transparent orthograph

Purpose:

Theories have been widely convergent that efficient word reading relies on precise and accurate mental spelling representations of individual words. These word-specific orthographic representations enable children to quickly recognize words by sight, releasing cognitive resources for understanding what they read. However, the relation of orthographic representations with efficient word reading specifically in students with dyslexia remains an open question.

Method:

We tested this relation in a cross-sectional study with Greek-speaking children with and without dyslexia in Grades 2 to 5. In both Grades, children completed measures of lexical and sub-lexical orthographic representations and efficient word reading, phonological awareness, rapid automatized memory, processing speed, and nonverbal ability. These measures enabled us to investigate the relation of orthographic representations with efficient word reading by examining the mediating role of major reading related variables.

Results:

Multiple-mediation path analyses revealed that rapid automatized naming and processing speed mediated the relation of orthographic representations with efficient word reading both in children with and without dyslexia, in Grades 2 and 5. All observed relations appeared to withstand controls for non-verbal ability and vocabulary.

Conclusions:

These findings suggest that children with dyslexia even by Grade 2 hold and use orthographic representations in word reading. Further, our results suggest potential mechanisms underlying the orthographic learning processes by showing that the relation of orthographic representations with efficient word reading is mediated by two variables relying on processing speed.

Abstracts

The Interrelationship Between Fluid Reasoning And Reading And Morphosyntactic Skills In Adolescents With Developmental Dyslexia

Kyriaki Tsitsipa, PhD Student & Ioanna Talli, Assistant Professor, Department of Italian Language and Literature, Aristotle University of Thessaloniki

Georgia Andreou, Professor, Department of Special Education, University of Thessaly

Objective

The goal of the present study was to examine the relationship between fluid reasoning and reading (decoding, fluency) as well as morphosyntactic skills (comprehension, production) in adolescents with Developmental Dyslexia (DD). Further, the predictive value of fluid reasoning was tested in order to confirm the contribution of fluid reasoning abilities to reading and morphosyntactic skills.

Method

Forty-two Greek-speaking children and adolescents participated in this study: 14 adolescents with DD attending secondary school (Grades 7 and 8), which were matched with 14 typically developing chronological age peers (CA) and 14 typically developing reading age peers (RA) attending elementary school (Grades 5 and 6). They were assessed with tests of fluid reasoning, reading ability (accuracy and fluency) and morphosyntactic skills (production, comprehension).

Results

The results revealed significant and strong correlations between fluid reasoning and reading skills for the DD (both accuracy and speed) and the RA group (only speed). Furthermore, significant and strong correlations were found between fluid reasoning and morphosyntactic skills for the CA and RA groups. Fluid reasoning contributed significantly to the reading ability of the DD (both accuracy and fluency) and RA group (only fluency). Significant and strong contribution of fluid reasoning was also found on morphosyntactic comprehension for the CA group and morphosyntactic production for CA and RA groups. The above-mentioned results indicate the existence of strong relations between cognitive, linguistic and literacy processing skills.

Abstracts

Understandings

Students As Constellations; Helping Dyslexic & Dyscalculic Learners Shine With Evidence-Based Approaches.

Katrin "Kate" McElderry, Teacher & Director for Outreach at The Odyssey School, USA

Abstract:

By thinking about students as a celestial constellations--a unique configuration of strengths, challenges and traits, aligned with the best practice methodology, all the stars of the constellation can shine brightly. Learn about and practice evidence-based methods employed at the Odyssey School in Maryland, USA that help students struggling with reading, writing and mathematics shine to their full academic potential.

Target Audience:

This workshop is aimed for educators of students with dyslexic & dyscalculic learning profiles.

Conclusions:

Participants will learn about shared cognitive constructs problematic for students with dyslexic & dyscalculic learning profiles, along with evidence-based methods that support students' constellation of academic challenges and strengths. Content from the workshop is rooted in the latest neuroscientific research and will infuse activity and discussion with practical lesson takeaways for teachers based in Europe and beyond.

Assessment With Actionable Insights : Neurodevelopmental Disorders And The Comorbidity Factor In Inclusive Education

Eleni Livaniou

What the workshop is about

When it comes to neurodevelopmental disorders, comorbidity issues play a crucial role for implementing inclusive approaches in education and ensuring that students with these conditions have access to all-round quality education.

Target audience

All professions involved with school-children.

Conclusions

The importance of comorbidity issues in the diagnosis of learning difficulties lies in ensuring accurate identification, tailored interventions, appropriate treatment planning, enhanced support, and preventive measures. The goal is to create an inclusive and supportive learning environment that meets the needs of all students, promoting empathy, understanding, and acceptance, helping all students develop important social and emotional skills.

Solving Number Problems: Healing The Achilles' Heel Of Pupils

Speakers:

Anthi Kokkoni, SEN teacher – Sociologist- Member of the administrative council of the Hellenic Union of Special Educators ''H.U.S.E.''

Kleoniki Vlassopoulou, SEN teacher-Greek Philology. On behalf of Leximathia, private institution for children with Learning Difficulties

Aim:

To encourage students to be thinkers not just calculators, by bridging the divide between critical thinking and operations. The traditional procedure presents students the problem (context), and requires them to write the operation in order to find the solution. Our suggestion is to provide pupils the operation together with alternative prompts (e.g., non-words, sketches) and ask pupils to design the context. Humor, productive mathematic discussions and playfulness are at the core of this approach.

Target Audience:

Teachers of primary education, SEN Teachers, Mathematicians, Undergraduate math and Special education students.

Conclusions:

This workshop aims at changing the mindset / way the participants teach problem-solving. One should choose between the ''blue pill'' and continue to be unproductive following the exact structure and procedures of textbooks, or the ''red pill'' and become a math innovator; giving classroom the math experience everyone deserves in order to delve into the magical world of mathematics.

Keynote 5

"Neurocognitive Similarities and Differences between Dyslexia and Dyscalculia"

Professor Bert de Smedt, University of Leuven, Belgium

Abstracts

Day 3, Sunday October 20

Keynote 6 – Live Stream

"Dyslexia and the Reading Brain in a Digital World."

Professor in residence Maryanne Wolf, UCLA, USA

Comparison

Oral Language Growth Differences Between Children With Persistent And Resolving Literacy Difficulties

Apostolos Kargiotidis; Department of Preschool Education, University of Crete)

George Manolitsis; Department of Preschool Education, University of Crete)

Purpose:

The purpose of the present longitudinal study was to examine whether the growth rate of oral language skills differs between children with persistent literacy difficulties (LD) and children with resolving LD from Grade 2 to Grade 3.

Method:

From an initial sample of 240 Greek-speaking children, 158 children were classified as having LD based on their performance on standardized reading and spelling tests in both Grades 1 and 2. The reading and spelling skills of children with LD were reassessed in Grade 3 to determine whether they presented a persistent LD profile (N = 114) or a resolving LD profile (N = 44). Children were also assessed on phonological awareness, morphological awareness, vocabulary and rapid automatized naming in Grades 2 and 3.

Results/Conclusions:

A series of repeated measures ANOVAs showed that children with resolving LD presented a significantly higher growth rate on morphological awareness than children with persistent LD from Grade 2 to Grade 3. No other significant difference was observed in the growth rate for the rest of oral language skills between the two groups. The present results underline the important role of morphological awareness development as a supportive factor for assisting children to overcome their early LD, and thus, they provide valuable insights for early LD intervention policy.

Abstracts

Children With Developmental Language Disorder (DLD) And Children At Risk For Dyslexia (RfD). Can They Be Told Apart?

Chalikia, A., Ralli, A. M., Antoniou, F. National and Kapodistrian University of Athens

Purpose:

Developmental Language Disorder (DLD) and dyslexia present with considerable overlap. Approximately 50% of children diagnosed with DLD also have reading difficulties, and vice versa. Longitudinal research suggests that as development proceeds, several children with DLD tend to overcome their reading difficulties due to improved phonological processing skills, while language deficits in children with dyslexia increase. The purpose of the present study was to investigate whether 6-7-year-old Greek-speaking children with DLD and children at risk for dyslexia (RfD) can be distinguished based on their oral language and word decoding deficits and whether common or different underlying factors account for these deficits across groups.

Method:

We recruited 45 first-grade students, equally divided into three groups: DLD (N=15), RfD (N=15), and TD (N=15). The groups were matched for age (Mage: 6.8 years), gender, and place of residence (urban-suburban). We assessed them on an array of cognitive tasks, including phonological processing (phonological awareness, RAN, verbal short-term memory) and verbal working memory, as well as oral language tasks such as listening comprehension, vocabulary knowledge, morphological awareness, narrative speech, and pragmatics (in both receptive and expressive levels), and word decoding tasks.

Results:

Between-group comparisons showed that both children with DLD and children at RfD scored statistically significantly lower in oral language, cognitive, and word decoding skills compared to the TD group. The RfD group showed statistically significantly better performance compared to the DLD group in oral language skills, but not in cognitive and word decoding skills. Bivariate correlational analysis revealed significant associations between cognitive skills and oral language in the DLD group, but not in the RfD group. Additionally, word decoding skills were strongly correlated with phoneme awareness in the RfD group and with RAN speed in the DLD group.

Conclusion:

Children with DLD and children at RfD at the specific developmental stage can only be distinguished by their oral language skills: the children with DLD demonstrate severe oral language deficits, while the children at RfD show subtle oral language difficulties. Also, despite both groups showing similar cognitive deficits, these factors are associated with different skills across the groups. The results are discussed in terms of three theoretical models of the relationship between DLD and dyslexia.

Abstracts

Creative Thinking In Preadolescents With Dyslexia: School Level Differences In The Figural Creative Advantage

Alice Cancer[1], Daniela Sarti[2], Marinella De Salvatore[2], Elisa Granocchio2, Greta Cardani[1] & Alessandro Antonietti[1]

1 Department of Psychology, Università Cattolica del Sacro Cuore, Milan, Italy

2 Neurology Unit—Language and Learning Disorders Service, Fondazione IRCCS Istituto Neurologico Carlo Besta

Purpose.

Although research on creativity and dyslexia produced contrasting results, accumulated evidence suggests a positive association. Rather than a general creative advantage in individuals with dyslexia, empirical findings pointed at strengths in specific sub-processes of creative thinking, namely figural fluency, and originality. While previous studies have attempted to identify the cognitive mechanisms that explain the dyslexic creative benefit, the role of age has been scarcely investigated.

Methods.

To explore the developmental trajectory of creative differences between typical and dyslexic children, 64 preadolescents (age: 8-14) with and without dyslexia (typical: n = 33; dyslexic: n =31) completed the Figure Completion test of the Torrance Test of Creative Thinking (TTCT), together with a battery of reading and cognitive tests.

Results/Conclusions.

Results revealed a significant interaction effect between group (typical vs. dyslexia) and school level (primary vs. junior high school). While primary school children with dyslexia showed lower levels of fluency and originality compared to their typical peers, the opposite trend emerged in junior high school students; 11-14 years old students with dyslexia obtained significantly higher fluency and originality scores in the figural creative task. These findings may have important theoretical implication and could help explain the developmental trajectory the of the creative cognitive profile associated with dyslexia.

Abstracts

Diagnosis and Screening

The Indipote(Dn)S Project: How To Identify And Train Children At Risk For Specific Learning Disorder

L.G. Dui[1], S. Fontolan[2], M. Bortolozzo[2], S. Franceschini[2], L. Macchi[3], S. Bralia[3], A. Donati[1], S. Ferrante[1], C. Termine[2]

1 Department of Electronics, Information and Bioengineering (DEIB), NEARLab - NeuroEngineering And medical Robotics Laboratory, www.nearlab.polimi.it, Via G. Colombo 40, 20133 Milan, Italy

2 Department of Medicine and Technological Innovation, University of Insubria, Via Guicciardini 9, 21100 Varese, Italy

3 Local School Office, Via Elvio Copelli 6, 21100 Varese, Italy

Purpose

To improve learning disorder diagnosis, early screening is needed: targeted training potentially improves the skills of children who present only a learning delay. To this end, the IndiPote(dn)S project has been devised: teachers observe children in different learning domains with 95-item observational grids; training activities are proposed; then, children with persistent weaknesses are reported to clinicians. The project's pilot confirmed the validity of the experimentation (Bortolozzo et al., 2022): this presentation provides an overview of the project in the following years.

Method

The process is shared in 5 main phases lasting the whole school year:

- Phase 1: General class observation, at the beginning of the year, to understand which children need to be personally observed during the following months.
- Phase 2: Individual observational phase, during the first half of the school year, on the items of the IndiPote(dn)S observational grids.
- Phase 3: Training phase with specific activities.
- Phase 4: Individual observational phase, at the end of the year, to identify if the weakness has recovered.
- Phase 5: Reporting to clinicians for children with persistent weaknesses.

Results/conclusions

43186 children were observed from 2019 to 2022. Weaknesses are present in 25% of them, in particular in the language area and in the domain of attention and memory. Concerning the training, younger children show better improvements than older ones (60% vs 30-40% items recovered in median): difficulties observed at older ages are more likely to be associated with specific disorders that cannot improve even with training. Concerning the outcome, 78% of identified children started the clinical pathway in 2022, supporting the usefulness of the observation and training activities.

Abstracts

Screening, Formative, And Summative Assessment For Students With Learning Difficulties In Greece

Eftychia Sarakatsanou, Tsolis Athanasios and Sotiria Tzivinikou; Department of Special Education, University of Thessaly, Volos, Greece

Screening for students with learning difficulties or underachievement in mainstream education is a crucial step in preventing school failure. Additionally, progress monitoring and evaluating the effectiveness of instruction or intervention is essential in the data-based decision-making process. This study sought to identify the assessment practices and tools employed by teachers for screening, formative, and summative purposes as well as the challenges they meet in the process of screening and supporting students at risk of learning disabilities or underachievement in reading and writing. This study specifically delved into the practices employed by primary and secondary teachers within the Greek school system. Through online questionnaires, teachers revealed the procedures guiding their approach for reading and writing assessment. The inquiry encompassed screening methodologies, progress monitoring procedures for students receiving educational support within mainstream classrooms or participating in intervention programs, and the methods employed for summative assessment to gauge the efficacy of interventions or instructional strategies. The findings indicate that teachers apply screening when it becomes necessary, frequently relying on their professional judgment. For progress monitoring, teachers actively engage in daily non-systematic observation, guided practice activities, and use systematic observation and curriculum based assessment when it becomes necessary. Summative assessment commonly draws upon personal judgment, feedback from peers, non-systematic observations, and curriculum based assessment. We discuss the contingent implementation of appropriate literature-based methods, to achieve the aforementioned purposes.

Adolescence and Adults (Reading and Grammar)

The Relationship Between Self-Reported Dyslexia Symptoms And Executive Functioning In Adults

Miss Christina Protopapa, Dr Rachael Elward, and Dr James Smith-Spark; London South Bank University, London, United Kingdom

Purpose

The effects of dyslexia in adulthood are persistent and extend beyond the literacy domain, but research in this area is limited, and has tended to focus on university student samples. The present online study aimed to recruit a larger, community-based sample to investigate the relationship between self-reported dyslexia symptomatology (not diagnosis) and five distinct executive functioning domains, that contribute to the successful daily functioning of adults.

Methods

One hundred and eighty adult participants completed the Adult Reading Questionnaire as a screening tool for dyslexia symptomatology and the ADHD self-report scale, to screen and control for potential co-occurring ADHD-related symptoms. They also completed the Barkley Deficits in Executive Func-

tioning Scale as a measure of executive functioning ability across five everyday domains. Hierarchical multiple regression analyses were used to determine whether self-reported dyslexia-related symptomatology was a significant predictor of more frequent problems with executive functioning.

Results/Conclusions

Analyses revealed that increased levels of self-reported dyslexia symptomatology were associated with more frequent problems with self-management to time, self-organisation/problem solving and self-motivation, even after controlling for self-reported ADHD symptomatology. No significant associations were found between dyslexia symptoms and self-restraint or self-regulation of emotion. The results underline the importance of studying dyslexia in adulthood to enhance everyday support, and have important implications for dyslexia theory.

Teaching Grammar In The EFL Classroom To Students With Dyslexia"

Paraskevi Kaperoni , Special education English Teacher,Ma,Phd Candidate

Throughout the workshop, participants will delve into the nuances of addressing dyslexia within the English as a Foreign Language (EFL) context, with a specific focus on grammar instruction. Practical strategies will be shared, emphasizing personalized approaches that accommodate diverse learning styles.

The session will incorporate hands-on activities, case studies, and collaborative discussions, enabling teachers to exchange insights and refine their instructional techniques. The workshop will explore the use of visual aids, multisensory methods, and assistive technologies to make grammar lessons more

accessible and engaging for students with dyslexia.

Furthermore, the workshop will provide guidance on adapting existing curriculum materials and developing new resources tailored to the unique needs of dyslexic learners. By the end of the session, participants will leave equipped with a toolkit of effective strategies and a deeper understanding of how to create an inclusive and supportive EFL environment for students with dyslexia.

Preventing School Failure In Learners With Dyslexia In Mainstream Secondary Schools In England

Georgina Nnamani, Manchester Institute of Education

Research has shown that learners with special educational needs (SEN) are more likely to leave school early (Limbach-Reich & Powell, 2016). For some learners, this can be because of their challenges. For instance, learners with dyslexia can struggle at school as a result of their reading difficulties but some learners can also experience secondary challenges such as bullying which, in turn, causes anxiety and low self-esteem. Studies indicate that these factors can trigger a decision to drop out of school (De Witte & Cabus, 2012). Some learners identify the school as being a negative place as a result of their experiences (Nnamani, 2024) and may become passive or may drop out of school entirely. Some learners may go on to higher education and take up leading roles in significant areas.

Abstracts

Although much is known about early school leaving and school dropout, and the factors that may contribute to the dropout, there is less is known about the extent to which learners with SEN such as those with dyslexia are pushed out of the school system because of education policies which place focus on academic standards, behavioural management and attendance over inclusion.

Drawing on my lived experiences as a dyslexic and a researcher, this workshop aims to distinguish between school dropout, early school leaving, and school failure. The workshop is opened to anyone interested in knowing how learning experiences and school practices can set learners with dyselxia on the path to school dropout or early school leaving. In this workshop, I will contextualise school dropout and early school leaving as an 'outcome' of multiple factors, including lack of engagement, the use of illicit drugs, social deprivation, troubled household. In contrast, I will contextualise school failure as a systemic 'failure to address' 'failure to spot the signs of dyslexia', and 'failure to act on the risks of school dropout'. I argue that school failure can also occur through in-school practices.

In conclusion, I will provide recommendations for preventing school failure. These will include addressing practices such as ability grouping, alternative provisions, and differential treatment. Schools should be empowered to provide barrier-free education, involving a universal design for learning. A whole school well-being promotion programme, peer- to peer mentoring, and improving home and school partnerships can prevent school failure.

Keywords: School Dropout, School Failure, Early School Leavers, Dyslexia, SEN

Keynote 7

"Social and Emotional Adjustment of Individuals with Learning Disabilities: Identification and Support across the Lifespan"

Associate Professor Fotini Polychroni, National & Kapodistrian University of Athens, Greece

Abstracts

Posters

Interactive posters

The posters are sorted in alphabetical title order with numbers identifying them.

Poster session 1 - Friday October 18, 15:50 – 16:20

1 Academic challenges and formal/informal practices in Tertiary Education concerning Specific Learning Difficulties; Case study analysis of a Greek Pedagogical Department

Tatiani Mousoura, Special Education PhD, MA, Psychology of Music MA, Philosophy-Pedagogy-Psychology BA; Pikermi, Attiki, Greece 19009

Purpose

This study (which comprises part of a larger research project) aims to shed light on the views and academic experiences of people with specific learning difficulty (SLD)/dyslexia, and those of their academic environment. Moreover, the choice of a Pedagogical Education Department (PED) used in the case study illuminates possible challenges and academic practices for students with SLD in Tertiary Education.

Throughout its duration, the investigation created a forum for the 'voices' of adult people with SLD. Simultaneously, the opinions of university classmates, academic and administration staff, have been outlined, thus illustrating the conceptualisation of SLD in the specific PED.

Method

Data collection tools had first been piloted.

(a) Qualitative methods

Ten (N=10) semi-structured individual interviews with undergraduate students with SLD.

Fifteen (N=15) semi-structured individual interviews with academic staff.

(b) Quantitative methods

One-hundred sixty-five (N=165) questionnaires, designed in five five-point Likert scale, distributed to third and fourth-year students.

Five (N=5) questionnaires, were completed by the administration staff.

After being transcribed into Word documents, data collected from the interviews were examined for content themes. Data collected from questionnaires were coded into SPSS to provide descriptive statistics.

Results / Conclusions

A positive sign of inclusion practices in the PED is that students with SLD have access to a Counsellor via the Facility of Inclusive Education and Research in Disability. However, there are informal academic practices in the PED, such as the prohibition of recording lectures, which are not conducive to student

inclusion.

A major concern of students with SLD is that being recipients of academic support may lead to them experiencing discriminatory behaviour in the academic community. Additionally, negative experiences during school years are linked to their attitude towards university SLD allowances. Finally, their claim to academic support is closely interwoven with their desire to keep SLD hidden.

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2 Advancing Spelling Proficiency: Integrating Psychometric Assessment and Tailored Interventions for Students with Specific Learning Disabilities

Fragkouli, K[1]., Antoniou, F1., Sideridis, G.[2]

1 Department of Educational Studies, National and Kapodistrian University of Athens, Greece
2 Department of Pedagogy and Primary Education, National and Kapodistrian University of Athens, Greece

Purpose

This research endeavors to introduce a psychometric tool tailored to illuminate the specific challenges encountered by students with Specific Learning Disabilities (SLD) in the realm of spelling proficiency. Emphasizing the potency of in-depth analysis in shaping the development of targeted educational interventions, this screening tool aims to provide educators with a comprehensive understanding of the intricacies underlying spelling difficulties. By delving into various linguistic dimensions, the tool discerns strengths and weaknesses, enabling educators to tailor interventions that cater to the unique needs of each student with SLD. The screening process is directed towards identifying any challenges students may encounter in spelling by dictating a text of 126 words of gradual difficulty. Moreover, educators can undertake a meticulous analysis of students' spelling errors to pinpoint specific difficulties in grammar, orthography, and/or phonological spelling. This approach facilitates the development of tailored strategies aimed at enhancing spelling proficiency. Thus, this research seeks to evaluate the efficacy of the implemented spelling intervention program over a six-week period, comparing it to a control group that receives traditional teaching methods. Through this multifaceted approach, the study aims to contribute valuable insights into enhancing spelling proficiency for students facing learning difficulties.

Method

Normed with a diverse cohort of Greek-speaking elementary school students, ranging in age from 8 to 15 (attending grades 3 to 9), this spelling screening tool underwent thorough testing. To ascertain its reliability, a re-examination was conducted, assessing the test-retest reliability of the spelling assessment. In a subsequent phase, a randomized study was initiated to explore the preliminary effectiveness of traditional spelling intervention activities. Seventy-three Greek-speaking children at the age of 8, diagnosed with spelling-related challenges such as LD, were randomly assigned to either intervention or control groups. Children in the intervention group engaged in 16 sessions over a 6-week period, providing valuable insights into the potential efficacy of the spelling screening tool in guiding targeted interventions for students facing difficulties in spelling proficiency.

Results/Conclusions

Our findings serve to substantiate the reliability and validity of the recently developed standardized

spelling test, thereby emphasizing its potential importance as an integral part of a screening procedure for identifying potential LD in spelling. The outcomes of this study underscore its significance, as the experimental group demonstrated markedly elevated mean scores in spelling compared to the control group. Additionally, the comprehensive analysis of students' spelling errors and their classification into categories such as grammar, orthography, and/or phonological spelling can facilitate the targeted implementation of spelling interventions. In conclusion, identifying challenges in spelling proficiency can inform diagnostic assessments, thus enabling the timely initiation of interventions.

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3 An Exploratory Case Study on the Role of Universal Design for Learning (UDL) in supporting the inclusion of learners with dyslexia in an Irish HEI: Perspectives of Lecturers and Dyslexic students

Lucy Crowe is an Ed.D candidate in Dublin City University's Institute of Education.

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Munster Technological University (Kerry)

Department of Social Sciences, North Campus,

Tralee, Co. Kerry.

Purpose

The purpose of this research study is to explore the perspectives of lecturers and dyslexic students regarding the role of Universal Design for Learning (UDL) in supporting the inclusion (learning and educational experiences) of dyslexic students in an Irish HEI. It aims to give a voice to lecturers and dyslexic students on the research topic to help clarify similarities and differences in understanding amongst these groups on their lived experiences of higher education and on recent developments within Ireland's higher education sector to embed Universal Design for Learning across the sector.

This study will make a new contribution to knowledge around the topics of inclusion, dyslexia and UDL from the perspective of academic staff and dyslexic students whose college experiences are under explored in the research (Collins et al., 2017). The problem that this research addresses is the higher education policy which aims to implement the UDL framework into all HEIs to promote equitable access policies (Higher Education Authority, 2021. p4). Recent research finds however that the lack of widespread use of inclusive pedagogy among academic staff is related to a lack of consensus about what inclusion means and an absence of training in inclusive practices and UDL (Stentiford & Kontsouris, 2020).

At the time of writing, the gap between the policy rhetoric and practice on inclusive higher education and the need for job-embedded professional development for lecturers as a prerequisite to systemic implementation of UDL have not been explored. Not only will this research study address this lacuna, but it will also build on previous research conducted within Dublin City University's Institute of Education which examined the role of disability support staff in supporting students with dyslexia in Irish HEIs. One of the recommendations from this study was that "future research might address how lecturers in Irish HEIs understand and characterise dyslexia (Murphy, C., 2022 p.166). This study will collect and analyse data from lecturers and dyslexic students on their understanding of inclusion, understanding and characterisation of dyslexia, the barriers lecturers face in embedding UDL in their practice juxtaposed with dyslexic students' perspectives on how UDL can support their learning and educational experience in an Irish HEI.

The questions which the research seek to address are:

1. How do lecturers understand and characterise dyslexia?
2. How do students with dyslexia understand and characterise dyslexia
3. How does training in education influence lecturers' understanding of inclusive third level education?
4. As primary educators, what are the barriers to embedding UDL principles in their practice?
5. From the dyslexic student perspective what role can UDL play in supporting learning and enhancing the higher education experience?

This research seeks to make a novel contribution to the existing research on dyslexia in higher education through an exploratory case study involving lecturers and dyslexic students. The gap in the literature around the academic and student voice has produced the research problem which has implications for policy and practice. Collaboration and inclusive dialogue are vital to shaping sustainable and effective developments in dyslexic provision through UDL. The researcher's goal in undertaking this study is to create a space for those at the front line of higher education to lead developments in this space rather than being on the periphery. The failure to address the policy problem identified could hinder the systemic implementation of UDL across the Irish HE sector potentially impacting the learning and educational experiences of dyslexic learners within mainstream provision

Methods

The researcher aims to carry out an exploratory case study to investigate the perspectives of lecturers and dyslexic students on the role of Universal Design in Learning (UDL) in supporting the inclusion of learners with dyslexia in an Irish HEI. A case study is an appropriate method of inquiry to investigate a contemporary phenomenon indepth and within its real-life context (Yin, 2009.p.18). This study will employ a qualitative approach to data collection focusing on the individual units of analysis within the study (lecturers and dyslexic students) to gain deep insights into the subjective experiences of the participants on the research questions. A variety of data collection methods may be used including semi-structured interviews, focus groups, observations, surveys (quantitative data) and document analysis. Collecting data from different sources enables triangulation of the data which enhances the validity and reliability of the findings.

The participants in this study will be student- facing staff and dyslexic students within an academic faculty where the researcher is based. The dyslexic student participants will be registered with the University's disability support services and recruitment of participants will be conducted with the assistance of the disability support office. Given the diversity of the student population within the University, it is anticipated that among the dyslexic participants in this study will be mature students, students from underrepresented groups, students with physical disabilities as well as students from different ethnic and religious backgrounds. The additional barriers these students face speak to the intersectionality of disadvantage which hinders equity of participation in higher education and impacts student outcomes. Research conducted by Nichols & Stahl (2019) concluded that there is considerable work to be done to address the workings of intersecting systems of inequity within higher education.

This study has many practical advantages from the perspective of an insider researcher. The research highlights some key advantages which include having a good understanding of the culture being studied, the politics of the institution, and knowledge about how things work as well as intimate knowledge that promotes both the telling and judging of truth (Bonner and Tolhurst, 2002). Being on the insider will allow the researcher access to people with the authority to facilitate the research, grant ethical approval and permit access to particpants. However the loss of objectivity due to familiarity, and the potential for researcher bias in data collection methods and analysis are key considerations that could invalidate the results. These issues as well as the researcher's positionality will be explicitly addressed and acknowledged from the outset. In addition, ethical issues related to accessing privileged infor-

mation and ensuring the anonymity of participants must be fully respected throughout the research process.

Conclusion

Several findings could potentially emerge from this exploratory case study investigating lecturers and dyslexic students' perspectives on the role of UDL in supporting the inclusion of dyslexic learners in an Irish HEI. The research may uncover the following:

1. Divergent views in understanding and characterisation of dyslexia among both groups
2. Lecturer lack of understanding of inclusion and inclusive pedagogies
3. Lecturer lack of awareness and understanding of UDL
4. Divergent views on the effectiveness of UDL in supporting learning and the educational experiences of students with dyslexia due to lecturer knowledge and relevance to their specific context.
5. Barriers faced by dyslexic students in HE: inaccessible course materials, inadequate accommodations for assignments, lack of lecturer empathy and lecturer liaison
6. Barriers faced by lecturers in adopting UDL: lack of training, lack of time, large classes and unfeasibility of multiple means of representation and assessment.
7. Positive outcomes of lecturer implementation of UDL may reveal improved academic performance for dyslexic students leading to enhanced self-confidence and reduced levels of academic anxiety.
8. Negative outcome if UDL is not implemented in an effective and sustainable way: increased dropout rates, under performance of dyslexic students, disengagement, stigmatisation of dyslexic students having to access disability support services rather than mainstream provision.

Overall, the conclusions from this case study will have relevance for HEIs across the European higher education area as the number of students with dyslexia entering higher education is increasing globally (Kerl, 2018). Research in this field plays a crucial role in increasing understanding of the most diagnosed learning difficulty in higher education associated with a range of challenges which impact the students' university experience and academic attainment (Donato et al., 2022; Murphy, 2022; Tobell et al 2020; Griful-Freixenet et al., 2017; Murders, 2017; Kerl, 2018).

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4 Assistive technology in English as a foreign language education in the Danish comprehensive school

Anja Bols Slaattvik, ass. prof. at VIA University College and PhD student at University of Aarhus, Denmark

This presentation is based on an ongoing PhD project that brings together expertise in dyslexia, reading, and writing, along with knowledge about assistive technologies. It places these elements within the context of English as a foreign language education (EFL).

In the Nordic countries, extensive research has been conducted on pupils with dyslexia in native language teaching settings, but there has been less focus on their experiences in foreign language learning. This project aims to investigate practices and reflections of both teachers and pupils in EFL education. The goal is to develop a comprehensive guide for foreign language teaching that better addresses the needs of pupils with dyslexia.

It is a linguistic ethnographic study that involves several components. Firstly, observations in EFL classes investigate how nine year six pupils with dyslexia use assistive technology. Also, interviews with teachers provide insights into their thoughts and experiences in teaching EFL particularly regarding the use of technology in writing and reading instruction. The pupils participate in Verbal Protocol interviews, where they explain their approach to using assistive technology while working on English assignments. In the project's final phase the teachers will be invited to collaborate in the development of a guide for EFL teaching that considers the specific needs of pupils with dyslexia.

The presentation will center on data collected through fourteen observations and twelve interviews. It will offer an initial analysis of the approaches pupils use during reading and writing activities within the EFL classroom. Additionally, it will explore the pupils' thoughts on their use of technology during reading and writing tasks.

Moreover, the presentation will incorporate the teachers' insights and explanations regarding the objectives, aims, and methodologies they employ in EFL teaching, especially when accommodating pupils with dyslexia and utilizing assistive technology. This additional perspective will enhance the depth of the analysis.

Posters

5 A Tier 2 Phonological Intervention for 6-Year-Old Pupils at Risk for Reading Difficulties: A Pilot Study

Camilla Nilvius

Purpose

Previous research has identified decoding challenges among Swedish Grade 1 students, with 37% of L2 and 19% of L1 scoring low in word decoding (Fälth et al., 2022). Limited phonological awareness can exacerbate these challenges (Kamhi & Catts, 2014). Early interventions targeting phonological awareness, particularly within Tier 2 RTI settings, have shown promise (Lovett et al., 2015; Wanzek et al., 2015). However, the impact of Tier 2 phonological interventions on Sweden's youngest compulsory school students remains unexplored. The study aims to evaluate the efficacy of Tier 2 phonological interventions on the reading abilities of 6-year-old pupils at risk for reading difficulties.

Method:

A quasi-experimental design screened 175 6-year-old pupils. 36 exhibited low phonological awareness (stanines 1-3), from which 32 were matched based on screening test results, gender, and language background (L1/L2), forming an experimental group (n=16) and a comparison group (n=16). The experimental group underwent a Tier 2 intervention focusing on phonological awareness (sound segmentation, synthesis, and grapheme-phoneme correspondence). The intervention comprised 15 sessions of 20 minutes each, conducted in groups of 4 students over five weeks. Pre- and post-tests were administered, with between-group analyses and effect sizes calculated.

Results and Conclusion:

Preliminary findings suggest significant improvements in phonological awareness within the experimental group compared to the comparison group on post-intervention. Initial analyses demonstrate significant effect sizes using Hedges' g. In summary, the outcomes indicate the effectiveness of a concise Tier 2 intervention targeting sound segmentation, synthesis, and grapheme-phoneme correspondence for 6-year-old pupils with deficient phonological awareness. Given the pilot nature of the study, further research with a larger sample size is warranted to validate these findings.

6 Can a Phonetic Alphabet (ITA) Intervention Repair Phonological Deficits in English-Speaking Dyslexics?

Jane Flynn Anderson, ITA Foundation

Purpose:

Dual-route models posit that both phonological and orthographic deficits characterize dyslexia (Castles & Coltheart 1993; Manis et al. 1987; Sprenger-Charolle et al. 2000), with phonological deficits most prominent. However, in transparent orthographies phonological awareness diminishes as a predictor of reading failure after the first years of schooling (Landerl & Wimmer 2000; Moll, et al. 2013; Seymour, Aro, & Erskine 2003) in contrast to English. Our research questions: Can Quantitative EEG distinguish dyslexic

subtypes? Will phonologically-impaired dyslexics respond best to a phonetic initial teaching alphabet (ITA) intervention or to traditional orthography phonics programs?

Method:

Quantitative EEG was used to study differentiation of children with phonological or orthographic deficits and normal readers. Two samples (n=54), C.A. 7-0 to 10-11, were recorded during resting baseline and contextual reading. Fast Fourier transformed 2-second EEG segments were used for statistical analysis and visual mapping. A third sample of dyslexic and normal readers included ITA-remediated dyslexics.

Subtype-treatment interaction studies featured random assignment of children with phonological or orthographic deficits to either a researcher-designed ITA intervention or a traditional orthography phonics program (Orton-Gillingham or SRA Reading Mastery).

Results/Conclusions:

Resting EEG did not distinguish dyslexic and normal readers, while the reading condition showed differential theta and beta activation (Flynn et al. 1992; Flynn & Deering, 1993). A neural network correctly classified 22 of 29 subjects (Ramadan, et al. 1993). In a later study, ITA-remediated dyslexics differed from unremediated peers but not from normal readers.

ITA interventions were superior to traditional orthography phonics programs regardless of cognitive risk profile (Debner & Anderson 2017; Lyon & Flynn 1991).

Our brain imaging and intervention studies support ITA for remediation of dyslexia and indicate which ITA strategies work best for children with different cognitive risk profiles.

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7 Compound Processing: An Eye-Tracking Study On Italian Adolescents With Developmental Dyslexia

Zordan Angelica, Melloni Chiara – University of Verona, Italy

This ongoing study aims to explore how compound words are processed by Italian adolescents with Developmental Dyslexia (DD) and with typical development.

Two eye-tracking studies adopting a visual world setup will address different issues in compound processing. 1. A Look-and-Listen task featuring a two-by-two design examines

interpretive features of Italian invented Noun-Noun (NN) compounds; in each trial, a 1st constituent competitor (car), a 2nd constituent competitor (banana), a compound competitor (banana-car, i.e., a banana with wheels), and a target (car-banana, i.e., a car with the shape of a banana) are presented on the screen. Participants have to find the object the oral stimulus asks for (e.g., Trova macchina-banana, eng., Find car-banana). 2. A Reading Task focuses on headedness preference and potential differences in processing exo- and endocentric real compounds. Additionally, based on Scalise and Bisetto's (2005) classification, it addresses the processing of compounds with constituents linked by different grammatical relations, i.e., coordinate, subordinate, and attributive.

Finally, a Naming Task aims to investigate the production of invented NN and Verb-Noun (VN) compounds in individuals with DD. Participants must name pictures of machines engaged in actions, shedding light on cognitive processes in compound formation. For instance, participants see a machine that unties knots (ita., slegare i nodi) and must name it by using a maximum of two words (e.g., slega-nodi).

In conclusion, this research goes beyond current knowledge, addressing the gap in understanding the interplay between compounding and DD. It contributes significantly to a broader understanding of linguistic factors, including the effect of dyslexia in L1 processing in the landscape of language impairment.

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8 Dealing with dyslexia in Germany, Sweden and Canada – the affected individuals' perception and teachers' perception

Sophie Jung, Ruhr-Universität Bochum, Germany
Jasmin Zielonka, Ruhr-Universität Bochum, Germany

Authors:

Dealing with dyslexia in educational institutions – affected individuals' and teachers' perception Sophie Jung has been working on her doctoral thesis at Ruhr-Universität Bochum. As part of her research project, she interviewed adults with dyslexia in Sweden, Canada, and Germany. She wants to raise awareness for the importance of science communication – especially regarding new knowledge about didactics and learning disabilities.

Jasmin Zielonka has been working on her doctoral thesis at Ruhr-Universität Bochum and therefore has been conducting interviews with German high school teachers accompanying students with dyslexia. She is a lecturer focussing on language didactics and teacher training in inclusive settings and is the person responsible for study-related practical projects within this field at different German universities.

Purpose:

The researchers' aim is to shed a light on by dyslexia affected individuals' perceptions as well as those of teachers accompanying them to gain an insight which is usually reserved to these involved individuals. Thus, it is possible to achieve scientific knowledge of social as well as life perspectives and furthermore identify existing desiderata. Even though there are multiple professions conducting research on dyslexia and its partial aspects like causes, diagnosis and intervention from different angles, the personal experience focussed on within this project is widely unexplored especially for Germany.

Method:

The data for both projects have been collected within narrative interviews. Sophie Jung obtained the sample through social media, contacts, and internet research whereas Jasmin Zielonka was able to form her sample through contacts in educational contexts. All interviews have taken place in person and were transcribed to analyse the data using qualitative content analysis. Deductive categories are formed to create a coding guide, which is applied by using the online tool MAXQDA. As certain patterns have only been recognized during analysis, further categories have been formed inductively.

Results:

While analysis and interpretation of the data collected has not been finished yet, for the teachers' perspectives becomes increasingly evident that despite best efforts meeting dyslexic students' requirements due to rigid institutional guidelines and framework conditions they often cannot satisfy their personal as well as professional expectations. The affected persons' narratives give a hint to a connec-

tion between the way educational institutions have dealt with them, their personal perception of their dyslexia and their positive and negative coping strategies developed.

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9 Differentiated Assessment for High School Students with Learning Difficulties: The Use of Choice Boards in a Literature-Based English Class

Vasiliki Giannopoulou, Greece

Differentiated assessment includes tailoring assessment methods and strategies to meet the diverse students' needs, including those with learning difficulties. Choice boards, as an alternative tool of assessment, were chosen for high school students with learning difficulties in a Literature-Based English Class. The assignments were thematically related to the texts and poems covered, some of which were: "By Any Other Name", a memoir by S.R. Rau, "Mirror", a poem by S. Plath, and "The Tragedy of Macbeth", drama by W. Shakespeare. Choice boards as a form of assessment were assigned after the text analysis and included activities that addressed different learning styles and difficulty levels, such as options for written responses, creative projects, oral and/ or visual presentations, videos, and/ or podcasts. Choice boards foster a sense of ownership over learning, provide opportunities for students to express their understanding of literature creatively, and promote academic success.

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10 Dissociation between Attention and Phonological Processing in Developmental Dyslexia: New Evidence from Italian

Marina Rossi, Tamara Rathcke, University of Konstanz

Purpose:

Developmental Dyslexia (DD) is a neurodevelopmental disorder characterized by persistent literacy difficulties. While the aetiology of DD remains unclear and shows large variability among affected individuals, an impairment of phonological awareness, a deficit of temporal processing ability, or a deficit of cognitive resources are among most frequently discussed accounts of DD. The aim of the present study was to examine these accounts by comparing DD with and without a comorbidity, i.e. dyscalculia.

Method:

Seventy age-matched Italian adolescents were tested. The dyslexic group had an official diagnosis of pure DD (N = 16) or mixed DD (N = 24, with comorbid dyscalculia). The control group had typically developing language (N = 30). All participants completed a phoneme monitoring task, responding to target consonants (sonorants vs. obstruents, singletons vs. geminates), occurring in strong or weak syllables of polysyllabic non-sense strings. Individual levels of musical training, attention and working memory were measured.

Results:

Compared to the control group, all participants with DD showed diminished sensitivity and accuracy in

response to all phonemic contrasts of the study which was moderated by individual attentional resources. While the control group showed improved performance with increased attentional resources, the dyslexic group did not improve regardless of the available attention levels.

Conclusions:

The study is the first to document the behavioural consequence of a previously identified neural connectivity issue in DD and supports the cognitive account of DD. We suggest that DD arises from an inefficient use of attention due to a dissociation between phonological processing and cognitive resources.

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11 Dyslexia within the Interdisciplinary Field of Tension: A Case Study in Austria

Dr. Florentine Paudel, University College of Teacher Education Vienna, Austria

The poster presentation delves into the multifaceted landscape of dyslexia management in Austria, examining its nuances across different stages of life with a particular emphasis on educational interventions within the schooling framework. By employing document analysis methodologies, the presentation scrutinizes the pervasive influence of the medical paradigm on pedagogical approaches towards dyslexia. Through this analytical lens, the presentation elucidates the inherent tensions that emerge at the intersection of medical and educational ideologies. Visual aids are utilized to vividly illustrate these tensions, facilitating a nuanced discussion of their implications and potential resolutions within the Austrian context. Through a critical examination of these dynamics, the presentation seeks to contribute to a deeper understanding of the complexities inherent in addressing dyslexia within educational systems, ultimately aiming to inform more effective and inclusive practices.

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12 Early cortical tracking of auditory stimuli predicts reading skills: A one-year longitudinal study

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Purpose

The precision of cortical tracking of (or synchronization with) speech modulations in low frequency ranges coding for prosodic (delta) and syllabic (theta) speech units has been shown to contribute to the development of phonological and reading skills. Thus, impaired cortical tracking of speech has been proposed to be a potential cause for dyslexia. This study investigates whether cortical tracking of non- verbal auditory stimuli presented at these frequency ranges could predict reading trajectories, and be a potential early neurophysiological non-verbal marker of future reading difficulties.

Method

Forty prereading Spanish-speaking children in their last year of kindergarten performed a passive listening task of amplitude modulated white noises presented at a rate falling in the delta (2 Hz) or theta (4 Hz) frequency bands, while their neural activity was recorded via electroencephalography (EEG). From these EEG signals, the strength of neural synchronization to these stimuli was assessed. One year later, during first grade, reading skills were assessed by asking children to read aloud words and pseudowords. Nonverbal IQ was also assessed.

Results/Conclusions

Significant cortical tracking of auditory stimuli at both frequencies was found in pre-reader children, with larger responses for theta than delta rate stimuli. Importantly, only cortical tracking of delta rate stimuli predicted reading acquisition one year later, and was able to categorize children who would develop future severe reading difficulties.

These findings underscore the role of early neural synchronization to delta rate auditory stimuli for reading acquisition and support the hypothesis of prosodic processing difficulties as a potential cause of reading disorders such as dyslexia.

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13 Effects of Early Bilingualism on Laterality in a Dichotic Listening Task

Hadeel Ershaid and Marie Lallier

Purpose:

Studies investigating hemispheric lateralization for linguistic stimuli using the dichotic listening paradigm have consistently shown a right-ear advantage in typical monolingual populations, reflecting left-hemispheric dominance for language. A reduced right-ear advantage is found in monolinguals with dyslexia, suggesting a link between atypical hemispheric lateralization and dyslexia. Curiously, a reduced right-ear advantage is also reported in bilingual typical readers, which is hypothesized to reflect increased interhemispheric cooperation because of bilingual language experience. We hypothesize that in bilinguals with dyslexia, a recovered right-ear advantage will emerge because of increased interhemispheric connectivity in bilingualism. Therefore, the purpose of this study was to compare laterality indices in a dichotic listening paradigm between a group of bilingual typical readers and bilingual readers with dyslexia.

Method:

12 Basque-Spanish early bilinguals with dyslexia and 12 early bilingual typical readers were assessed on a free-recall dichotic listening paradigm using CV syllables as stimuli. A laterality index for each participant in each condition was calculated.

Results and Conclusions:

Bilinguals with dyslexia were significantly more right lateralized compared to controls, and exhibited a significant right-ear advantage, while controls did not. These results are in line with findings of a reduced right-ear advantage in bilingual typical readers, and provide preliminary support for hypotheses suggesting that early bilingualism boosts interhemispheric connectivity, which would result in a recovered right-ear advantage in CV dichotic listening tasks in early bilinguals with dyslexia (i.e., left-hemisphere lateralization for linguistic stimuli), compared to monolinguals with dyslexia, who exhibit a reduced right-ear advantage, reflecting atypical hemispheric lateralization.

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14 Evaluation of an executive function intervention for children with specific learning disorders

Aikaterini Pavlidou, Department of Primary Education, University of Thessaly, Volos, Greece.
Evangelia-Chrysanthi Kouklari, Department of Child Psychiatry, Aghia Sophia Children's Hospital, School of Medicine, National and Kapodistrian University of Athens, Athens, Greece.
Stella Tsermentseli, Department of Primary Education, University of Thessaly, Volos, Greece

Purpose:

This study examines the efficacy of a school-based executive function (EF) intervention (Unstuck and On Target, UOT) for improving EF and theory of mind (ToM) in school-aged children with specific learning disorders (SLD). The UOT intervention (Cannon et al., 2011) is a group-based curriculum designed to teach what physical/mental flexibility, goal setting and planning are, and why they are useful skills, through a cognitive-behavioral program of self-regulatory scripts, guided/faded practice, and visual/verbal cueing.

Methods:

Forty children, 4th & 5th grade, were assigned either to the intervention group (n = 22) or the active control group (regular classes without UOT, n = 18). Measures of pre–post change included performance-based measures of cold EF (i.e., working memory, inhibition, shifting, planning), hot EF (i.e. affective decision making, delay of gratification) and ToM (i.e. false beliefs, emotional face recognition). The UOT intervention was delivered during school, by a trained educator in groups of 3–6 students., in 18, 30–40 min lessons with games, visual supports, role-plays, and positive reinforcement.

Results & conclusions:

The UOT intervention was administered with high fidelity. The results indicate that the children who attended the intervention outperformed controls in specific EF and ToM tasks. Specifically, these children exhibited increased abilities to inhibition, cognitive flexibility, delay of gratification and emotion face

recognition. These results suggest the possibility that this intervention, which may be easily implemented in educational services, can promote EF and ToM in primary school pupils with SLD.

15 Exploration of Croatian teachers' attitudes about students with dyslexia

Valentina Martan, Speech and Language Pathology Study Programme, University of Rijeka, Rijeka, Croatia

A positive teacher attitudes play a key role in promoting the willingness to use teaching methods aligned with the abilities of students with dyslexia and are essential for the implementation of individualized instruction. Therefore, the aim of this paper is to assess the factor structure and reliability of the newly constructed scale to measure teachers' attitudes towards students with dyslexia in an inclusive educational context and to determine the correlation between the obtained subscales. 431 teachers from 62 regular elementary schools in six counties of the Republic of Croatia participated in the study. All teachers had experience in teaching students with dyslexia in the last three years. 126 were classroom teachers (1st to 4th grade) and 305 were subject teachers, mainly teaching subjects from 5th to 8th grade. On average age of the teachers was 43 years and they had 17 years of teaching experience. A measuring instrument was constructed to assess teachers' attitudes towards teaching students with dyslexia, in line with the cognitive, affective, and behavioural components of attitudes. The newly constructed scale has a valid factor structure and reliability, confirming the three-dimensional structure. Teachers had positive attitudes towards teaching students with dyslexia in all three dimensions, and there is a statistically significant positive correlation between the obtained subscales. The study highlights the importance of exploring teachers' attitudes towards students with dyslexia as an important component of their competencies and confirms a multidimensional construct of attitudes that must be seen as teachers' beliefs about the characteristics of individualized instruction, affective reactions, and readiness to teach students with dyslexia inclusively.

16 Eye movements and on-line indicators as markers of written language disorders: the case of dyslexia

Dr MAZUR Audrey, Laboratoire CNRS ICAR (UMR 5191, CNRS, Université Lyon 2 et ENS de Lyon) & Laboratoire d'Excellence ASLAN (Université de Lyon)
Dr QUIGNARD **Matthieu**, Laboratoire CNRS ICAR (UMR 5191, CNRS, Université Lyon 2 et ENS de Lyon)
Dr BUCCI **Maria-Pia**, Laboratoire CNRS ICAR (UMR 5191, CNRS, Université Lyon 2 et ENS de Lyon) from 01/01/2024

Purpose

The objective is to present the first results of a project consisting in analyzing the impact of dyslexia on reading and writing processes in adulthood, allowing to capture on line indicators and eye movements. We know that dyslexia impacts oculomotor pattern of children during reading: they present a slower reading speed, longer fixation times, etc. (Seassau et al. 2014). But we lack studies about the impact of dyslexia on oculomotor pattern in adults during reading and writing: we also want to link

oculomotor data with on-line writing indicators (such as pauses, speed, etc.).

Method

In this way, students with dyslexia and control students are asked to 1- fill out a questionnaire and realize tests; 2- read a press article; 3- and write a spontaneous written text. Written data are collected using graphic tablets with Eye and Pen© software (Chesnet and Alamargot, 2005). This software supports recording both writing and eye activity. Eye movements are recorded by a non-invasive system using infrared cameras, hardware and software. For the written task, ocular indicators like staring point and fixation duration are linked to real-time data collected by Eye and Pen©.

Results and conclusion

During this presentation, first results about the impact of dyslexia on bio-behavioral markers of adults during reading and writing will be presented. Having information on on-line and ocular indicators is a window on the cognitive processes involved in language production. It then becomes possible to describe and analyze cognitive operations as close as possible to written production and reading and this is transferable to the clinic (Witko and Chenu, 2009). This work will then allow clearly to adapt the remediation according to their specific treatment of writing and reading activity.

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17 Final Silent Letters in French-Speaking Children with Dyslexia

Dr. Estelle Ardanouy, Pr. , Sébastien Pacton, University of Geneva

Contact details:

Estelle Ardanouy, PhD, Postdoctoral student in speech language therapy ,University of Geneva

Purpose:

Part of the orthographic inconsistency in French spelling comes from the presence of numerous silent final letters. Some of these final silent letters are predictable thanks to the derivational morphology principle (e.g., 'bavard' [talkative] explained by 'bavarder' [to talk]), but some are not (e.g., 'foulard' [scarf]). There are even words in French that, following the same morphological principle, could lead the learner to add a silent letter when it is not necessary (e.g., 'abri' [shelter] and 'abriter' [to shelter] from the same word family). Our study aimed to more precisely explore the spelling skills of children with dyslexia for words with final silent letters.

Method:

Our study brought together 160 participants divided into three groups: a group of dyslexic children aged 9 to 13 (N = 50), a group of age-matched typically developing children (N = 60), and a group of younger children aged 7 to 8 matched for reading age (N=50). These children had to spell four types of words: 1) words with final silent letters where they could use the morphological principle; 2) words with final silent letters where they could not use morphological assistance; 3) words without final silent letters but with a misleading morphological principlend 4) words without final silent letters and without

a morphological principle.

Results/conclusions:

The results indicate an equivalent performance between dyslexic children and younger children for words in conditions 1) and 2), but significantly lower performance compared to age-matched typically developing children. No significant differences were found in conditions 3) and 4) across all three groups of children. Furthermore, all children in the groups performed better in condition 1 than in condition 2. This result does not highlight the use of a more significant morphological strategy in children with dyslexia. They simply behave like younger children with an equivalent reading level.

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18 How learning English affects the reading strategies of Italian learners with dyslexia: An eye-tracking study

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Background and purpose.

The size of the visual and phonological units that are processed while reading is modulated by the orthographic depth of a language [1]. According to the Grain Size Accommodation Hypothesis (GSAH) [2], bilingual experience modulates reading strategies, which are subject to cross-linguistic transfer. Current evidence for this hypothesis is however limited to simultaneous bilinguals. This study tests the predictions of the GSAH in sequential bilinguals and investigates whether and how proficiency in an orthographically opaque L2 (English) interacts with dyslexia related difficulties in modulating the reading strategies employed by Italian (transparent orthography) learners of English.

Methods.

79 Italian L2ers of English were recruited from Italian high schools. 28 were formally diagnosed with dyslexia. All participants had started learning English as an L2 at school. Participants underwent individual testing in two sessions: one focusing on Italian and one on English. They completed an eye-tracking reading task in each session, reading identical word and nonwords (Lexicality condition) embedded in Italian (IT) and English (EN) sentences. Measures collected included L1 reading skills, phonological awareness, L1/L2 orthographic knowledge, and L1/L2 vocabulary. L2proficiency was computed by averaging participants' scores in the L2 orthographic knowledge task and L2 vocabulary task.

Results and conclusion.

A glmer model examined the modulation of first-pass fixations on (non)words by sentence Language, target Lexicality, and L2 Proficiency. Group differences (DYS vs. TD) were explored. The model suggests that higher L2 proficiency led to fewer fixations on both IT and EN words in both groups, suggesting enhanced lexical reading skills. In DYS, this effect extended to both IT and EN nonwords while in TD, the effect only extended to EN nonwords. In nonword reading, fewer fixations indicate the processing of larger sublexical units. Crucially, L2 proficiency effects extended to the L1, especially in DYS, supporting the GSAH, and suggesting that biliteracy may boost lexical and sublexical reading skills.

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19 INCLUSION & BEYOND: facilitating academic success and job placement of university students with SLD

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Purpose

Students with Specific Learning Disorders (SLD) may encounter obstacles and barriers both during their university studies in terms of academic success and in their subsequent search for employment. The adoption of inclusive teaching methodologies, along with dedicated career guidance services, can foster success both in training and in the job search. To achieve this goal, we intend to implement teaching methodologies based on the principles of Universal Design for Learning, thereby promoting learning and academic success. Additionally, we plan to trial a tailored counseling and career guidance pathway.

Method

Two areas of action-research were implemented: teaching and career guidance. In the area of teaching, a training session on SLD and UDL was conducted, followed by the creation of a Community of Practice in which faculty members were trained and engaged in discussions on the application of UDL principles. The group then developed resources to promote the adoption of UDL among colleagues. This was followed by a data collection phase to monitor and evaluate implementation and effectiveness. In the area of career guidance and job placement, after training for office operators, career counseling for students with SLD was initiated, followed by an evaluation of overall effectiveness.

Results/conclusions

In the teaching domain, the primary outcome includes a broader and more widespread understanding of the UDL approach and its potential applications for the benefit of all students, regardless of individual variability. Additionally, the effectiveness of this approach has been observed not only in terms of students' academic success but also in the professional development of teachers. In the area of career guidance, evaluations identify strengths and areas for improvement, directing subsequent investigations and the development of new and renewed career counseling. The project is still in progress therefore the results are not to be considered as definite.

Posters

20 Physical activity participation in children with specific learning disorders

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Abstract

This research aimed to examine the characteristics of adolescents with specific learning disorders (SLD) who engage in sports activities. A sample of 237 participants, mostly of Italian nationality and various educational backgrounds, was surveyed. The following assessment tools were used: Coach Support Scale (COS-CY), Sport Impact Scale (SIS C-Y), and the Rosenberg Self-Esteem Scale (RSES). Data were analyzed using descriptive statistics, reliability analysis, Gaussian distribution, and ANOVA. The results showed that around 60% of participants were diagnosed with SLD before the age of 10, but only 66% were involved in sports, with soccer, swimming, volleyball, basketball, and gym-nastics being the most popular sports. As participation in sports increased, individuals reported im-provements in both personal and social well-being, along with reduced school-related stress and a de-crease in the use of smartphones and video games. However, nearly half of the respondents reported facing challenges related to their SLD while participating in sports, such as issues with motor coordi-nation and memory. Additionally, the study highlighted a lack of adequate support from coaches for children with SLD, with many participants choosing not to disclose their condition due to fear of neg-ative judgment or the belief that it would not change their experience. The findings emphasize the im-portance of fostering supportive and inclusive environments in sports teams, enabling adolescents with SLD to feel confident in expressing themselves. Overall, this study brings attention to the diffi-culties and advantages associated with sports participation for individuals with SLD, calling for greater awareness and enhanced support within the sports community. Keywords: Schoolchildren; Context; Dyslexia; Sports practice.

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Posters

21 Reading development from kindergarten age to young adulthood – A 14-year longitudinal study

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Co-author: Günther, Thomas

Disorders in reading acquisition are a frequent, massive and long-lasting impairment that can lead to substantial restrictions for education and career opportunities and are often accompanied by psychological disorders.

In our longitudinal study "reading without words", we assessed reading development of 192 children from pre-school age to fifth grade from 2011-2016. Data on associated cognitive correlates such as attention, working memory, phonological awareness and rapid automatized naming were measured additionally. Behavioural problems, emotional problems and attention problems in everyday life were documented using questionnaires.

The subjects of this study are now between 19 and 21 years old and will be followed up this year. In addition to measuring reading performance and its cognitive correlates, questionnaires are used to retrospectively assess the influence of reading performance on academic success, self-concept, and mental health. As the sample includes a group of children with dyslexia, it will be investigated whether reading and spelling problems and its cognitive correlates remain stable into adulthood. The findings could provide new insights into long-term impacts of dyslexia. For example, answering the question of the extent to which dyslexia affects educational and occupational outcomes and mental health.

Poster session 2 -

22 Developmental Dyslexia & Attention: evidence from dichotic listening tasks

Yiannis Metaxas & Filippos Vlachos, Department of Special Education, University of Thessaly, Greece

Purpose:

The role of attention in Developmental Dyslexia (DD) has been a subject of debate. It is not clear whether dyslexics have an overall attention impairment or are affected by more specific deficits. Studies have showed that children with DD perform poorly in some aspects of attention, whereas others do relatively well. The present study aimed to explore further the question of the relation between attention and DD through Dichotic Listening Tasks (DLT) which require subjects to divide attention between two ears and have been used to estimate auditory attention both in children and in adults.

Method:

In this study participated 13 students with dyslexia (aged 11-13 yrs.) without presenting any coexisting

disorder and 13 typically developing students matched for gender and chronological age. DLT were administered in three different modes: Free Recall (FM), Force Right (FR) and Force Left (FL) and consisted of a) a dichotic digit task (DDT), b) a dichotic word task (DWT), c) a dichotic consonant – vowel (DCV) syllables task, d) a dichotic task with musical instruments (DMI), e) a dichotic task with tones (DTN). DTN was conducted only through Force Left (FL) and Force Right (FR) recall mode.

Results:

Dyslexics performed lower in all dichotic tasks. However, statistical significance was not reached for every task. In the FR mode statistical significance reached for DDT, DCV and DTN tasks. In the FL mode the two groups differed significantly in the DWT, DMI and DTN tasks. In FM there were not statistically significant differences. Our results are in line with studies underlining the crucial role of attention in DD. Such findings may have interesting educational implications for the practitioners to redesign their interventions considering possible attention deficits of dyslexic students.

Keywords: Developmental Dyslexia, Attention, Dichotic Listening, Children

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23 Developmental Dyslexia and pseudoword reading: An eye-tracking study

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Vasiliki Aslanoglou, University of Thessaly, Greece,
Vasiliki Tsela, University of Thessaly, Greece ,
Spyridoula Cheimariou, University of Alabama, USA.

Purpose:

Dyslexia is characterized by difficulties in reading which is considered one of the most important skills developed in school years. Several studies confirm that eye movements reflect the difficulties that individuals with dyslexia face in language processing and more specifically longer Time Spent Gaze (TSG) has been associated with deficits in reading. The aim of the present study was to evaluate the TSG of dyslexics while reading pseudowords, as it is well established that pseudowords are closely linked to and predict successful reading.

Method:

The participants of the study were 12 dyslexic (6 males and 6 females) and 10 non-dyslexic (4 males and 6 females), aged 18-23 years, who were all Greek native speakers. The dyslexic group consisted of participants who had an official diagnosis of dyslexia. The experiments took place at the Laboratory of Bilingual Education of the Department of Special Education of the University of Thessaly and a Tobii X2-60 eye tracker was used to record their Time Spent Gaze. The participants of both groups were examined individually while reading two lists that consisted 12 pseudowords each.

Results:

The results of the study revealed longer TSG in participants with dyslexia as compared to that of their typically developing peers. Pseudoword reading requires phonological decoding skills, which is a do-

main of difficulty in dyslexics and indicates deficits in the phonological system. As pseudoword reading is linked to and predicts the successful acquisition of reading, more research is needed in order to confirm the results of this study, which can be further used to design interventions in order to improve phonological decoding in dyslexics and thus help them become successful readers.

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24 Exploring Dyslexia Awareness in Teacher Training: Preliminary Findings from Copenhagen

Camilla Højmark Find & **Liva Hyttel-Sørensen**, University College Copenhagen, Denmark

This poster presents the initial results of our project focused on dyslexia within teacher training programs in Copenhagen. Our project has dual purposes: firstly, to enhance teacher expertise in integrating dyslexia knowledge, and secondly, to provide essential support to dyslexic students. We target both dyslexic teacher education students and dyslexic pupils in Danish primary schools.

To achieve our goals, we conducted a comprehensive survey among teacher trainers in Copenhagen to assess their understanding of dyslexia and evaluate how they incorporate this knowledge into their teaching. Additionally, we implemented a pilot study, introducing a course on assistive technologies (including text-to-speech software) for teacher trainers responsible for teaching reading and writing didactics. Finally, we developed new welcome materials for new students, highlighting the assistance available for dyslexic students.

Our poster highlights the survey findings and the resulting measures taken to create a level playing field across various subjects. We also share insights from the assistive technologies course. These combined findings illuminate the current status of dyslexia awareness and support in teacher training in Copenhagen. By identifying areas for improvement, we aim to ensure that dyslexic pupils in Danish primary schools receive the necessary assistance from well-prepared teachers. This project represents the initial step toward enhancing dyslexia support within the Danish education system.

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25 Individualized and adaptive visual adaptations to support reading difficulties in dyslexia

Camille ROULLET, Université Claude Bernard Lyon 1, CNRS, INSERM, Centre de Recherche en Neurosciences de Lyon (CRNL U1028 UMR5292), EDUWELL, F-69500, Bron, France.
Antoine AUZIMOUR, Glaaster, Paris, France.
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Alice GOMEZ, Université Claude Bernard Lyon 1, CNRS, INSERM, Centre de Recherche en Neurosciences de Lyon (CRNL U1028 UMR5292), EDUWELL, F-69500, Bron, France

Presented by:

Camille ROULLET, Université Claude Bernard Lyon 1, CNRS, INSERM, Centre de Recherche en Neurosciences de Lyon (CRNL U1028 UMR5292), EDUWELL, F-69500, Bron, France

Posters

Purpose:

To explore the scientific foundation of using visual adaptations to mitigate reading difficulties, which are increasingly prevalent among school-aged children and persist into adulthood. This study examines existing adaptation strategies and identifies gaps in current practices. It emphasizes the need for individualized approaches that go beyond the limitations of current diagnostic categorizations to provide targeted support, enhancing text readability and fostering inclusive education.

Method:

A comprehensive review of empirical studies on various graphical adaptations, such as font type, size, spacing, and color, was conducted. The study also analyzed different adaptation tools currently available for children with dyslexia and other reading difficulties. Based on this review, we propose a new framework for visual adaptation that takes into account the heterogeneity of reading difficulties and employs psychometric profiling to tailor solutions to individual needs. It applies data-driven modifications to text features, adjusting them in real-time based on the user's performance.

Results/Conclusions:

Current adaptation methods, while partially effective, fail to address the broad spectrum of reading difficulties. A transdiagnostic, individualized approach is recommended, focusing on specific cognitive and perceptual deficits rather than broad diagnostic categories. Developing adaptive tools driven by artificial intelligence could revolutionize support strategies, promoting inclusivity and enhancing the learning experience for children with diverse reading challenges. Further research is required to validate these adaptive tools' effectiveness across different populations and contexts.

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26 Is Learning How to Learn Enough? Key Factors in Effective Intervention for Students with Specific Learning Difficulties

Chrysoula Bourtzinakou (MEd), Kyriaki Giannakou (PhD), Foteini Kardara (MEd), Stella Koiliari (MSc), Efcharis Lakatzi (MEd), Eleni Livaniou (PhD), Athina Palidi (MEd), Aikaterini Ralli (MEd), Vassiliki Tenente (MEd), Evangelia Tsilivakou (MEd)

The complexity of the learning process, particularly for students with Specific Learning Difficulties (SLD) and comorbid conditions such as Attention Deficit Hyperactivity Disorder (ADHD), Anxiety Disorder, Motor Disorder, Language Disorder, and Conduct Disorder, necessitates a shift from traditional educational approaches that focus primarily on content delivery. This poster explores the effectiveness of a multidisciplinary intervention model tailored to the unique needs of students with SLD and these comorbidities within Greek educational settings. Drawing on case studies provided by a team of special education professionals, the research highlights the critical role of a holistic approach that integrates psycho-emotional support, cognitive and metacognitive strategies, and collaborative practices among educators, psychologists, and parents. The analysis identifies five key domains of successful intervention: multidisciplinary assessment, psycho-emotional needs, socio-cognitive strategies, comorbidity management, and collaborative practices. Findings underscore the importance of equipping students with the tools and strategies required for effective learning, advocating for an inclusive educational environment that nurtures both academic and socio-emotional development. This research offers valuable insights for educators, practitioners, and policymakers, proposing a comprehensive framework to enhance intervention outcomes for students with SLD and associated comorbid conditions.

Posters

27 It takes a village, so where is my dyslexic friendly village?

Emma Semi

About:

A workshop about creating a supportive dyslexic community. This will look at the intergenerational, cultural and current views of dyslexia. This will be from a parent/carers view; with how we can reduce the stigma, dissolve the myths with a commitment to building a dyslexic friendly village. In this workshop you will look at what your ideal village of support will look like for a dyslexic child through areas such as friendship, family, community and education.

Target audience:

The target audience is for both practitioners working in the field, individuals and parents/carers of children with dyslexia.

Conclusions:

To conclude, in today's society many parents/carers are feeling more isolated than ever and so to reduce their feelings of isolation, we are building a dyslexic friendly village. In the long run this should help with wellbeing, mental health and a reduction in loneliness. The participants in the workshops will work together in small teams to create their village by sharing their creations and the challenges they faced or foresee may happen.

28 Learning an opaque second language boosts the visual attention span: Evidence in skilled and dyslexic readers

Ilaria Venagli [1,2], Tanja Kupisch[1], Theo Marinis[1], Chiara Melloni[2] and Marie Lallier[3,4]

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2 Università di Verona, Italy
3 Basque Center on Cognition Brain and Language (BCBL), Donostia, Spain
4 Ikerbasque, Basque Foundation for Science, Bilbao, Spain

Background and purpose.

Visual attention span (VAS) – the number of visual elements processed simultaneously in a multi-element array –significantly predicts reading and plays a causal role in some forms of dyslexia [1]. VAS skills have been shown to be influenced by orthographic depth [2,3] such that reading opaque orthographies may boost the VAS. Further, such orthography-specific VAS modulations have been shown in early bilinguals, supporting crosslinguistic interactions in these cognitive skills [3]. This study aims to assess whether the late experience with an opaque second language (L2) boosts VAS in individuals whose first language (L1) is highly transparent and in turn modulates the manifestations of dyslexia.

Methods.

89 Italian second-language learners of English (EN) were recruited from Italian high schools (M age

= 17.14), including 29 with a formal dyslexia diagnosis. Participants had started learning English as a foreign language at school. Participants underwent individual testing in two sessions. Measures collected included L1 reading abilities, L1/L2 orthographic knowledge, and short-term memory. To assess VAS skills, a visual-1-back task [4] was used during which 80 5-consonant strings were presented for 200 ms, followed by a target consonant. Participants had to indicate whether they saw the target consonant in the preceding string. The position of the consonant within the string was manipulated.

Results and conclusion.

A glmer model was used to assess the predictive ability of EN proficiency in modulating response accuracy as a function of consonant position (CP) in the two groups (DYS vs. TD). Higher accuracy in left CPs reflects a leftward bias in the allocation of attention. This was found in both groups, which is explained by L1 properties requiring left-to-right reading. In contrast, higher accuracy in right CPs is associated with better VAS skills. This was found in TDs only, and the effect was driven by EN proficiency, supporting the hypothesis that experience with an opaque non-native orthography modulates the VAS, even if it is a late L2. EN proficiency did not modulate the VAS in DYS, potentially due to a VAS deficit.

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29 My friend's name is Dyslexia

Katerina Theodoropoulou

Dyslexia and learning difficulties in general have been increasing as the years go by. Pupils with learning difficulties find it hard when it is time for them to start learning English as a foreign language. My purpose is to show that students learn better when we enrich our teaching with the use of videos, quizzes, boardgames, cards or anything that is related to hands on experience. It helps them concentrate better, remember things for long and enjoy the class much more than the classic method with the books. My method is practiced into my classes with no more than ten students per group. Each grammatical phenomenon I teach is accompanied by an extra activity such an online quiz, a ladder and snake game, a speaking card activity etc. After many years of teaching I can compare my students before using all this material with my present students and I can see significant progress. The visual stimuli is very strong and manages to engage each student's brain into any educational activity we want

Posters

30 Naming processing of pupils with dyslexia revealed by electroencephalography in transparent Croatian language

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2 Polyclinic for rehabilitation of people with developmental disorders, Put Meja 5, 21000 Split, Croatia, MLSP

3 Neurodal, Podstrana, Croatia, bacc.med.techn, EEG and NFB therapist

Purpose:

Pupils with dyslexia have naming speed deficits that persist into adulthood, but correlation between naming speed and its impact on reading fluency is still debate. Due to that, this study investigated the electrophysiological evoked response potentials (ERPs) to overt naming processes of dyslexic pupils in transparent Croatian language (shallow orthography) with aim of exploring differences of naming processing in pre-lexical naming stage (N170 ERP component) and lexical naming stage (N400 ERP component) during overt naming task of colored and black and white objects.

Method:

Twelve dyslexic pupils of third and fourth grade were engaged in overt naming task of colored objects and white and black objects visually presented on computer screen while their EEG activity was continuously recorded from 32 electrodes. The time course and scalp topography of N170 ERPs were monitored over parietal and occipital electrodes in time window (160-260 ms) while N400 ERPs were monitored over central and temporal electrodes in time window (280-440 ms).

Results:

Electrophysiological results have found more negative amplitudes of electric signal distributed in both hemispheres during overt naming of black and white objects in N170 ERP component and overt naming of colored objects in N400 ERP component. Furthermore, positive amplitudes of electric signal were found during overt naming of colored objects in N170 ERP component and overt naming of white and black objects in N400 ERP component.

Conclusions:

Given results contributed to better understanding of underlying neurocognitive architecture of overt naming processing in pre-lexical and lexical stage of pupils with dyslexia in transparent Croatian orthography.

Keywords: dyslexia, pupils, overt naming, ERPs

Posters

31 Neurodiversity at Work: Paving the Way for an Inclusive Future

Elio Benvenuti, trainer, Neurodiversity at Work

Chiara Marchetta, Coordinator of EU Projects Office, Quality Assurance Expert: FORMA. Azione

The Erasmus+ NEW project invites us to embrace and value differences in the workplace.

The 36-month Neurodiversity at Work project supported SMEs and microenterprises in creating inclusive work environments by valuing neurodivergent talents. It raised awareness on neurodiversity, promoted data collection, and equipped business leaders with competences and approaches to enhance staff wellbeing. Key outcomes included an Awareness Raising Strategy, an inclusion model based on SMEs staff training and mentoring, and a European Community of Practice.

Target audience:

SMEs, microenterprises, HR managers, business leaders and staff, VET professionals, and trade unions.

Conclusions:

The Neurodiversity at Work project successfully raised awareness on the value of neurodiversity in the workplace, equipping SMEs and microenterprises with competences, approaches and practices to create inclusive environments. By fostering collaboration, developing a model based on awareness raising and training, and building a European Community of Practice, the project highlighted the advantages of enabling the unique strengths of each person, enhancing employee well-being and organizational success.

32 The Phonological Skills Assessment And Correlations With Dyslexia

PhD Simona Daniute[1]; assoc. prof. PhD Lina Milteniene[1]; Ingrida Staliūniene[2]

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Phonological skills encompass phonological awareness, phonologicalshort-term memory and rapid naming. These are perhaps the most frequently analysed phonological processes related to reading and (or) writing in the scientific literature. The research purpose is to reveal the theoretical characteristics of assessment of phonological skills and their correlation with specific learning disorder / dyslexia[1] at the national and international levels. The authors hold the opinion that this topic will be relefant for the development of knowledge on phonological skills for both, researchers and practitioners.

The analysis of scientific papers by Lithuanian and foreign authors based on the theoretical analysis of the concept (Bitinas, Rupšienė & Žydžiūnaitė, 2008) has been carried out. The analysis was conducted in compliance with the following sequence: 1) the object of analysis (phonological skills (PS)) was set; 2) structural components of the concept (phonological awareness (PA), phonological memory (PM), rapid automatized naming (RAN)) were pointed out; 3) characteristics that define the said components, their correlations with dyslexia as well as assessment features were identified.

Results/conclusions. Acording scientific research data, assessment of PS includes: the assessment of PA, encompassing all four levels of skills (word, syllable, rhyme, phoneme); the assessment of PM, when repeating queues of numbers, words and nonwords; the assessment of RAN, when naming visual stimuli (colours, objects, numbers, letters, etc.) as rapidly and precisely as possible. Extensive research conducted in various foreign languages allowed demonstrating obvious correlations between PS and dyslexia. It was found out that individuals with dyslexia had insufficient skills in this field. Nevertheless, results of the surveyed long-term investigations demonstrate that two indicators predict reading attainments in pre-school and pre-primary age best: PA and RAN.

[1]Both of the following concepts are used in Lithuania: concept "specific learning disorder" is used in the sector of education; concept "dyslexia" – in the sector of health.

33 Prediction of sound-symbol-learning for later reading performance

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Co-authors: Kathrin Weber, Felicitas Opolony, Wolfgang Scharke, Stefan Heim, Thomas Günther

Tasks that require sound-symbol-learning and thus simulate reading acquisition correlate with real reading skills. The aim of a series of studies was to find out whether a Morse code-like sound-symbol-learning paradigm (SSP) could predict later reading performance. Due to the simplicity and language independence of SSP, it was assumed that comparable predictions could be made for monolingual and multilingual children.

In the SSP, children learn the names of two symbols and are then asked to "read out" shown symbol strings. The first study tested SSP performance in 292 German-speaking preschool children. In addition, predictors such as early written knowledge, rapid naming, phonological awareness, IQ and working memory performance were tested. The children's reading performance was recorded in the following years. In the second study we tested the applicability of the sound-symbol learning task in 56 four- to five-year-old multilingual children and in study three its predictive value for reading performance three years later was investigated.

The results of Study 1 demonstrated the specific nature of SSP, as it predicted parts of the variance in later reading performance over and above established predictors. Study 2 proved the suitability for younger, multilingual children. In Study 3, reading performance was predicted by age, IQ, letter knowledge and SSP, with substantial proportion of the variance being explained by SSP. Multilingual children did not differ in their performance from monolingual children. Due to small group size, the predictive value of SSP could not be analysed for multilingual children solely.

The talk will present open research questions and provide insights into preliminary results of ongoing research projects.

Posters

34 Predispositions of Dyslexia in Preschool-Aged Children in Kosovo and Poland

Blerta Krasniqi, PhD. Candidate at University of the National Education Commission, Krakow

Co-Authors:

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Prof.Ass.Dr.Sc. Muljaim Kaqka - Kolegji Heimerer, Prishtinë, Republic of Kosovo /Department of Therapeutic Health Sciences: Speech Therapy and Occupational Therapy

This study investigates early predispositions to dyslexia in preschool-aged children, focusing on participants from the Republic of Kosovo and Poland. Conducted across various schools and kindergartens, the research aims to explore potential cultural and environmental influences on dyslexia. The initial phase involved evaluating 88 children aged 4 and 5, using a specially designed battery of 12 subtests to assess dyslexia indicators. A pilot study in Kosovo ensured the reliability and validity of the testing instruments. The same participants will be re-evaluated in a subsequent phase, with participation numbers depending on eligibility. A specially designed questionnaire of 12 subtests was used to assess dyslexia indicators, following a pilot study in Kosovo to ensure the reliability and validity of the instrument. Ethical protocols were followed, including obtaining consent from relevant authorities and emphasizing confidentiality. Statistical analysis, performed using IBM SPSS 21, revealed significant differences between the two groups. Polish participants scored lower in color and shape recognition, with mean scores of 9.82 (SD = 1.34) and 4.78 (SD = 1.21), respectively, compared to Kosovar participants who scored 11.05 (SD = 2.16) and 5.55 (SD = 1.50). All effects were significant. Additionally, Kosovan children exhibited stronger nonverbal abilities, with a mean score of 5.46 (SD = .67), p = .001. Moreover, a strong positive correlation was found between word repetition and syllable repetition (r = .71, p = .001), and a moderate correlation with pseudo-word repetition (r = .42, p = .001). These findings underscore the potential impact of cultural and environmental factors on early dyslexia predispositions. Therefore, further implications will be addressed from the follow up study.

35 Psychological adjustment and educational support: Experiences of students with dyslexia in higher education

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2 Dyslexia Association of Ireland

Purpose:

Adults with dyslexia report difficulties with reading speed, written expression/structure, and time-management. Given the high literacy and time-management demands involved in moving from secondary school to further/higher education, this causes barriers to adequate learning opportunity for these students. We aim to investigate the experiences of adults with dyslexia in higher education institutions (HEIs) in Ireland with respect to educational supports and psychological adjustment.

Method:

This project employs a PPI (Public and Patient Involvement) approach to survey-design, with an aim to giving adults with dyslexia a voice in the research process. An online platform is utilized to collect survey-based and questionnaire data from adults with dyslexia who are in higher education or have recently graduated (within 3 months). This project is currently ongoing, and we aim to gather as large a sample as possible to gather a representative sample, with a minimum acceptable sample size of 120 (Kumle et al., 2021). Our outcome measures are; demographics (including comorbidities), adjustment to university, academic self-efficacy, and educational support.

Results/Conclusions:

Data will be analysed using linear mixed-effects modelling to statistically examine the relationship between self-efficacy, and adaptation measures, across different stages of academic education, and subject areas. Any open-ended questions relating to educational support needs will be summarised into themes, which may shine a light on areas of additional need within educational support. This study has potential to influence how services are developed and delivered, and highlight priority areas for the future, in the Irish education system and beyond.

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36 Reading predictors in preschool children: a didactic intervention on phonological awareness

Sara Cavaglià, Università di Verona, Italy
Chiara Melloni, Università di Verona, Italy
Maria Vender, Università di Verona, Italy

Purpose.

The aim of this study is twofold: to elaborate both a protocol that may support practitioners in the early screening of monolingual Italian and L2 Italian children at risk for dyslexia and to test the effects of a didactic intervention designed to support the development of sublexical abilities (in particular, phonological awareness). The protocol includes the adoption of an innovative technology, finger-tracking, which serves as a proxy of eye-tracking and allows for the in-detail study of online reading processing (Ferro et al 2018).

Method.

The project is a longitudinal study covering 16 months and articulated in 4 phases. In phase 1, 44 monolingual and 33 bilingual preschool children (mean age: 5.9) attending the last year of kindergarten were tested on linguistic predictors of reading skills. In phase 2, a selected group took part for 6 weeks in a 9-hour didactic intervention focused on the enhancement of phonological skills. In phase 3, both groups were tested again on phonological awareness. In phase 4, which will take place at the end of the first year of primary school, all children will be tested on their reading abilities via a finger-tracking device; this phase is still ongoing.

Results.

A preliminary analysis of the phonological awareness data has shown a significant improvement in this skill for the group involved in the didactic intervention, especially for L2 children. Once all the relevant data are obtained, further analyses will be run to investigate the correlation between predictors and reading abilities.

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37 Schizotypal traits in populations with dyslexia and social adaptation difficulties

Erato Fatsea, Psychologist (BSc), MSc (C.) –Early Intervention in Psychosis, Medical School, National and Kapodistrian University of Athens
Anna Pappa, Mental Health Nurse Trainee (BSc), MSc (C.) –Early Intervention in Psychosis, Medical School, National and Kapodistrian University of Athens
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Eleftheria Zerkouli, Psychologist (BSc), MSc (C.) –Early Intervention in Psychosis, Medical School, National and Kapodistrian University of Athens

Many studies have suggested the correlation between dyslexia and schizotypy.

Common soft neurological signs and brain morphological abnormalities are found in dyslexia and schizotypy. Furthermore, many dyslexics develop schizotypal traits, neuroticism and behavioral problems. As a result, their lives are significantly affected. The aim of this review is to examine further this correlation and suggest interventions to improve the quality of life of dyslexics.

The target audience of this poster is mental health and education professionals as well as the general audience.

A systematic review based on the PRISMA method was performed. Data collection was limited to original articles reporting the link between dyslexia and schizotypy and their impact on social functioning. Six studies met the inclusion criteria. Results confirmed the considered correlation. This suggests that interventions for dyslexics should include family environment, personality, and emotional development, apart from just academic achievement.

This proposal is a group presentation. The details of the writers are:

- Erato Fatsea, Psychologist (BSc), MSc (C.) Early Intervention in Psychosis, Medical School, National and Kapodistrian University of Athens
- Anna Pappa, Mental Health Nurse Trainee (BSc), MSc (C.) Early Intervention in Psychosis, Medical School, National and Kapodistrian University of Athens
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38 Special support for children with dyslexia: a tool for inclusion or a barrier to equal opportunities in learning?

Author: Dr Eleni Damianidou
Co-author: Anastasia **Tiliakou**

Purpose

The UN Convention on the Rights of People with Disabilities underlines the importance of equal access to education for all children, without discrimination. Based on the above, the aim of this study was to explore the system of assessment of children with learning difficulties, the implementation of the support class and the consequences on equal learning opportunities and inclusion of children with dyslexia. Moreover, the study aimed to formulate recommendations to overcome the barriers to inclusion, offering a useful guide for practitioners and parents.

Method

This research aimed to explore personal experience and interpretations of prevalent education practices, with a qualitative methodology. We interpreted our findings within the framework of the medical and social model of disability (Oliver, 1996). Our main research tool was the semi-structured interview. In total, our sample comprised of 15 primary education teachers teaching in support classes and 10 parents of children with dyslexia that are enrolled in support classes. To recruit the participants, we employed a combination of purposive and snowball sampling methods.

Conclusions

As the participants revealed, the assessment process does not seem to promote inclusion or facilitate learning, since the delays that are usually observed and the placement of children according to the availability of support classes, and not their needs, seem to indicate an underlying intention to reproduce the social hierarchy instead of satisfying the children's needs. Ironically, both parents and teachers observed children's decreased confidence and lack of self efficiency, which was attributed on the children, reproducing the medical model of disability.

39 Specific Reading Disorder and reading comprehension in English: The impact of differentiated instructions

Andreou Georgia, Professor, Department of Special Education, University of Thessaly, Greece
Athanasiadou Panagiota, PhD Candidate, Department of Special Education, University of Thessaly, Greece

Purpose:

The purpose of this study is to investigate the impact of an accommodation, that of differentiated instructions, on the performance of SRD students in a reading comprehension criterion in English as a foreign language. The effect of fatigue on the learners' performance will also be investigated, as SRD students seem to lose their concentration quicker than their typical peers.

Method:

The sample of the study consisted of 48 typical and 48 SRD Greek speaking students, learning English as a foreign language. Participants were selected based on official diagnosis of SRD, their level in English, IQ quotient as well as additional testing on reading. Two forms of a reading comprehension criterion of similar difficulty were administered to all participants. A counterbalanced design was implemented to control both the administration of the accommodation and the effect of order, so that learners could be measured in all conditions. The accommodated format included the reduction of the length of instructions and the use of bold typeface regarding important information.

Results:

The results showed that the SRD group presented statistically significantly improved performance under the accommodation, while typical learners presented unstable results. Therefore, SRD learners seem to perform better when they read instructions of shorter length with important information being in bold, as they can reread only the core information, thus implementing instructions more accurately. Typical learners did not present statistically significant differences, as their learning profile does not "demand" the provision of accommodations. Finally, fatigue did not affect SRD learners' performance, probably due to familiarization with criteria of such length.

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40 Speech-to-text intervention to support text production for students with intellectual disabilities

Linda Fälth, Department of Pedagogy and Learning, Linnaeus University, Växjö, Sweden

The study aimed to investigate whether speech-to-text (STT) technology can enhance text production capabilities for students with intellectual disabilities. The research questions were:

- Does individually tailored intervention training in STT increase text production compared to handwriting or keyboard typing for students with intellectual disabilities?
- Does the systematic use of STT result in text containing more concrete and abstract content components than handwriting or keyboard typing for students with intellectual disabilities?

The study had a single-subject design, with four Swedish students with intellectual disabilities aged 10-13 years participating. The study design consisted of three phases: baseline, intervention, and maintenance. Post-intervention, the results showed significant improvement in word, sentence, and text qualities, which I will deepen in my poster presentation.

Assistive writing tools such as speech-to-text programs have emerged as a complement or alternative to traditional handwriting. This technology enables text to be written by speaking directly to an app or computer program, bypassing the transcription process and allowing students with writing difficulties to focus on the text content.

Posters

41 with Specific Educational Needs in the Foreign Language (FL) Classroom: Perspectives from FL teachers

Konstantinopoulou Polyxeni, Anastasiadis Savvas, Kalfa Vasiliki & Stavrakaki Stavroula – Aristotle University of Thessaloniki, Greece

The present study performs an investigation into the foreign language (FL) teachers' perspectives on students with Specific Educational Needs (SEN) in their FL classroom. Specifically, we explore: (i) whether general and SEN teachers identify students with SEN; (ii) how they are addressed/managed; (iii) if they have SEN materials; (iv) what teaching methods they use; and (v) how they evaluate their adequacy to teach students with SEN. To the best of our knowledge, the importance of integrated and collaborative practices to support students with SEN in FL education has been scarcely studied, especially in the context of FL education in Greece, and thus the relevant literature is limited.

The methodology followed is the use of an online questionnaire with exclusive participants of FL teachers (English, French, German) of general and special education in public and private schools in Greece. In more details, 163 participants completed the questionnaire, which includes 4 steps: step 1-Information note, step 2-Declaration of consent, step 3-Participant details and step 4- Questionnaire with 31 questions in total (mainly closed-ended questions). Moreover, the data collection was made through the Lime Survey platform for its validity and reliability and it is accepted by Aristotle University of Thessaloniki.

The teachers are not always able to identify the SEN of their students, but SEN become more visible in the FL than in the mother tongue. Few schools provide cooperation with SEN professions, but the teachers are willing to seek advice from a qualified professional. They use the material of the mainstream curriculum, but only 7% of them feel satisfied. Therefore, they try to differentiate their way of teaching and design their own material. However, they still feel quite satisfied. Less than 6% of the teachers report ready to teach students with SEN. FL teachers are aware that they need further support to meet successfully the SEN challenges in their class. We suggest that these findings should be taken into account for supporting FL teachers to maximize their contribution to the FL class with SEN.

42 3Dlexia Method in the OECD : Empowering Inclusion with AI Cognitive Neurotechnology for Teaching EFL/ESL

Prof. Aggeliki Pappa, Founder/CEO/ Head Director of Studies 'I love dyslexia' EFL school & start up

Dr. Dionisis Koutsadonis, CEO RDC Informatics

Target Audience

English language Teachers, University Professors, Students with Dyslexia, Special Educators

What is the workshop about

In the OECD Report 'Teaching for the Future' 2018, there is the 1st reference of the 1st results-driven, research-based Method & school globally, that manage to transform marginalized Greek students with

dyslexia & SEN to competed, certified English language learners. In this workshop, we will present to English/SEN teachers & University professors a demo of the cutting-edge science & technology of the Method, aiming to empower millions of students together.

Conclusions

With advanced cutting-edge science & technology, it now becomes possible to scale up results-proven, inclusive EFL/ESL Methods to help eliminate the problem of illiteracy in the EFL/ESL crucial life-skill. For this to be achieved, it is crucial world-class classrooms teachers, University professors & Tech experts to collaborate & co-create the next level of inclusive EFL/ESL teaching, to end the EFL/ESL illiteracy problem globally, with benefits for all society.

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43 What are the forces affecting the inclusion of learners with dyslexia in mainstream secondary schools in England?

Georgina Nnamani, Manchester Institute of Education, United Kingdom

Ongoing research suggests that learners with special educational needs (SEN) such as those with dyslexia can be vulnerable within the school system and are unlikely to have a positive educational experience compared with learners without SEN. Studies have linked challenges for learners with dyslexia to stress, high anxiety levels, frustration, and fear. Riddick (2010) and Zuppardo et al. (2021) suggest that learners with dyslexia can feel rejected and humiliated around reading aloud. This, in turn, can cause anxiety, stress, and learned helplessness in learners with dyslexia. Although several policies have been developed in England to promote the inclusion of learners with SEN, extant studies reflect enduring challenges in implementing the policies in practice. This is because while inclusion is said to be at the heart of the political discourse, wider educational policies place too much emphasis on achieving academic outcomes and not enough on the overall outcomes, which in turn, affects learners with dyslexia (Nnamani & Lomer 2023).

My research draws on Kurt Lewin's (1936) force-field theory – a study of behaviour, and Urie Bronfenbrenner's (1979) ecosystemic theory. Lewin (1936) suggests that an individual is surrounded by several psychological forces that have the potential to influence behaviour. These forces, also known as vectors, are situated in the person's life space- environment. He described the life space as the totality of the facts or experiences that the person encounters during their decision-making process (Lewin 1998; Wheeler, 2008). Similarly, Bronfenbrenner's (1979) ecosystemic theory suggests that an individual's development is shaped by their interaction with their environment.

My research aims to investigate the forces impeding or promoting the inclusion of learners with dyslexia in mainstream schools in England. Eight themes from a systematic review conducted by the author in 2021 were used to elicit discussions in focus groups and 1:1 semi-structured interviews with 11 school staff in mainstream secondary schools in England on their views of inclusion policies following an ethical clearance from the University of Manchester.

The findings revealed that the inclusion of learners with dyslexia in mainstream schools depends on several overlapping forces that can either promote or impede inclusion. These forces are situated within different layers of systems, from the staff's microsystems to their macrosystems. The positive forces include staff attitudes, good leadership, and in-school resources. The restraining forces include teachers' training, unequal distribution of resources, and bureaucracy.

The finding suggests that although many positive forces were evident at the microsystem level- the schools and in the classrooms, the constraining forces were greater than the positive forces, particu-

larly at the macrosystem level- policy level. Therefore, for the inclusion of learners with dyslexia to be achieved, policies must prioritise empowering teachers, making dyslexia training mandatory, and improving access to assessment for learners with dyslexia.

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44 What do Greek early childhood teachers know about dyslexia? A preliminary exploratory study

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Gregoriadis, A., Aristotle University of Thessaloniki, Greece

Purpose:

We examined Greek early childhood teachers' (ECT) knowledge about dyslexia and the characteristics that relate to their knowledge about dyslexia. We hypothesized that ECT could hold both scientific conceptions and misconceptions about dyslexia and that ECT characteristics (i.e. training in special education, years of teaching experience) could affect their knowledge about dyslexia.

Method:

104 ECT in Athens and Thessaloniki completed an online questionnaire. The questionnaire consisted of 29 dyslexia-related Likert scale items (Cronbach's $\alpha = 0.834$), two items that assessed training in special education (SET) and years of teaching experience (YTE), and demographic items. The 29 dyslexia items were classified into four subscales: definition of dyslexia, characteristics of dyslexia, diagnosis and early identification of dyslexia, and training/confidence about dyslexia. The design of the study and analysis of data was descriptive.

Results/Conclusions:

ECT showed less knowledge about the definition of dyslexia (mean score= 45.8) comparing to the other subscales (means 56.8- 66.2). Percent of responses on each dyslexia item revealed both misconceptions and conceptions. For instance ECT said that dyslexic children may not have emotional and/or social problems or bilinguals do not appear dyslexia. A moderate positive correlation was found between definition and characteristic subscale ($r=.59$, $p<.001$). ECT with SET differed from their colleagues without SET in all subscales (t-tests; $p<.01$, 0.001) apart from definition subscale (t-tests; $p>.05$). YTE did not affect understanding of dyslexia (ANOVA; $p>.05$).

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45 Written Language Production of Greek Adolescents with-Dyslexia

Despoina Georgakopoulou, Vasiliki Aslanoglou, Filippos Vlachos, Department of Special Education, University of Thessaly, Greece

Purpose:

Posters

Individuals with dyslexia usually face severe and persistent difficulties in writing. The aim of the present study was to evaluate the written language production of adolescents with dyslexia and compare it to that of typically developing (TD) adolescents matched for gender and chronological age in order to investigate whether a) adolescents with dyslexia will produce a lower number of words in text production in relation to their TD peers, and b) there are differences in the type of errors produced between adolescents with dyslexia and TD adolescents in specific categories.

Method:

In this study participated 20 adolescents with dyslexia aged 13-15 years old who had received a diagnosis of dyslexia from Public Diagnostic Centers and did not present any coexisting disorder and 20 typically developing adolescents matched for gender and chronological age. All participants were individually administered a writing assessment tool consisting of two writing production tests for each Gymnasium grade. The errors of the participants were divided in four categories including substance errors, text errors, discourse errors and errors concerning the structure of paragraphs and text.

Results:

The findings of the study showed that the written outputs of adolescents with dyslexia were not poorer in measurements related to the total number of words produced. As regards the type of errors adolescents with dyslexia presented statistically significant more errors in measurements concerning discourse errors, but there were not significantly more substance, text and structural errors compared to TD peers. These findings could be used to develop educational practices in order to improve the written language production of adolescents with dyslexia.

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45 Using error analysis to study the word and pseudoword reading of children and adolescents with Developmental Dyslexia

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1 Sofia University "St. Kl. Ohridski"
2 Bulgarian Academy of Sciences

Introduction:

Identifying the different reading strategies and the specific characteristics of the errors made by children and adolescents with developmental dyslexia (DD) is essential for creating effective assessment tools and designing appropriate therapeutic procedures. The results of the known studies are heterogeneous and with small samples. For these reasons, the present study aims to approach the problem by analyzing word and pseudoword reading errors in children and adolescents with DD, describing them in different levels, categories, and subtypes.

Methodology:

The study included 59 children and adolescents aged between 8 and 16 years: 28 with DD and 31 with TD. Participants read semantically unrelated 3- and 7-letter words and pseudowords. Each parti-

cipant's reading is recorded in an audio file, which is transcribed into a text file. A computer program was used to examine levels of error processing, which included analysis of word level – word repetition, mirror reading, unread word, syllabic reading, lexicalization; syllable level – difference in syllables (addition, deletion, repetition, displacement); cluster level; letter level – difference in the number of vowels and/or consonants; grapheme substitutes.

Results

Results showed that participants with DD made more errors when reading pseudowords and longer words. Word repetition and mirror reading are not often observed at the word level but are present. More characteristic is syllabic reading, observed only when reading pseudowords. The differences in word structure lead predominantly to syllable deletion. The principle of simplification is followed in terms of syllable and cluster structure and letter/sound level. The DD group made errors such as visual letter substitutions and letter shuffling. The fewest errors were in the reading of nouns.

The findings point to a discussion of the dominance of lexical reading, questions about the relationship to praxis deficits, and the role of letter position in the word.

Keywords: *Developmental Dyslexia; reading words and pseudowords; reading errors; reading strategies; decoding and recognition of words.*

Posters

Information

Services by the Technopolis

During the conference there is limited printing availability. Please make sure to have your posters or anything else you need printed in advance.

Since this is Athens there are many restaurants scattered across the town centre for you to choose from.

If you need to buy necessities there is a **minimarket** 450 meters from the venue. Address: Triptolemou 6.

A **pharmacy** is located 400 meters from the venue. Address Persefonis 65.
See the maps on the next page.

Wifi

There is an open WiFi network called "Technopolis" that you can use.

Lunch

Lunch will be served on Saturday in the Purifier house. Follow the signs pointing to location.

Conference Dinner

For those who pre-paid the Conference Dinner. The restaurant is called **Kuzina Restaurant,** . The address is Adrianou 9, Athina 105 55, Greece, . The restaurant is situated 1km from Technopolis. A 14 minute walk from the Technopolis (see the overview map on the following pages).

Web info

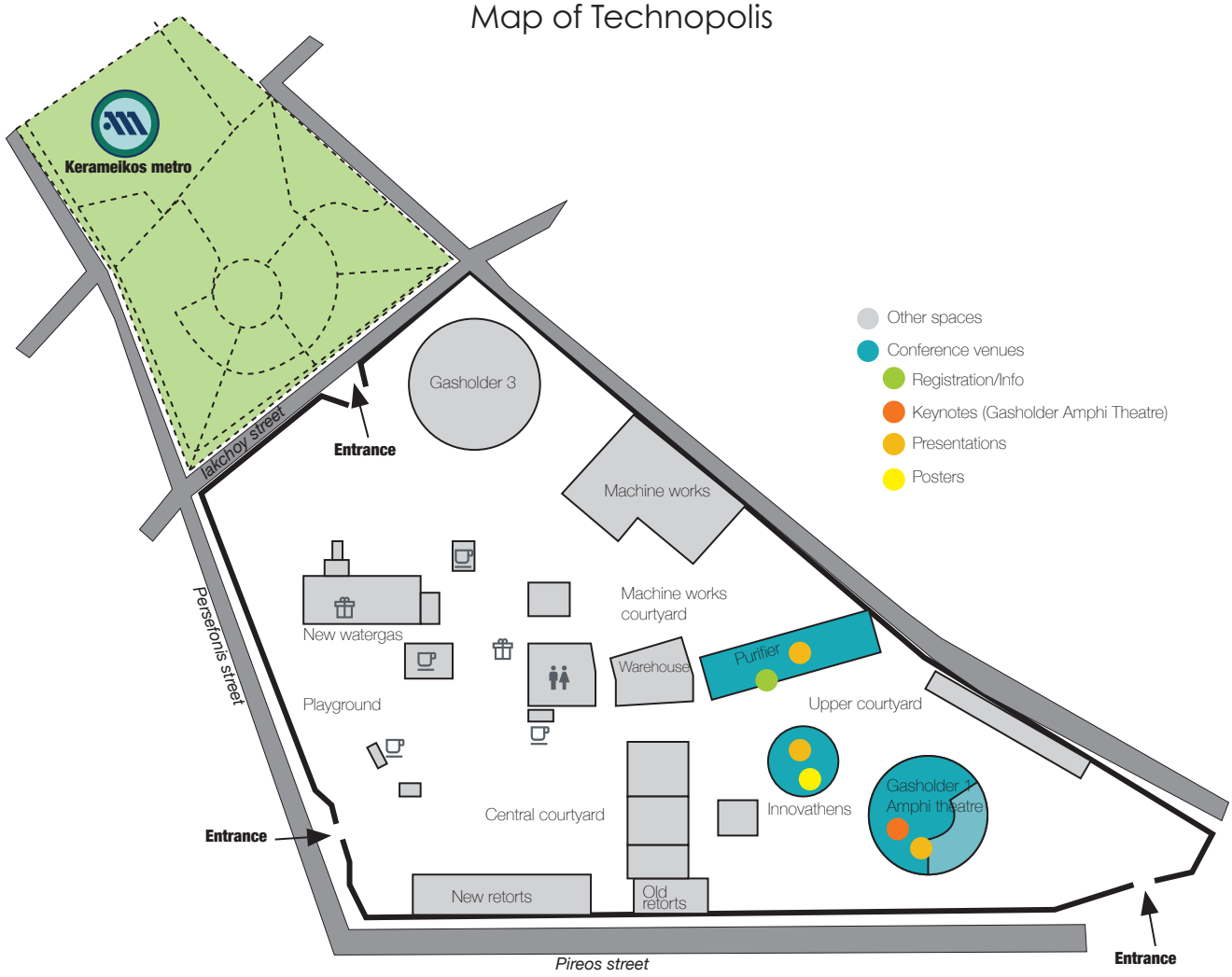
Updated programme and all the abstracts for download at eda-info.eu

Programme

Practical info page

Information

Map of Technopolis



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The EDA All European Dyslexia Conference is under the auspice of the Hellenic Republic National and Kapodistrian University of Athens. With thanks to the City of Athens for making it possible.

Information

Map of services and conference dinner

EDA®
European
Dyslexia
Association

EDA web site

eda-info.eu

About the EDA All European Conferences

Every 3 years the EDA hosts an all European Dyslexia Conference somewhere in Europe. There was supposed to be one in 2019 but it has was pushed back to a later year, and then the pandemic happened.

We are happy to finally meet you all here in Athens, October 18-20, 2024.

Our past conferences have been attracting around 300 to 500 delegates and has been a great place to meet and learn. We have kept the information from previous conferences in the archives and you are welcome to browse through them and download public material.

If your university is interested in co-hosting a conference with us, please get in touch.