



19th ECHA CONFERENCE

# EXPANDING HORIZONS

*The Odyssey of Talents & Gifts*

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**BOOK OF ABSTRACTS**

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Wednesday 28 August 2024

Keynote Lecture\_01

**Why identify? Rethinking purposeful & equitable identification of advanced learners**

**Amy Shelton**

Johns Hopkins University, United States of America

Inequities in access to advanced education programs often begin with inequities in the identification tools, prompting research into alternatives as well as questions about the rationale for identification of advanced learners as a gateway to programs.

In this presentation, we will take a hard look at the purpose of identification, the value of understanding advanced learners' needs, and what we know and don't know about purposeful and equitable practices to authentically assess students' academic potential and abilities.

Thursday 29 August 2024

## Oral Presentations\_01

### **The good practices of talent nurturing and scientific research of the "Genius" Charity Foundation**

**Natalia Varadi**

"Genius" Charity Foundation, Ukraine

The "GENIUS" Charity Foundation has been established in 2011. It carries out a wide range of talent management, talent development among the schoolchildren, students and young researchers. Our Foundation gives opportunity for gifted students to participate in extracurricular activities outside of school in different science fields, sport, music, arts, drama. This presentation will give a description of used best practice, methods, achievements in talent development of this region: competitions, other extracurricular activities in different scientific area, and also folk music, theatricals, acting circle, sport and many other. The Foundation makes a great effort to find and support talented pupils in arts, drama, sports, and folk-music too. That is why we organize Folk Music and Dance Talent Show, the Football Cup, and International Handball Tournament, various sepicalized camps during summer time. For the students, young researchers, and lecturers aged 17-35 years, the Foundation realizes the Specialized Research Courses, organizes the Conference of Young Researchers, as well as the Scientific Student Conference and various other scientific and memorial conferences etc. 2000-2400 pupils between the ages of 8 and 17 and also 150-200 students and young researchers between the ages of 18-35 take part in our programes annually.

### **Identifying giftedness in hearing impaired students: possible pathways to uncover talents**

**Ahmed Mohamed, Nora Helmy**

United Arab Emirates University, United Arab Emirates

This study aimed at exploring giftedness in hearing impaired students in a special school for deaf and hard of hearing students in a city located at the South of Egypt. The study followed a mixed-method design including quantitative and qualitative data collection. The study participants comprised a total of 32 hearing impaired students (17 males and 15 females). Students' ages ranged from 9-23 years and their non-verbal intelligence test scores ranged from 90-120. The study tools included Renzulli's Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS), Raven's Colored Progressive Matrices, and Behavioral and Emotional Rating Scale (BERS-2). The results of the qualitative study showed that hearing-impaired students had some signs of giftedness in different domains that are compatible with results obtained from teachers' rating of students' behavioral characteristics. The study also showed statistically significant differences between males and females in the degree of giftedness in some domains in favor of females. The analysis of qualitative data also showed the importance of teachers' perceptions as a referral source to identify exceptional talents in hearing

impaired students. The study recommends providing teachers and parents with training workshops in schools to help them identify and nurture giftedness for their children.

### **Inclusive practices: How federal, regional, and local collaborations support equity in gifted education**

#### **Maria Katsaros-Molzahn, Lalitha Murali**

Wisconsin Association for Talented and Gifted, United States of America

Equitable opportunities enable all learners to strive towards their potentiality. Local norms promote educational equity and break down barriers to access. Developing local norms requires collaboration between various institutions within a nation, including federal, regional, and local governing bodies. Regional or state organizations often provide the conduit interpreting research and promoting educational leadership. In the United States, members of state gifted education organizations often wear multiple hats, including those of district level educational leaders. Corroborating educational theory through actionable research, allows state boards to reach wider audiences. This presentation will highlight the work of two Wisconsin Association for Talented and Gifted (WATG) board members and educators on promoting equity both as state and locally normed policy. Dr. Maria Katsaros-Molzahn, a twenty-seven year veteran of the Oregon School District, and Mrs. Lalitha Murali, a seventeen-year veteran of the Glendale-River Hills School District, utilize multiple identification tools including local and national norms to provide opportunities for a wide range of students. As WATG board members they provide training and support services for advocates of diverse gifted and talented student populations. In this presentation, they will focus on how multiple identification models ensure a more equitable and inclusive approach for talent development.

### **Evaluating gifted education in Palestine: A study of educational and learning capitals**

#### **Anies Al-Hroub**

American University of Beirut, Lebanon (Lebanese Republic)

This theoretical article undertakes a meticulous examination of the impact of educational and learning capitals on the education of gifted students in Palestine. The analysis begins by scrutinizing the educational system in Palestine, providing an overview of the existing state of gifted education, and delineating challenges and investments made by both public and private educational institutions. Employing the Education and Learning Capital Model (ELCM), rooted in Systems Theory and the Actiotope Model of Giftedness, the article systematically dissects the ten educational and learning capitals pertinent to gifted education in Palestine. Drawing from evidence-based literature, the article identifies critical elements contributing to the academic success of gifted students. It delves into the financial aspects of gifted education, elucidating the resources necessary for effective program implementation. The article underscores the importance of defining giftedness in the Palestinian context, advocating for teacher training to provide adequate support. Ultimately, it emphasizes the efficient utilization of educational resources to foster the academic achievement and growth of gifted students, while acknowledging and addressing challenges within the Palestinian gifted education system.

## The COARs as an intervention program to support highly able high schoolers coming from ethnic-linguistic diverse disadvantage contexts

**Sheyla Blumen<sup>1</sup>, Daniela Ego Aguirre<sup>1</sup>, Tiffany Sandoval<sup>1</sup>, Joaquin Velando<sup>2</sup>**

<sup>1</sup>Pontifical Catholic University of Peru, Peru; <sup>2</sup>University of Seville, Spain

The status of highly able students coming from ethnic-linguistic diverse original towns of Peru is presented. The major purposes of this presentation are: (a) to describe the challenges of gifted education in Peru, underlining the advocacy efforts towards the indigenous population facing socioeconomic inequity; and (b) to analyze the case of the 25 residential schools for the highly able, as an example of a promising attempt with results that will be worth monitoring in the near future. The challenges for the Peruvian indigenous gifted in the future are also discussed, taking into consideration the needs of a multicultural society.

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## Oral Presentations\_02

### Equal talents = Equal judgements?

**Kim Smeets<sup>1,2</sup>, Ellen Rohaan<sup>3</sup>, Sanne van der Ven<sup>4</sup>, Anouke Bakx<sup>1,4</sup>**

<sup>1</sup>Fontys School for Child Studies and Education, Fontys University of Applied Sciences, Tilburg, The Netherlands; <sup>2</sup>Developmental Psychology, Tilburg University, Tilburg, The Netherlands; <sup>3</sup>Fontys School for Child Studies and Education, Fontys University of Applied Sciences, Eindhoven, The Netherlands; <sup>4</sup>Behavioural Science Institute, Radboud University, Nijmegen, The Netherlands

The judgements of students' cognitive abilities by teachers and parents exert significant influence on academic and life outcomes. Given the importance of these judgements, the accuracy is essential. However, judgments are susceptible to various student characteristics, including giftedness. The aim of our study was to enhance our understanding of the relation between teachers' and parents' judgements of elementary students' cognitive capabilities and students' assessed cognitive abilities. Furthermore, our goal was to investigate potential variations in judgement accuracy between gifted students, students with other special educational needs (SEN), and students without SEN, as well as between students with low and high socioeconomic status (SES). Teachers' (n=77) and parents' (n=1014) judgements were obtained through statements. Students' (n=1014) assessed cognitive abilities were measured using a cognitive test. Multilevel analyses were conducted. The results indicated that parents' judgements were higher than teachers', though both were similarly predictive for most cognitive abilities. Gifted students received higher judgments for certain cognitive abilities compared to peers with equal cognitive abilities. In general, the findings indicated a negative bias in judgments related to SEN and SES. This study underscores the disparity in opportunities for equally talented students and emphasizes the crucial roles of teachers and parents in addressing this.



## **Empowering gifted education: An evaluation of the Mawhiba Classes Program and its multidimensional impact on students, parents, and teachers**

**Fahad Suliman Alfaiz, Khalid Mohammad Alsharif, Moyassar Abdulrahman Alshamekh**

King Abdulaziz and his Companions Foundation for Giftedness and Creativity, Saudi Arabia

**Background:** King Abdulaziz and his Companions Foundation for Giftedness and Creativity, known as "Mawhiba," has launched a comprehensive strategy to foster giftedness through the implementation of the Mawhiba Classes Program (MCP) for gifted students in Grades 4-12 in selected schools. This initiative is grounded in an integrated approach that focuses on school selection, teacher training, curriculum development, student assessment, and parental support, aimed at fostering an enriched educational environment for gifted students.

**Objectives:** The study aims to provide insight into the MCP and assess its effectiveness by examining its implementation and impact from the viewpoints of students, parents, and teachers.

**Methods:** A quantitative approach was employed. A total of 1,403 students, 1,106 parents, and 514 teachers participated in the study. Three questionnaires were developed covering various aspects, such as (a) program registration procedures, (b) student learning and teaching, and (c) teacher communication and guidance.

**Results:** The study results revealed a general satisfaction in the MCP among the samples. Preliminary findings indicate a positive trend in student performance. Teachers reported enhanced competency in addressing the needs of gifted students, with improved strategies for curriculum implementation and differentiation. Parents reflected an increased engagement in their children's education.

## **Giftedness, a Constitution of Awareness**

**Truus Van Der Kaaij**

Own practice; Former affiliation Radboud University Nijmegen, The Netherlands.

Psychology and education struggle for almost a century for consensus on how to define the nature of giftedness. Next to the prevailing innate Trait and environmentally shaped non-Trait perspectives, a new concept of giftedness is presented: a constitution-based State perspective. Relevant for identification, support of the emotional needs, exploration of the lived experience and the physiological and spiritual factors of giftedness. Awareness and perceptual superiority were found as the first signs of giftedness in infancy, forming the basis of the constitution of the G&T.

Experts encouraged expanding horizons by an interdisciplinary six-fold literature study-project, combining a synthesis between Humanities and Natural science with many years of experience in the field.

The new evolutionary concept of giftedness as a state-of-being was worked out in a threefold typology, based on the directed life-force to either the nervous, rhythmic or digestive system. Giving the G&T better understanding and self-awareness for growth. Providing better for their mental health and addressing life needs and struggles that accompany giftedness. Contributing to insight in underachievement, hidden giftedness

and learning profiles, and giving professionals new tools for teaching and counseling in ways used in the medical world for decades.

### **The Motivation of Dutch Secondary School Students from high and low SES Backgrounds**

**Lineke van Tricht<sup>1</sup>, Joyce Gubbels<sup>2</sup>, Anouke Bakx<sup>3</sup>, Lianne Hoogeveen<sup>1</sup>**

<sup>1</sup>Radboud University Nijmegen, Netherlands, The; <sup>2</sup>Dutch Center for Language Education, Nijmegen, Netherlands, The; <sup>3</sup>Fontys University of Applied Sciences, Fontys Child and Education, Tilburg, Netherlands, The

In the Netherlands, the growing differences in opportunities to be successful in the higher levels of education are reason for concern. Since motivation and performance are strongly related, having more insights into motivation may help to develop tailored interventions, contributing to closing the achievement gap between high and low SES students. In the present study we investigated the motivation of Dutch secondary school (N= 4,765) students from high and low SES backgrounds. Using the PISA data of the 2018 cohort, results of the 25% highest and 25% lowest SES students were analysed. Results showed that low SES students had a significantly more negative academic self-concept than high SES students and were also significantly more negatively intrinsically motivated. In contrast, low SES students had a significantly less negative motivation to master tasks than high SES students. High and low SES students did not significantly differ on academic self-efficacy and mastery goal-orientation. Results showed differences between high and low SES students in the relations between all constructs, meaning that low SES students seem to be not less, but differently motivated than high SES students. These results have important practical implications for the way in which educators can motivate high and low SES students.

### **Cognitive profiles of gifted primary school students with mild reading difficulties**

**Kim Lijbers<sup>1,2</sup>, Sietske van Viersen<sup>3</sup>, Arjan van Tilborg<sup>4,5</sup>, Anouke Bakx<sup>6,7</sup>**

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This presentation highlights our study focusing on gifted primary school students grappling with mild reading difficulties (RD). These students exhibit a discrepancy between their high intellectual capacities and their below-expected academic performance, causing distinctive educational challenges. The goal of this study was gaining insights into what causes these challenges. A comparative analysis was conducted of the cognitive profiles of gifted primary students experiencing mild word-level RD (n = 50) in contrast to those without RD (n = 30), utilizing a case series approach. Both groups showed predominantly similar cognitive profiles, particularly in the realm of weaknesses concerning dyslexia-related risk factors (phonological awareness, rapid

automatized naming, verbal short-term memory). However, notable distinctions emerged in their strengths concerning these dyslexia-related risk factors. Gifted students with mild word-level RD exhibited fewer strengths in comparison to their peers without RD. The observed challenges seemed to stem from a lack of, or less prominent, strengths in the underlying risk factors. By fostering and developing these areas of proficiency, there is a potential opportunity for these strengths to serve as protective factors, mitigating the difficulties associated with less proficient reading. The outcomes underscore the potential suitability of a gifted- and needs-based education, emphasizing students' strengths.

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## Oral Presentations\_03

### Identification and characterization of intellectual precocity in the Chilean early childhood population

**María Leonor Conejeros-Solar<sup>1</sup>, María Paz Gómez-Arizaga<sup>2</sup>, Katia Sandoval-Rodríguez<sup>1</sup>, Sandra Catalán<sup>1</sup>, Tatiana López<sup>1</sup>, Cristóbal Bustamante<sup>1</sup>, Natalie Contador<sup>1</sup>, Josefa Quijanes<sup>1</sup>**

<sup>1</sup>Pontificia Universidad Católica de Valparaíso, Chile; <sup>2</sup>Universidad de Santiago de Chile

Intellectual precocity is an early and accelerated development of linguistic, psychomotor, cognitive, and socioemotional abilities of children when compared to their age group (Al-Hroub & El Khoury, 2018). However, precocity has been disregarded in the study of giftedness (Chamberlin et al., 2007; Walsh et al., 2014), which is puzzling considering that the first years of life are crucial for later development (Kaplan & Hertzog, 2016).

This study, conducted in the region of Valparaíso, Chile, is part of a 4-year project that aims to delve into the characteristics and educational provisions addressed to precocious youth.

In the first year of the study, several assessment procedures were conducted. For phase 1, 804 students in pre-K were screened using the GRS-P and the SIGS-2 scales. From this stage, 139 students were nominated as precocious either by parent nomination, teacher nomination, or both. In phase 2, these children were administered the TADI test, a Chilean instrument that evaluates learning and development.

This presentation, will show the results of phase 1, regarding the differences found in the nomination process between parents and teachers, as well as the salient developmental characteristics and traits of Chilean precocious children in four domains: cognitive, linguistic, motor, and socioemotional abilities.

### Textbooks meet gifted students' needs in Swedish technology education

**Helen Brink, Jorryt van Bommel, Nina Kilbrink**

Karlstad University, Sweden

Many countries, including Sweden, teach gifted students in mixed-ability classrooms and teachers often need to differentiate their teaching. Gifted students have specific needs and for the subject technology these needs are described in terms of complexity, autonomy, authenticity and support (CAAS-framework, Brink, submitted). How the

subject technology can meet these needs is described using the CAAS-framework, however, there is a lack of knowledge to what extent the subject actually offers CAAS to gifted students. Therefore, we conducted a content analysis on the three existing educational textbooks for lower secondary school (age 13-15) in Sweden. Krathwohl's framework (2002) was used to capture the knowledge type and the cognitive processes involved in the text, tasks and other content in the textbook. Our preliminary results show that complexity is offered to some extent. Autonomy is addressed occasionally through home-assignments. Support is not made explicit and authenticity is apparent throughout all textbooks. However, tasks result in a school-related product and rarely impact the wider society outside school. At the conference, we will present an overview of our findings and show examples of where and how the textbooks meet gifted students' needs.

### **Writing and Implementing a Grant to Tackle Inequity in Gifted Education**

**Kelly C. Margot<sup>1</sup>, Chandra B. Floyd<sup>2</sup>, Sarah Miller<sup>3</sup>**

<sup>1</sup>Grand Valley State University, United States of America; <sup>2</sup>William & Mary, United States of America; <sup>3</sup>Roeper Institute, United States of America

We will share our experiences of writing and receiving a large grant, and of beginning the work to chip away at inequity in Michigan by supporting gifted education development within Detroit Public Schools Community District (DPSCD). A predominantly Black city with severe wealth inequality, Detroit urgently needs educational equity. This important discussion centers finding both *the will and the way* to address inequity. The will is present for so many in gifted education, particularly those who are keenly interested in the research that theorizes that historically marginalized students are the most harmed by disparity in gifted education opportunities (Peters et al., 2019; Wright, 2021). We ourselves were inspired to act by the same spirit through which Ambrose (2013) penned his article "Socioeconomic inequality and giftedness: Suppression and distortion of high ability." However, philosophical commitment does not equal action. How do we turn commitment into educational justice? How do we as professionals commit ourselves to acting now and acting well, even perhaps before we believe we are ready? Learn more about "the way" from our first three actions - the act of trying, the act of teaming, and the act of trusting.

### **A roadmap to meet the needs of high ability learners in schools and beyond**

**Saskia Buyckx, Kim Kiekens**

SPRING-STOF vzw, Belgium

In this presentation SPRING-STOF wants to present the roadmap they developed to meet the needs of gifted learners.

We translated international literature about gifted education to the Flemish school conditions. We finetuned it through our experience with teaching gifted pupils, through multiple consultations with school principals, and by coaching several school teams in Kindergarten, Primary and Secondary schools.

Its power lies in its universal design which makes it accessible to teachers in all kinds of schools, despite the age of their pupils, their methods, their vision, their organisation, etc.

It offers a clear guideline to consequently create the right adjustments for gifted pupils. It can also be used as a communicational instrument to empower the different stakeholders in the education of gifted pupils to create a dialogue wherein all the parties use the same language and the same structure about the already made or still desirable steps.

With SPRING-STOF we bring research based evidence into practice and doing so, we deliver the unique answer to the last step in our roadmap: a content-based accelerated curriculum of all compulsory topics, taught by professionals with expertise in high ability, with focus on content and on skills, to a small group of peers.

### **Using different WISC-V Indices to identify giftedness in dyslexic students**

**Athina Voulgari, Susana Padeliadu**

Aristotle University of Thessaloniki, Greece

Although the notion of giftedness/learning disability (GLD) is well accepted in the field of twice exceptionality, GLD students are often not identified due to lack of agreement regarding valid identification criteria. Several different WISC-V Indices Scores have been suggested (NAGC, 2019) to help with identification of twice exceptional students. However, researchers have not yet reached a consensus on the best identification criteria. The goal of this study was to examine the predictive value of the WISC-V Indices regarding identification of giftedness in a Greek sample of 40 dyslexic students aged 8-15. All students had received an official dyslexia diagnosis from Public Assessment Services. As indicators of giftedness we adopted criteria such as: a) Full Scale IQ, b) General Ability Index, c) Nonverbal Index scores and d) one Primary Index Score, larger than 130. Further, the utility of Verbal Comprehension Expanded Index and General Ability Expanded Index was examined. The analysis indicated that depending on the criteria adopted, there were significantly different numbers of dyslexic students identified as potentially gifted. Further, it was revealed that about 50% of the sample would not have been identified if the diagnosis relied solely on FSIQ. Implications for valid assessment of GLD students are discussed.

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## **Oral Presentations\_04**

### **Meeting the needs of twice-exceptional students: A Dutch research and practice based project**

**Marielle Marie Wittelings, Evelyn Kroesbergen, Lianne Hoogeveen**

Radboud University, Netherlands

Reaching full potential may not always be self-evident for students with high cognitive abilities. This may especially be the case for twice-exceptional students who show characteristics of high cognitive abilities and, at the same time, face difficulties in their learning-, development-, and/or behavior. Knowledge on twice-exceptional students, their identification and psycho-educational needs is still fragmented (Burger-Veltmeijer et al., 2018; Wittelings et al., 2024). At the same time, there is a need for more knowledge, both in science and practice. This presentation will provide an overview of the findings from a research and practice based project on the psycho-educational needs of twice-exceptional students, aiming to improve identification and educational practices for twice-

exceptional students in Dutch primary and secondary schools. To this end, current practices in participating schools were investigated. Based on these findings school-based plans for professionalization activities and educational adjustments were developed, implemented and evaluated. The project included a mixed-method design, using questionnaires, interviews and casefiles. Based on investigating the current practices, five key-components were formulated that were incorporated in the school-based plans. In this presentation, the results following the implementation and evaluation of these school-based plans will be presented, including general conclusions and implication for both science and practice.

### **Gifted and non-gifted high school students' experiences during the COVID-19 pandemic**

**Neža Podlogar<sup>1</sup>, Anja Podlesek<sup>2</sup>, Mojca Juriševič<sup>1</sup>**

<sup>1</sup>University of Ljubljana Faculty of Education, Slovenia; <sup>2</sup>University of Ljubljana Faculty of Arts, Slovenia

Students experienced a major change in the 2020/21 school year, shifting to emergency remote learning due to the COVID-19 pandemic. In our mixed-methods study, we aimed to compare the academic, social and emotional experiences between gifted and non-gifted high school students. Both groups rated emergency remote learning as less adequate in comparison with regular classes in school, and reported a decline in their general mood, well-being, and learning, compared to before the pandemic. They reported feeling more distress. MANOVA analysis revealed significant gender differences in the experience of negative emotions, which were more pronounced in girls. The differences between gifted and non-gifted students were statistically, but not practically significant. The interaction between giftedness and gender was not statistically significant. Based on the qualitative analysis, several positive and negative aspects of emergency remote education that provide a good basis for further consideration of a high-quality and stimulating learning environment were identified. In summary, the experiences of gifted and non-gifted students during the pandemic were similar, suggesting that future post-pandemic intervention strategies can be uniform for both groups to address the wider impact of the pandemic on student well-being and learning.

### **Identifying gifted children, even when it seems unlikely**

**Femke Hovinga, Diane van Dijk**

SCALIQ

Identifying gifted students is often quite complex. Using teacher evaluation or checklists with developmental milestones may be helpful, but also puts you at risk to miss certain talented students. These are mostly the underachievers, students with a migration background, those who speak a different language at home and twice-exceptional children. Reason for researching about and working on identifying in the classroom, is the fact that in practice we often encounter people who are gifted, but were not identified as such. In literature we found reasons such as twice exceptionality (e.g. Grondhuis et al., 2018), race/background (e.g. Fish, 2017) and the differential effect of time pressure or other factors in intelligence measurement (e.g. Cornoldi et al., 2014). In the past few years, we have been researching reasons why teachers cannot identify every gifted child,



through asking them about over 6000 students and then measuring these students' IQ's. During this session, we will discuss the results of our study and of course challenges, ways and opportunities about the topic of identifying gifted and talented children in your school or the school you work with.

### **Discovering hidden talent: gifted students with a migration background**

**Femke Hovinga, Diane van Dijk**

SCALIQ

Students with a migration background are often overlooked. Stigmas play a role, and so does the development of language and the learning opportunities students with a migration background often lack. In the current study emphasis is put on a group of possibly gifted students with a migration background and how to identify them. Once found, what is the best way to have them flourish in the educational system? This oral presentation provides insights from the study as well as hands-on advice for those working with families with a migration background.

During this presentation attendees will get an understanding of:

- Why it is important to look at (above-level) testing or school gifted/talented identifying instruments differently than in the 'general population' of students;
- What we have learned during the study about how teachers estimate the intelligence of the gifted students with a different cultural background - and how often they are unfortunately wrong;
- How to identify correctly among a very diverse population in your school/district.

### **What do they know about giftedness? an empirical study of pre-service teachers, teachers, and professors**

**Merve Irem Ercan, Albert Ziegler**

Friedrich- Alexander Universitat, Germany

Practical support for the gifted requires a basic knowledge of the nature and requirements of giftedness, the assessment of giftedness, and the development of the gifted. This can be measured using our recently introduced *Basic Knowledge Test on Giftedness* (BaKTeG; Ercan, Vialle, & Ziegler, submitted). It is an economic measurement tool that captures a basic understanding of giftedness with only 20 items. They belong to three subscales: (1) Giftedness and its Requirements, (2) Gifted Assessment, and (3) Gifted Development. Our empirical study aimed to measure the basic knowledge of three groups dealing with giftedness in their professional training or work: 156 pre-service teachers, 278 teachers, and 11 professors from Turkey. They completed the BaKTeG. The statistical analyses produced several interesting results. For example, the three groups of pre-service teachers, teachers, and professors exhibited almost no differences regarding basic knowledge about giftedness. However, the only difference and contrary to our expectations was that students knew more about gifted development than teachers did. It was also contrary to our expectations that whether a participant had previously worked with gifted students made no difference. Interestingly, female participants exhibited a higher perception regarding gifted assessment, and younger participants knew more than older ones.

## Symposium\_01

### Policy in high ability education and research

*Chair(s):* **Caroline Sims** (University of Gavle, Sweden)

This symposium is the first by the ECHA Special Interest Group for Policy in High Ability Education and Research.

The intention behind the group is to study policy relating to high ability and education. Such policy is framed in terms of concepts such as equity, inclusion, differentiation and, naturally, in the conceptualisation of high ability itself.

In the four presentations examples will be taken from a variety of settings. We will provide an overview of gifted education policy at the national level in the US, and will show the wide variations in policy among the 50 states. We, will examine recent public debates and consultations on education in Scotland and consider whether such events can act as a catalyst for change at ground level for highly able learners. Educator, parent and student attitudes toward gifted education policy in Ireland, will be discussed with emphasis on potential legislative changes and current government interest in including giftedness within the Special Educational Needs Act. Lastly, issues on inclusion and giftedness will be presented using education policy in Sweden as an example.

After the presentations, the symposium opens for discussions on topics relating to policy and high ability education and research.

### *Presentations of the Symposium*

#### Gifted Education Policy in the US

**Pamela Clinkenbeard<sup>1</sup>, Kimberley Chandler<sup>2</sup>**

<sup>1</sup>University of Wisconsin-Whitewater, USA, <sup>2</sup>Johns Hopkins Center for Talented Youth

The former and current ECHA correspondents from the U.S. (Prof. Pamela Clinkenbeard and Dr. Kimberley Chandler) will provide an overview of gifted education policy at the national level, and will show the wide variations in policy among the 50 states and territories.

The emphasis will be on advocacy with federal and state legislators, with examples of how to inform and involve parents as advocates. The U.S. National Association for Gifted Children ([nagc.org](http://nagc.org)) offers advocacy training opportunities annually at their Leadership and Advocacy Conference, which is attended by state leaders in gifted education. Attendees interact with their federal legislators and share information with each other on what has worked in their states in terms of advocacy at several levels: state legislators, state departments of education, school districts, individual schools, and even individual classrooms and teachers.

The goal of this presentation is to share a brief overview of the gifted education policy landscape in the U.S., and to exchange policy strategy ideas with several other countries.

#### Recent public debates and consultations on education in Scotland



## **Margaret Sutherland, Cathrine Reid**

Glasgow University

At any one time in Scotland there are a range of consultations taking place across all aspects of Government. Members of the public, 3rd sector organisations, business etc are invited to comment on proposed changes to anything from roads to health care to education. Ensuring that the voice of gifted learners is heard in educational consultations is an ongoing issue.

Education has been high on the policy agenda in Scotland, and all the main political parties agree that a successful educational system is an essential requirement if the nation is to fulfil its ambitions for the future. There is less agreement in how that is to be achieved.

Catherine Reid and Margaret Sutherland, University of Glasgow, will examine recent public debates and consultations on education in Scotland. They will argue that gifted education should be an integral part of the education system. They will examine the central focus of the consultations and consider whether such events can act as a catalyst for change at ground level, particularly for highly able learners.

## **Educator, parent, and student attitudes toward gifted education policy in Ireland**

### **Orla Dunne**

Dublin City University

Currently, there is no relevant national policy for gifted learners in Ireland and giftedness is excluded from the Education for Persons With Special Educational Needs Act (2004). The only formal outlet for gifted students in Ireland is the enrichment programmes at Centre for Talented Youth, Ireland (CTYI) based at Dublin City University. A study of educator attitudes in Ireland (Cross et al., 2014) determined that while most Irish teachers are generally supportive of gifted children, there is a lack of access to specialised knowledge in the area and a challenge in identifying gifted students who are under-performing. In 2023, the Department of Education in Ireland formed a working group to establish the role of giftedness in upcoming changes to special education needs legislation. Many of this group's members are parent advocates, whose children attended or currently attend CTYI programmes.

Dr. Orla Dunne, residential programme manager at CTYI, will discuss the Centre's research on educator, parent, and student attitudes toward gifted education policy in Ireland, with emphasis on potential legislative changes and current government interest in including giftedness within the Special Educational Needs Act.

## **Inclusion, special education and giftedness in educational policy in Sweden.**

### **Caroline Sims**

University of Gavle

In 2024, it is 30 years since the Salamanca Statement was published by UNESCO. The document focuses on inclusion policy and includes an aim to make inclusion a central feature of education systems worldwide. How this aim has been interpreted varies considerably between countries. Moreover, there are differences concerning who should be the subject of inclusion.

In this presentation Dr. Caroline Sims presents how the relationship between inclusion, special education and giftedness has been interpreted in educational policy in Sweden. The questions she addresses concern what happens when central policy becomes local, and how actions intended to be inclusive actually create exclusion. The presentation will also address matters to do with translation of policies – translation between languages but also, perhaps more importantly, between discourses.

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## Workshop\_01 & \_02

### **Identifying and serving our diverse gifted learners: Taking an inclusive approach**

#### **Dina Brulles**

Arizona State University, United States of America

Racial, ethnic, and socioeconomic inequality in gifted education is widespread. While most educators recognize inequities identifying gifted learners of diversity and students living in poverty, few have rectified this issue. The identification process that is typically used puts too much emphasis on knowledge of the dominant language and academic achievement, which are tremendous obstacles for students of diversity and those with limited opportunity and background knowledge. Schools commonly seek out high-achieving students to include in their gifted services while overlooking students with high potential who are not yet achieving at levels commensurate with their ability. Despite continued attention to the disparity from leading experts, the problem continues to plague the field. This issue has become more critical with learning loss due to school closures during the pandemic.

Helping schools more effectively and equitably identify gifted students is critical to improving outcomes for all students and is the central point of this session. This session will expand participants' understanding of equitable identification processes, the critical importance of culturally-free assessments, and practical, effective strategies for identifying students. Once identified, the presenter will share approaches for working with high-potential students in classrooms and gifted education programs.

### **Turning hidden barriers into manageable opportunities – how to facilitate the gifted and talented in an egalitarian educational society.**

#### **Ole Kyed**

olekyed.dk, Denmark

In Denmark, The Convention of the Rights of the Child is highly valued. At the same time, children and youngsters who experience asynchrony or are labeled twice-exceptional and their parents may find life challenging, not least in the educational system. They seek support and understanding and relevant differentiation as well as learning environment. The children may under-perform and show low well-being with diverse behavior symptoms. Many teachers are not aware of the proper needs of the children as they may misunderstand the child's behavior due to the masking paradox where the giftedness evens out the challenges. In my workshop I will reflect on ways of coping with these experienced barriers by all actors involved. The workshop is based on my practical

experience since the 1980'es where I introduced the meaning of "giftedness" in an educational setting in Denmark. After my presentation I look forward to your questions and to an interactive and lively discussion. My experience is based on nearly 40 years as an educational and clinical psychologist. In 1989 I joined the board of UNICEF Denmark, and from 1998 to 2006 I was chair of the organization. From 2006 to 2010 I served on the National Children's Council.

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## Workshop\_03

### **Underachievement at School: How can we prevent an Odyssey of Suffering?**

**Wiebke Friederike Evers, Nadja Olyai**

Karg-Foundation, Germany

Underachievement in students can be described as an unexpected gap between their cognitive potential and academic performance. This discrepancy challenges not only students themselves but also their social environment. Underachievement can have severe impacts on psychological well-being (e.g. decrease in perceived self-worth, motivational problems, anxiety, and depression). Its long-term consequences may influence students way beyond school, cutting off career paths and choices. As underachievement is often multifactorial, there are usually no quick one-fits-all solutions. Instead, existing interventions must be tweaked to fit the individual student. Underachieving students often require a combination of counselling and extra training or tutoring, leaning in the expertise of specialists from various professions. As interventions are costly and time-consuming and require in-depth knowledge of both giftedness as well as underachievement, not all underachievers receive the help they need to feel and do better. In our workshop, we want to discuss ways to prevent the development of underachievement in gifted students. Using the World Café methods, participants are encouraged to take on different perspectives to identify risk constellations and pathways for prevention. The method invites the participants to discuss different approaches and reflect on their own mindsets and methods.

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**11:00am - 12:00am**

## Keynote Lecture\_02

### **Voices of Gifted Education over the last 30 years**

**Colm O Reilly**

DCU, Ireland

The field of gifted education has changed considerably over the past three decades. Join us on a memorable journey as our keynote ho has been involved in the largest gifted programme in Europe for this period takes us on a trip over the last 30 years of gifted education using the voices of the people involved in the programme. Documenting best practice and research this talk will apture the perspectives of students,

teachers, parents, administrators, policy makers and researchers involved in gifted education as e set out a map for the next generation of the field. The talk will encompass teacher education, social and emotional needs of gifted students, twice exceptional students and the challenges facing minority gifted students as well as many more topical issues in gifted education.

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**12:00pm - 13:00pm**

## Oral Presentation\_05

### **Teachers tell us what they want: Response to professional learning in an elementary STEM program**

**Ann Elizabeth Robinson<sup>1</sup>, Monica Meadows<sup>1</sup>, Keila Moreno<sup>1</sup>, Jill Adelson<sup>2</sup>**

<sup>1</sup>University of Arkansas, Little Rock, United States of America; <sup>2</sup>Adelson Research & Consulting, LLC, United States of America

Evaluation studies of school interventions including teacher professional learning are a critical part of improving services in gifted education. A mixed methods evaluation study of professional learning experiences provided to 54 teachers as one component of a U. S. federally funded project, STEM+C<sup>2</sup>, was undertaken to examine the efficacy of and teachers' response to their professional learning experiences. STEM+C<sup>2</sup> includes three components for which professional learning is offered: innovative engineering units, STEM biography, and modules on universal screening and local norms linked with customized school reports to assist teachers in locating high-performing, but overlooked talented learners. Quantitative results indicated teachers made gains on measures of new identification practices and knowledge of biography, but not on STEM content knowledge. Lessons learned from the qualitative data included: teachers highly valued the opportunity to "try out" curriculum units and children's biographies with small groups of educators firsthand prior to implementing them with students; teachers preferred professional learning on specific curriculum materials rather than on general instructional strategies; classroom teachers viewed both specialist gifted education teachers and principals as supportive instructional leaders; teachers adapted to hybrid professional learning within the context of COVID restrictions for many, but not all professional learning experiences.

### **An intensive 2-day-training to learn to meet the needs of high ability learners in schools and beyond**

**Saskia Buyckx, Kim Kiekens**

SPRING-STOF vzw, Belgium

We will explain our odyssey to a collaboration between experts in the field and different teacher training departments, united to meet the needs of all gifted pupils.

Since 2019, SPRING-STOF is offering content-based accelerated trajectories for gifted pupils, based on the theoretical and practical expertise in gifted education of the two founders. Confronted with schools' needs and struggles through multiple consultations

with school principals, we felt the urgency to work more preventively, by educating teachers-to-be.

Research indicates there is (almost) no focus on gifted education in Belgian teacher training.

As from school year 2024-2025, SPRING-STOF will provide a 2-day-training in different Teacher Training Departments, for students of Kindergarten, Primary and Secondary - regular and special - School Education, to learn teachers-to-be to meet the needs of high ability learners in their future classes.

During our oral presentation we will take a closer look at the programme of those two days, which will be a mix of theory and practice (materials, cases, lessons), and we'll discuss the obstacles we encountered during the process (embedding it in their programmes) and our plan to broaden our target by including Educational Master students (learning to teach in higher education) as public for our training.

### **Gifted children; a study of parents' perceptions of pedagogical practice in kindergarten in Norway**

**Hilde Sundnes, Gila Hammer Furnes**

NLA University College, Norway

Parents are responsible for raising their children, but there has been a societal change towards a more institutionalized childhood over time. Kindergarten has increasingly become a significant shaping and educational arena for children in early years. Kindergarten is voluntary in Norway, although 97.2% of all children aged 3-5 years attend kindergarten (Statistics Norway, 2023). Generally, there are substantial individual differences between children cognitively and socially (Gardar, 2022, s. 23). In a group of four-year-olds, there will often be a range in mental age from two to six years, perhaps more. We can, therefore, assume that some gifted children may go unnoticed through kindergarten. Both governmental report (NOU 2016:14) and research in Norway (Børte, Lillejord & Johannesen, 2016) show that both parents and kindergarten are important in identifying gifted children. NOU 2016:14 also states that there is a need for more research on this in kindergarten. In this study, we want to investigate how parents understand kindergarten practice in relation to gifted children. The study uses a qualitative approach in which parents are interviewed through a strategic sample. We argue that knowledge from this study can contribute to a better understanding of the challenges and opportunities for gifted children in kindergarten.

### **Nurturing Brilliance: Exploring the qualities of exceptional educators for gifted students in Greece**

**Marialena Kostouli, Georgia Tsoulfa**

CTY-Greece, Greece

This study investigates the characteristics of effective teachers through the lens of highly able students in Greece. Utilizing open-ended questions, 186 students (5th - 10th grade) enrolled in the CTY Greece Summer Programs shared their perspectives. Employing the Inductive Category Development Model, three overarching categories emerged: Intellectual Characteristics, Personal-Social Characteristics, and Pedagogical

Characteristics-Strategies. Highly able students emphasized the value of teachers with profound subject knowledge, real-life examples, and motivational abilities. They favored approachable, supportive, and fair teachers with a sense of humor and diverse teaching strategies. Both age groups acknowledged the importance of teachers who encourage student voices. Notably, older students prioritized personal-social characteristics, while younger students emphasized intellectual traits. The findings suggest that feedback significantly motivates highly able students. Implications for future practices include fostering teacher development in these identified characteristics to create enriched learning environments tailored to the unique needs of highly able students.

### **Metacognition: empower your students' super thinking**

**Jeanne L. Paynter**

Educating Innovators, United States of America

Metacognition is the “above and beyond” thinking we use to set goals, plan, select appropriate problem-solving strategies, modify/control our behavior, reflect on progress, and make effective changes. Metacognition is so instrumental to our personal and academic success that today most schools are teaching or reinforcing some metacognitive strategies. However, in order for these strategies to become automatic, we need to first teach the concept of metacognition itself. Explicitly teaching metacognition and applying its attributes in daily instruction has specific benefits for gifted children. While gifted students are cognitively advanced, there isn't clear evidence that their metacognitive development, dependent on brain maturation, is advanced. Therefore, gifted students are in need of explicit teaching in general and content-specific metacognitive strategies to ensure their success. This would be particularly supportive for underachieving gifted students. This session will present five classroom-ready steps and tools to teach metacognition. 1. EXPLAIN: Define the attributes of metacognition explicitly for teachers and for students. 2. EXPLORE: Use the specific attributes of metacognition in daily instruction. 3. EMBED. Integrate metacognition into instructional goals. 4. ENGAGE metacognition by applying it in specific tasks. 5. EVALUATE: Use the metacognition learning progressions for formative feedback and student self-reflection.

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## **Oral Presentation\_06**

### **The equity equation in gifted education**

**Salma Baghajati**

London Metropolitan Universtiy, Austria

This qualitative case study, a pioneering insider analysis at an Austrian primary school, uncovers a critical exclusion of ethnic minority and disadvantaged students from gifted education programmes, challenging prevailing norms through a social constructionist lens. The research points to a stark dichotomy: traditional pull-out programmes favour students with perceived innate abilities, predominantly benefiting autochthonous, well-supported Austrian children, whereas the inclusive Leonardino programmes in STEM subjects nurture the potential of all children, emphasising creativity, problem-solving, and



teamwork. This division not only highlights a significant underrepresentation of diverse student groups but also underscores the broader issue of inequality within gifted education. By contrasting these approaches, the study illustrates how current practices perpetuate unequal opportunities, despite children's universal belief in effort over innate intelligence. The findings advocate for a transformative shift towards equitable education practices, proposing the integration of gifted education into teacher training and the adoption of a potential-promotion perspective. This research contributes to academic discourse and offers tangible solutions for educational policy and practice, aiming to bridge the gap between potential and opportunity, thus fostering a more inclusive society.

### **Identifying and assessing the needs of twice-exceptional students: construction of a tool focused on their unique traits**

**Ludovica Rizzo<sup>1</sup>, Stefania Pinnelli<sup>2</sup>**

<sup>1</sup>University of Macerata and University of Salento, Italy; <sup>2</sup>University of Salento, Italy

Twice-exceptionality requires a pedagogical gaze and an educational intervention that pays attention to the unique traits resulting from the co-occurrence of two or more seemingly antithetical conditions, but that can, and must, find integration and mutual dialogue. This need is even more important within the inclusive school model that Italy boasts. As a result of a comparative study carried out on instruments available in the literature, integrating them due to a broader perspective of twice-exceptionality that takes into account the specific and unique traits in the profile of twice-exceptional students, a scale for identifying and assessing their needs was structured, moving from the Checklist for Recognizing Twice Exceptional Children (Silverman, Gilman & Maxwell, 2016) and The S&W-Heuristic (Burger-Veltmeijer, Minnaert, 2023). The contribution presents the results of the analysing process of the twice-exceptionality construct and the definition of the indicators attributable to six different domains of functioning, as well as the short- and medium-term working plan aimed at highlighting the consistency indices of the items and defining the instrument.

### **Supporting twice-exceptional gifted learners through the station teaching method** **Ülle Kuusk-Kupits<sup>1</sup>, Halliki Põlda<sup>2</sup>**

<sup>1</sup>Valjala Primary School, Estonia; <sup>2</sup>Tallinn University, Estonia

In adherence to the principles of inclusive education, it is essential to support the development of giftedness of every learner. However, the individual learning needs of twice-exceptional (2e) students often remain unmet in schools, as their giftedness is overshadowed by learning or behavioral disabilities (Metelski, 2022; Ronksley-Pavia *et al.*, 2018). Based on the contradiction, the aim of the research was to understand how primary education teachers perceive dual educational needs and the teaching of 2e students, and how station teaching supports the talent development of 2e students in primary education.

Action research was conducted from January to November 2023 in a general education school in Estonia. The data were collected through classroom observations, open interviews, and feedback from participants, analyzed using qualitative combined content analysis.

The study findings indicated that station teaching enabled the 2e student to demonstrate and utilize their intellectual abilities and extensive knowledge in learning activities, while being supported in managing writing and concentration difficulties through individual guidance and peer collaboration. A significant factor in these interventions was the grouping of students into smaller groups using the cluster method, facilitating the inclusion of the 2e student in a group for gifted individuals.

### **Gifted who are successful despite the education system**

#### **Eva Vondráková**

Association for Talent and Giftedness /STaN/, Czech Republic

The Center for Talent Development was established as part of the Mensa Gymnasium project by the Ministry of Education. However, the project was never implemented in full. Parents thus lacked counseling that understood giftedness. So we founded the Filip consulting center. However, a functional system of caring for gifted students, as well as for educating teachers on giftedness, is still missing. Therefore, gifted children encounter misunderstandings or the unwillingness of schools to support their special needs. For instance, native English speakers have to learn their mother tongue with their classmates who are learning their first words. Exceptionally gifted students who excel in some field at the global level (astronomy) or at the adult level (playing musical instruments) and have excellent school results, are criticized for frequent absences from classes (caused by their participation in competitions and camps). Children who are very advanced in their interests, but whose method and content of school teaching are unstimulating for them, have problems. We cooperate with the school ombudsman to find a solution. We are looking for schools that can work with these children. Fortunately, such schools exist. We will state what needs to be changed so that talent can be realized without problems.

### **Realising talent through Discovery Sprints**

#### **Sivanes Phillipson, Steven Murdoch, Nicki Wragg, Lyn Kee**

Swinburne University of Technology, Australia

Pasifika youths face significant educational disengagement, contributing to broader issues of social and economic exclusion within their communities. This disengagement often stems from a lack of accessible and culturally relevant educational opportunities that resonate with Pasifika youth.

The paper presents a case study of the interplay individual and collective talents within a series of master classes known as Sa'ili le ala Discovery Sprints, a method inspired by the proven success of Google Ventures Design Sprint. The study immersed 100 Pasifika students in design and creative arts activities with the main aim of realising their talent by acknowledging and optimising their cultural values and practices within a higher education context. The Discovery Sprints thrived to be a platform where students were able to tap into their authentic voices and experiences as creators to realise their transformative potential and talent.

In conclusion, this paper underscores the significance of Discovery Sprints in fostering talent by embracing culture and youth voice. These sprints not only serve as a platform to actively engage students but also prompt educators to question conventional teaching



methodologies. By embracing different voices, educators can empower students to forge a future where their voice reflects the rich tapestry of human experiences.

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## Oral Presentation\_07

### Exploration of Irish gifted students experiences with the Junior Cycle science course

**Megan Griffiths**<sup>1,2</sup>, **Joe O'Hara**<sup>2</sup>, **Leeanne Hinch**<sup>1</sup>

<sup>1</sup>Centre for Talented Youth Ireland; <sup>2</sup>Institute of Education, Dublin City University

Gifted students have often been neglected within Irish educational legislation and Special Educational Needs budgets (Cross, Cross and O'Reilly, 2018). Consequently, gifted students within Irish classrooms often experience 'educational malnourishment' (Cross, 2012). Their ability to easily attain the baseline curriculum, coupled with time constraints, large curricula, insufficient teacher experience and large, mixed ability class groups, drive underachievement and boredom within the Irish gifted student community. Recent reforms to the Junior cycle curriculum have been implemented to shift the focus from rote learning unto a new era which prioritises inquiry, the development of key scientific skills and support rich knowledge attainment. However, there is still a need to establish practices to enable gifted students to achieve their full potential. This project, therefore, aims to identify the best practices to accommodate gifted students, along with the challenges faced by teachers in large mixed ability science classrooms, to create and trial pre-service and in-service training programs. A mixed method approach will be used to gather data and experiences from teachers and students, critically evaluating the best practices to accommodating gifted students in post-primary science classrooms. This presentation will outline preliminary findings of Irish gifted experiences with the Junior Cycle science course.

### The LUCET fellowship: An innovative practice for gifted college students in Peru

**Sheyla Blumen**, **Jose Gallardo**, **Estrella Guerra**, **Jose Rodriguez**, **Fernanda Sota**, **Karen Goicochea**

Pontifical Catholic University of Peru, Peru

The purpose of this study is twofold. First, to analyze the cognitive, social emotional, and motivational variables involved in the identification of the 500 gifted college students at the Pontifical Catholic University of Peru, along the 53 careers it served. The identification process faces a particular challenge, since it aims to identify the talents related to the specific careers in STEM areas, Social Sciences, Humanities, Visual and Performing Arts, as well as in Architecture and Gastronomy areas. Second, to present the LUCET program, an innovative monitoring program that involves monthly online meetings, counseling support, and a mentoring service with the support of Artificial Intelligence. The method of the LUCET program will be presented, as well as the first results of the monitoring process of LUCET fellows that started the program on 2023. The discussion involves recommendations for transition economies to support their gifted college students.

## Co-designing Strength-Based Interventions for Twice Exceptional Students with Autism Spectrum Disorder (2e-ASD) through collaboration from teachers and parents

**Aiswarya Radhakrishnan, Lorraine Boran, Colm O'Reilly**

Dublin City University (Center for Talented Youth Ireland), Ireland

The Center for Talented Youth Ireland (CTYI) at Dublin City University serves more than 6,000 students annually, with a noteworthy percentage, often reaching 25%, exhibiting both high abilities and learning difficulties, particularly Autism Spectrum Disorder (ASD). Corroborating this evidence, research has highlighted exceptional academic talents and heightened cognitive capabilities in a substantial portion of the ASD population, termed twice-exceptional (2e-ASD). Despite theoretical acknowledgment, limited research has explored this area. Addressing this gap, this research, using the Patient and Public Involvement (PPI) initiative, collaborates with CTYI to co-design a strength-based intervention for 2e-ASD students.

Parents and teachers, engaged daily with 2e-ASD students, provide valuable insights into their experiences, challenges, and strengths. Thus, the PPI involves active participation from parents and teachers associated with 2e-ASD, excluding students due to potential challenges. Objectives include exploring unique challenges, understanding academic and non-academic strengths, identifying recognition and nurturing strategies, informing effective teaching methods and classroom adaptations, and empowering parents for effective advocacy.

Mixed-methods approach encompasses qualitative data through interviews and group discussions, employing thematic analysis, and quantitative data through surveys. Findings from qualitative study are then triangulated with quantitative data from surveys to provide a comprehensive understanding of the challenges and strengths associated with 2e-ASD.

## Promoting academic, social and communication skills of the gifted learner through a different approach to differentiation

**Lorena Georgiadou, Stamatios Katsikas**

Anatolia College, Greece

It is widely accepted that gifted students need a differentiated classroom to feel accepted and remain engaged (Winebrenner, 2020). Differentiation can take many forms, the majority of which aim to expand knowledge or deepen understanding through extra, independent learning. This, however, can result in promoting solely academic skills, leaving the gifted learner socially inept. We argue in favour of differentiation practices that invite gifted students to remain *consistently engaged* and become an active part of both the academic and the social aspects of the learning environment. Following Bloom's Taxonomy (1956), we suggest that differentiated tuition should focus on helping gifted students make effective use of higher levels of thinking such as synthesizing, analysing and evaluating, but not doing so independently, so that the rest of the classroom can benefit too. Such an approach helps the gifted students consolidate their learning and develop higher-level skills, as well as strengthen their *communication and social skills*,

while enabling the rest of the class to learn from higher ability students. In this presentation, two educators from different disciplines (Mathematics and Psychology) share their perspectives to illustrate the advantages of the suggested approach, making it equally relevant to skills-based and more theoretical subject educators.

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## Workshops\_04 & \_05

### **Creating equitable opportunities for twice-exceptional learners by unlocking their potential**

**Holly A. Kincaid<sup>1</sup>, Marcia A. B. Delcourt<sup>2</sup>**

<sup>1</sup>Sun River Valley Schools, United States of America; <sup>2</sup>Western Connecticut State University

Professional learning (PL) is a critical component of supporting educators in recognizing and responding to the needs of advanced learners, particularly twice-exceptional (2e) students who are traditionally underserved in schools across the globe. PL is especially critical in schools with limited staff and resources, leading to inequality in educational access. A mixed-method research study was carried out to: (a) assess educators' self-reported knowledge, skills, and perceptions of 2e children's characteristics for best practices in identification, and (b) develop strong educator competencies through PL sessions for serving 2e learners (Kincaid, 2023). Fifty educators were provided with an 8-week PL opportunity, while another 50 educators did not attend this program. Educators who completed the training had significantly higher scores than their peers regarding their knowledge, experience, and confidence related to 2e learners. These educators also described their newfound ability to identify and address potential talents and strengths of all students in their general education classes, particularly those who were 2e. The proposed workshop will help participants implement research-based activities to create equitable access to services applicable to 2e learners. Activities will include use of The Teacher Search List (Baum, 1995) and the Curriculum of Identification (Delcourt, 2023).

### **Using picture books to connect with your young gifted child**

**Gayle Bentley, Lin Lim**

Bridges Graduate School of Cognitive Diversity in Education

Parents and teachers today lead busy lives and it's difficult to "get it all done." Gifted children deal with "big feelings" and using picture books can help parents and teachers address tricky topics during daily reading time. The presenter will share how storybooks can be used to address important issues with young children, including worry, empathy, perfectionism, acceptance of differences, and leading with strengths. Participants will also learn tips for curating their own culturally-relevant picture books. The presenter will provide proactive tools for supporting all young children, especially gifted children, whether they are formally identified or not.

Baum, S., Schader, R., & Owen, S. (2017). *To be gifted and learning disabled: Strength-based strategies for helping twice-exceptional students with LD, ADHD, ASD and more* (3rd Ed.). Routledge.

McNally, S., Leech, K., Corriveau, K., & Daly, M. (2023). Indirect effects of early shared reading and access to books on reading vocabulary in middle childhood. *Scientific Studies of Reading*, 28(1), 42-59. DOI: 10.1080/10888438.2023.2220846

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## Workshop\_06

### **The Sparkle Project: What makes teachers of the gifted thrive in their jobs?**

**Eleonor van Gerven<sup>1</sup>, Wendy Behrens<sup>2</sup>, Annemieke Weterings-Helmons<sup>3</sup>, Anouke Bakx<sup>4</sup>, Ana Miro Meijas<sup>5</sup>**

<sup>1</sup>Slim Educatief, Netherlands, The; <sup>2</sup>Minnesota Department of Education, United States; <sup>3</sup>Fontys OSO, The Netherlands; <sup>4</sup>Fontys University; <sup>5</sup>University of Puerto Rico

Preparing teachers requires an understanding of how teachers learn, how they stay motivated for their job, and what they need to hold on to that motivation (Csikszentmihalyi, 1999; Deci & Ryan, 2000; Lunenberget al., 2014). How teachers perceive their professional experiences affects the broad ecological educational system. In daily practice, teachers have little time to reflect in action. While teaching, most teacher decisions are made in a split second (Korthagen et al., 2001, Loughran, 2002). Research suggests that the influence of educational theories on professional strategies is not as big as is sometimes assumed (Diery, et al, 2020). Teachers' ideals are suggested to be an important driving force for their motivation (de Ruyter & Kole, 2010).

In this session, we will present the results of an empirical study among American and Dutch teachers of the gifted on their motivation and what makes them thrive in their jobs. Results indicate no differences between the countries. As a group, teachers perceived themselves as positive change agents and the effect they have on their students appears to have the most significant effect on their motivation. Stems reflecting the three core aspects of the AOM had the highest selection rate in their answers.

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**12:00pm - 13:00pm**

## Keynote Lecture\_03

### **Sifting through the essentials of gifted education for talent cultivation: separating the wheat from the chaff**

**Del Siegle**

University of Connecticut Director, National Center for Research on Gifted Education Director,, United States of America

It is the nurturing of gifts and talents that truly makes a difference in children's lives, along with the benefits they contribute to society. In this presentation, we will

explore the essential components of talent development that foster healthy growth and maintain student motivation and engagement.

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## Poster Presentation

### **P\_01: A holistic exploration of two high-ability primary school students' learning profiles in Larissa, Greece**

**Christina-Ioanna Schoina, Olga Balampekou**

Centre for Interdisciplinary Assessment, Counseling, and Support (KE.D.A.S.Y.)  
Larissa, Greece, Greece

This presentation delves into the learning profiles of two 8-year-old high-ability primary school students assessed at the Centre for Interdisciplinary Assessment, Counseling, and Support (KE.D.A.S.Y.) in Larissa, Greece. Despite evident intellectual prowess, the first student exhibits low motivation for learning achievement, while the second demonstrates a keen interest in education. Our methodological approach involves a meticulous examination of social and family history, incorporating data from psychological, intelligence, educational, speech and language therapy, and occupational therapy assessments for both cases. The chosen case study methodology is pivotal for nuanced comprehension beyond quantitative analysis, enabling a detailed exploration of multifaceted factors influencing the learning trajectories of both students. Addressing challenges in learning assessment and promoting active school engagement for high-ability students in Greece, our findings offer insights with international relevance. In the global dialogue on gifted education, this research transcends borders, contributing to differentiated knowledge. Our commitment to inclusivity and cultural sensitivity recognizes the need for tailored interventions that consider unique educational and cultural contexts. Through actionable strategies for inspiring and supporting high-ability young learners, this study aims to enrich our understanding of challenges faced by gifted students, providing distinctive perspectives and suggestions for global educational improvement.

### **P\_02: An original field research from Türkiye on student diversity in terms of learning styles of high ability/gifted students**

**Sinan Fındık, Nihal Ulubınar, Nehir Korkmaz, Fatma Sude Gedik, Mustafa Aydos, Banu Taşkın**

TEV Inanc Turkes Lisesi (Tevitol), Türkiye

Research on gifted students' learning styles examines the diversity among these students with an eye toward the importance of understanding their unique needs and preferences in the educational context. In the educational context, recognition of different learning styles of gifted students is crucial to providing a more inclusive and responsive learning environment. By acknowledging and addressing these differences, educators and educational decision-makers can improve the overall educational experience of gifted students and encourage their participation and success. The theoretical background of this research is based on the use of learning styles inventories created

using various educational theories. Our research aims to create a comprehensive framework that illuminates the multifaceted nature of gifted students' cognitive processes. Within the scope of this research; this inventory, whose validity-reliability studies have been completed for the Turkish population, is planned to be applied to the students of “Tevitöl High School”, a pioneering and unique institution for gifted students in Türkiye, and the findings will be shared with all stakeholders at the ECHA conference. We believe our research will help us understand how gifted students process information, interact with content, and solve problems, helping educators adapt teaching methods to better suit their specific strengths and preferences.

### **P\_03: Cognitive characteristics of mathematically gifted students: a systematic review**

**Yasemin Sipahi, A. Kadir Bahar**

University of Georgia, United States of America

This systematic review elucidates the cognitive characteristics of mathematically gifted students by examining 23 unique studies through thematic analysis. Our findings identified four core themes that delineate the cognitive profiles of these students: problem-solving ability, general intelligence, information processing, and creativity. Problem-solving ability as a prominent theme, showcasing students' capacity for tackling complex problems, generalizing mathematical concepts, and demonstrating high accuracy and reaction time. General intelligence was another theme, covering a broad spectrum from verbal and visual reasoning, crystallized and fluid intelligence, to spatial abilities. These elements underscore the gifted students' robust cognitive foundation, facilitating their advanced problem-solving capabilities. Information processing was identified as a significant theme that includes perceptual skills, memory, and processing speed, indicating these students' efficient and rapid processing of information, crucial for their exceptional performance in mathematics. Last but not least creativity was found as a vital cognitive characteristics of mathematical giftedness, reflecting flexible and unfamiliar approaches to mathematical problem-solving and a capacity for innovative thought. This review underlines the necessity for educational strategies that recognize and nurture these cognitive abilities. By understanding and supporting the multifaceted nature of mathematically gifted students, educators can foster an environment that enhances their potential and addresses their educational needs.

### **P\_04: Customizing a summer professional development on gifted education**

**Chandra B. Floyd<sup>2</sup>, Kelly C. Margot<sup>1</sup>, Sarah Miller<sup>3</sup>**

<sup>1</sup>Grand Valley State University, United States of America; <sup>2</sup>William & Mary, United States of America; <sup>3</sup>Roeper Institute, United States of America

Participants will understand the results of our first Summer Institute professional development (PD): We will explain what we included (content) and what we found out worked. After receiving a United States federal Javits grant in August 2022, our team began meeting with administrators and interviewing teachers to build customized professional development for a Summer Institute (SI) for Detroit Public Schools Community District (DPSCD) teachers. To increase the number of teachers who



understand and thus better serve diverse gifted learners (including 2e, English learners, racially/culturally marginalized and/or economically disadvantaged), we needed to deliver professional development on skills and methods that best address this population and fit current district realities. For teachers, we highlighted instructional techniques that have shown success in equitably serving gifted and 2e students (Baum et al., 2021). We administered a 31-item adapted gifted education self-efficacy scale (A-GESS) (Kim et al., in press). One-way ANOVAs and independent samples t-tests were used to compare teachers' scores from pre and post surveys.. The quantitative results from participant's self-efficacy related to gifted learners will be examined and discussed.

### **P\_05: Internal traits and external supports enhance the psychological wellbeing of students**

**Susan Therese Murket, Michelle Avila Vanderburg, Jay Deagon**

Central Queensland University, Australia

Overcoming obstacles in life are accomplished more easily when a person has psychological well-being, productive internal traits, and access to external supports. Psychological well-being in the doctoral research informing this poster is defined as experiencing motivation to work productively, coping with common stressors, having positive expectations about the future, contributing to the community, and having an overall sense of life satisfaction. Productive internal traits include self-regulation, buoyancy, resilience, and grit. External supports are any positive contextual elements around a person. If a person encounters obstacles, the external supports ideally adjust to the situation. This poster will use a swimming analogy to depict how a person's psychological well-being and internal traits can be enhanced by their external supports. When needing to tread water, a snorkel is helpful. When the waves are small, better buoyancy is useful. When the wave is large, stronger resilience is beneficial. When the goal is difficult to see because of multiple waves, intentional grit is essential. The poster draws on the results from an Interpretative Phenomenological Analysis (Smith et al., 1996) of the experiences of high achieving students in Australia. The audience is invited to consider how the context surrounding a person can influence an individual's response to their experiences.

### **P\_06: Exploring educational and learning capitals in high ability students: Perspectives from the Actiotope Model in Mexico**

**María de los Dolores Valadez Sierra<sup>1</sup>, Grecia Emilia Ortíz Coronel<sup>2</sup>**

<sup>1</sup>Department of Applied Psychology Health Sciences Centre, University of Guadalajara, Mexico; <sup>2</sup>Department of Applied Psychology University Health Sciences Centre, University of Guadalajara, Mexico

This study examines the relevance of the Actiotope Model in the Mexican educational context, with a focus on educational equity for children with high abilities. The Actiotope Model, which addresses various socio-cultural factors that influence students' development, goes beyond traditional approaches that focus solely on the cognitive aspect.

Educational and Learning Capitals are analysed in children with and without high intellectual ability at secondary level, in order to find out whether there are differences between the two groups in terms of capitals. The results reveal significant differences between the two groups studied: high ability students obtain higher scores in various subscales of Educational Capital, standing out in aspects such as economic, cultural, social, infrastructural and didactic. They also show higher scores on the Learning Capital subscales, including organic, actional, episodic and attentional.

These findings highlight the importance of considering factors beyond cognitive ability in the identification and educational care of highly able children. Furthermore, they demonstrate the feasibility of ecological models such as the Actiotope in different populations, providing a basis for more comprehensive and current educational policies at the international level.

### **P\_07: Gifted twice exceptional socioemotional development: An Interdisciplinary Intervention**

**Ana G. Miro**

University of Puerto Rico, Puerto Rico (U.S.)

Gifted twice exceptional (2e) learners exhibit talents and high abilities along with learning difficulties. This complex profile poses challenges which results in learners being underserved. Professionals from different disciplines worked collaboratively with a holistic approach to assess each student's needs in the socioemotional development. The disciplines represented were Education, Counseling, Speech/language Pathology, Social Work, Psychology, and Rehabilitation Counseling. During the intervention professionals worked together in the planning, implementation, and evaluation processes. Reflective discussions promoted an interconnectedness among disciplines allowing a more complete understanding of the learners. The intervention served culturally diverse students and consisted of activities involving cognitive and socioemotional experiences. The impact of the interdisciplinary intervention was assessed through a multiple single-subject research design comparing the level of socioemotional skills in each student (6 to 17 years old), before and after the intervention through the administration of pre and post test instruments. Additionally, the development of socioemotional skills was measured by observing the behaviors during the intervention sessions. The objective of the presentation is to demonstrate the interdisciplinary approach, the data gathered through a variety of assessment instruments, the activities implemented, the skills developed, and the research results which reveal positive changes in socioemotional skill development for all participants.

### **P\_08: Invenio: Gamified test principles for spatial skills measurement**

**Ivan Černický<sup>1</sup>, Michal Jabůrek<sup>2</sup>, Ondřej Straka<sup>2</sup>, Šárka Portešová<sup>2</sup>, Petr Palíšek<sup>1</sup>**

<sup>1</sup>Masaryk University, Czech Republic; <sup>2</sup>Invenio - National Center for Gifted, Czech Republic

Invenio is a diagnostic battery created by psychologists and psychometricians from the Department of Psychology at the Faculty of Social Studies of Masaryk University. With this poster we would like to present a detailed look at Invenio's spatial skills subtests and



the process of their development. Like the rest of the battery, these subtests are modern, innovative, psychometrically sound standardized online assessment tools that assist teachers in identifying gifted students. While traditional spatial skills tests mostly use simple paper-and-pen stimuli, the online-game Invenio platform allows us to work with animated 3D stimuli. Those are especially well-suited for the target group of grade school children. Furthermore, the spatial skills employed in solving the tasks have a dynamic component, i.e. they concern objects moving in space. Such skills are increasingly important given the extent we interact with virtual environments both in educational, work, and everyday context. Research shows that spatial skills are a predictor for success in STEM (science, technology, engineering and mathematics) sciences, while at the same time not necessarily a part of habitual screening for giftedness.

### **P\_09: Maintaining Creativity among adults**

#### **Rebecca Polynice**

Grace Dart Extended Care Center, Montreal

Art is seen as a way of supporting the gifted learner to learn that any idea can be improved and innovated. Even with experiences or without, there is always a need for a boost of knowledge. This account of practice aims to motivate adults to progress in their creativity through art workshops. Let's proceed within the organization to establish creative artistic opportunities and to share their view of their workpiece. The importance of retaining this creative openness in adults enables them to develop new perspectives in their fields. Such as the famous Pablo Picasso once said, "Every child is an artist. The problem is how to remain an artist once he grows up. Art is the lie that enables us to realize the truth." It means letting go of the rules, restrictions, and expectations that we lock ourselves in during adulthood. But art allows us to free ourselves from these constraints and express our authenticity while exploring the deepest truths within us. It's like embracing the freedom to see the world in a different light. As a result, having art workshops among adults is a long-term investment in developing new comprehension. For this reason, this idea should be applied nationwide.

### **P\_10: Parental perspectives on frustration in children with high abilities**

#### **Gabriela López Aymes**

Autonomous University of the State of Morelos, Mexico

This research aimed to understand how parents perceive and manage frustration in their children with high intellectual abilities. Forty-one mothers and 13 fathers of children (aged 4-11 years) in an after-school programme in Mexico participated. A 24-question questionnaire was used to collect information on frustration and parenting of children with high abilities. Results indicated that mothers experience more frustration than fathers.

It was pointed out that 37% of parents perceive perfectionist behaviours in their children. When children do not meet their expectations, the most common reaction is anger, especially in the school environment. In addition, 90% of parents try to dialogue with their children and emphasise the importance of responsibility in the face of frustration. As a recommendation, it is suggested to implement emotional support strategies for parents and children, as well as to encourage open communication at home in order to deal

effectively with the challenges associated with high abilities and perfectionism, contributing to the overall well-being of the family.

### **P\_11: Relationship among career maturity, academic identity, and well-being of middle and high school high-ability students**

#### **Mihyeon Kim**

College of William and Mary, United States of America

Career maturity is described as how well individuals are prepared to make good educational or career decisions and adjust their career or educational goals along with individual's growing maturity throughout their life. This session introduces a program designed to support the career decision-making of low-income, high-achieving middle and high school students, and discusses how well-being and academic identity are associated differently with the career maturity of high school and middle school students.

### **P\_12: Research for the empathy competencies of gifted students: A field study from Tevitöl-Türkiye.**

#### **Sinan Fındık, Egemen Onur Unan, Delfin Bahar Üründül, Onur Ilgaz Çelebi, Mustafa Aydos, Banu Taşkın**

TEV Inanc Turkes Lisesi (Tevitol), Türkiye

Empathy profoundly influences positive social dynamics, interpersonal relationships, and overall emotional well-being. Particularly pertinent in the context of gifted education, where cognitive prowess may outstrip social and emotional development, empathy assumes heightened significance. Extant literature underscores the unique challenges faced by gifted students in building relationships, understanding perspectives, and resolving interpersonal conflicts. Drawing upon seminal theories such as Bandura's social learning theory and Hoffman's empathy-altruism hypothesis, interventions aimed at enhancing empathy in gifted cohorts typically emphasize role modeling, perspective-taking exercises, and cultivation of prosocial behaviors. Moreover, frameworks like Gardner's theory of multiple intelligences advocate a comprehensive approach to gifted education, emphasizing the holistic development of cognitive and emotional faculties. Longitudinal research underscores the enduring benefits of empathy cultivation, correlating with improved academic performance and personal fulfillment among gifted individuals. Within the scope of this research, it is planned to use the inventories we determined to measure the empathy competence of students of Tevitöl, a pioneering institution for gifted students in Türkiye, and to present the findings as a poster to all stakeholders at ECHA. With the findings of this research, educators and policymakers can effectively foster empathy among gifted students and promote a more inclusive, compassionate, and equitable societal milieu.

### **P\_13: Research on literacy instruction for students with advanced literacy skills: a map of the field**

#### **Diana von Börtzell-Szuch, Mara Westling Allodi, Attila Szabo**

Stockholm University, Sweden

The current scoping review mapped empirical research on advanced literacy abilities, and literacy instruction related to such abilities, in elementary and middle school. The search was conducted in three databases. 26 studies from 2010 to 2023 were included; twenty-one were conducted in North America, four in Asia, one in Oceania, and one in Europe and Asia. The majority focused on elementary school. Reading was the primary research area in favor of writing and literacy, unevenly distributed between three themes: Development and Skills, Characteristics, and Instruction. Regarding the overarching results within the area of reading, the findings 1) indicated that advanced readers develop less during the academic year compared to average and struggling readers, 2) that teachers expressed a knowledge on characteristics of advanced readers, but also expressed a lack of pedagogical knowledge on how to meet these students' needs, 3) that there were infrequent adjustments of content, tasks, or pace in the inclusive language art classroom, and 4) implicated a need to examine provisions at both elementary and middle school level in a wider range of educational contexts, in order to meet the educational needs of students with advanced literacy skills in various educational and cultural contexts.

#### **P\_14: Specialized tutoring program for dual exceptionalities in higher education students**

**Gerardo Aguilera Rodríguez, María de los Dolores Valadez Sierra, Rafael Barragan Aguayo**

Universidad de Guadalajara, Mexico

In Higher Education, there has been an increase in the incorporation of students with double exceptionality, students with high intellectual capacity and students with neurodiversity. It is necessary to carry out research with the objective of providing guidance, training and/or coaching to favor their incorporation, permanence, trajectory and school graduation.

This study focused on the design of a specialized tutoring program, so that students with double exceptionality have an educational response according to their characteristics and needs as a support resource during their academic career.

A qualitative/phenomenological study was carried out by means of a non-probabilistic sampling by convenience in students and graduates of higher education.

In-depth interviews were conducted to learn about the students' experience and academic needs.

A specialized tutoring program was designed.

Elements were identified that allowed visualizing the global panorama in relation to their academic needs, from which the following categories emerged:

- Institutional aspects,
- Communication, writing and interaction, cognitive, and emotional skills.
- Timely diagnosis
- Technological tools
- Peer-to-peer work

The impact of this project is significant because it addresses at least two of the Sustainable Development Goals proposed by the UN: Quality Education and Reduction of Hunger and Malnutrition.

### **P\_15: The school experience of a gifted fifth-grade student: a case study**

**Jana Pleskotová, Hana Sirotková, Jiří Závora**

Jan Evangelista Purkyně University

The project deals with socio-emotional specifics of gifted children as they affect their overall functioning in school, so hopefully it contributes to the nurturing & emotional development conference theme. It aims to find out how a gifted student in the fifth grade of primary education experiences common situations and relational issues at school, and further how they understand their experiences, or what coping strategies they use. The project takes a qualitative approach, methodologically it is based on purposive sampling, semi-structured interview and interpretative phenomenological analysis (IPA). Peer relationships, prosocial attitudes, the need for rational analysis and autonomy appear to be the most significant themes in the participant's experience. Consistent with the current state of knowledge, the findings lead to the conclusion that beneath the outer shell of a well-adapted and academically successful student may lie the struggle of a child hiding their cognitive and other features in order to fit with their classmates. This implies the urgency of transferring basic knowledge of socio-emotional specifics related to giftedness into school practice. Feelings and expressions of difference must be treated in such a way that avoids the risk of hindering the talent development and becoming a source of unpopularity or even bullying.

### **P\_16: Comparative analysis of problem-solving strategies in mathematically advanced and non-advanced students**

**Yasemin Sipahi**

University of Georgia, United States of America

This study investigates the problem-solving strategies of advanced learners in math and non-advanced learners in fifth grade, aiming to understand how advanced mathematical ability influences cognitive processes in solving non-routine mathematical problems. Utilizing Posamentier and Krulik's framework, I analyzed strategies used by 20 students from a Turkish school, categorized into advanced learners in math (AL), high achievers (HA) not identified as advanced, and average students (AS), through detailed clinical interviews featuring challenging problems. Findings highlighted significant strategic differences among the groups. AL demonstrated a wide and deep repertoire of strategies, showing exceptional adaptability and efficiency in problem-solving. They adeptly integrated multiple strategies, favoring approaches that allowed for varied conceptual perspectives and often used visualization to explore different solutions. In contrast, HA students mainly relied on procedural methods with less adaptability, while AS students focused on basic strategies such as direct calculation and simple pattern recognition, showing minimal strategic depth and adaptability. The study emphasizes the critical role of advanced mathematical ability in enhancing the breadth, depth, and flexibility of problem-solving strategies. It suggests that educational practices should nurture diverse

problem-solving strategies and the ability to apply these strategies flexibly, improving mathematical problem-solving skills across all student groups

### **P\_17: Multiple Exceptionality: Presentation of a case of Artistic Talent in Painting with Specific Language Disorder and Attention Deficit Hyperactivity Disorder**

**Celia Josefina Rodríguez Cervantes<sup>1,2</sup>, Teresita de Jesús Villaseñor Cabrera<sup>2,3</sup>**

<sup>1</sup>Institute of Psychology and Special Education, University of Guadalajara, Mexico;

<sup>2</sup>Neuropsychology Department, SOMEI, Guadalajara, Jalisco, México; <sup>3</sup>Neurosciences Department, University Center of Health Sciences, University of Guadalajara

The identification of talent is an arduous job that requires knowledge and effort, especially if it involves cases of people with underlying neurological conditions. Starting from the expectation of specific neurological conditions in the approach, barriers that limit their development and learning must be broken. It is considered important to detect talent, in addition to working together, in an interdisciplinary team, to address cases comprehensively, and promote their development and expression of talent, combined with emotional support and support for parents. The case of a girl with multiple exceptionalities is presented: Artistic Talent in Painting, Specific Language Disorder (Dysphasia) and Attention Deficit Hyperactivity Disorder, sharing the stimulation process, progress, limitations and opportunities for intervention. It is thought that it is necessary to share cases of multiple exceptionality, with the aim of supporting research, dissemination and changing the perspective on cases with these conditions.

### **P\_18: Teacher training program to address giftedness and ADHD**

**Brianda Franco Lopez, María de los Dolores Valadez Sierra**

University of Guadalajara, Mexico

Introduction: The twice exceptionality (2e) Gifted+ADHD identification is complex due to the teachers' lack of knowledge, which results in ineffective educational interventions . Objective: Design a training program that provides pedagogical tools to teachers to detect and provide a differentiated educational response to 2e students. Method: Mixed study with descriptive scope and action research design. Teachers will answer a total of five instruments: 1) A Questionnaire with open questions; 2) Gifted+ADHD student identification scale; 3) Evaluation Guide for Inclusive Practices in the Classroom-Observation (GEPIA); 4) Program Evaluation Model and 5) Focus Group. The data collected will be processed in JASP and Iramuteq. Results: 51.4% of the teachers reported not having the tools to provide an adequate educational response to gifted students. 46.3% reported not having tools to provide an educational response to students with ADHD, in addition to needing training. Most teachers reported having no experience teaching students 2e Gifted+ADHD. Therefore, 85.8% of the teachers responded that they would like to access a hybrid training process Preliminary results are presented because this study is ongoing. Discussion and Conclusions: 366 teachers have shown a willingness to receive teacher training focused on 2e Gifted+ADHD.

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**4:30pm - 5:30pm**

## Keynote Lecture\_04

### **A developmental perspective on giftedness: The talent development in achievement domains (TAD) framework and its practical implications**

**Franzis Preckel**

University of Trier, Germany

From a developmental perspective, giftedness can be described as a person's potential to develop above-average performance in certain areas. But what constitutes this potential? What is the role of abilities, personality traits, or acquired psychosocial skills? These and further central questions for understanding potential and its development are discussed by integrating different views from research on giftedness, expertise, and talent development within the Talent Development in Achievement Domains (TAD) framework. This framework distinguishes four levels of talent development, specifies level-dependent predictors and indicators, and outlines internal processes that lead to interest and success in a domain. The presentation will introduce the TAD framework and its practical implications for assessing and nurturing potential.

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**5:30pm - 7:00pm**

## Oral Presentations\_08

### **The influence of COVID-19 pandemic on the motivation of gifted high school students in Croatia, Serbia and Slovenia**

**Mojca Jurišević<sup>1</sup>, Zora Krnjaić<sup>2</sup>, Jana Šimon<sup>3</sup>**

<sup>1</sup>University of Ljubljana, Faculty of Education, Slovenia; <sup>2</sup>University of Belgrade, Institute of Psychology, Serbia; <sup>3</sup>Institute for Social Research in Zagreb, Croatia

The main aim of the present study was to explore the changes in academic motivation of gifted high school students from Croatia, Serbia and Slovenia during the Covid -19 pandemic. We conducted semi-structured interviews with 47 gifted students aged 15-18, using the same methodological procedure in all three countries. Using thematic analysis, we identified three types of changes in students' academic motivation as a result of the pandemic (i.e., decrease, no change, and increase). Using gifted students' narratives about their school context, learning experiences, and leisure time during the pandemic, we were able to identify the most frequently represented activities and salient features that allowed us to determine three patterns that characterised motivational changes during the pandemic. Furthermore, we were able to identify important differences between the three patterns, but not between the three national contexts. The results enable a timely discussion about the motivational orientations of gifted students and fill the gap in our current knowledge about the motivational dynamics of gifted students, the support needs and the approaches we need to develop to competently support (gifted) students in the future.



## **Mental well-being of gifted students in Swedish schools**

**Charlotta Lindvall**

Karlstad University, Sweden

## **Mental well-being of gifted students in Swedish schools**

*Charlotta Lindvall, PhD student, Educational Studies, Karlstad, Sweden*

Gifted students learn quickly and often progress faster than age-peers, have complex ways of thinking and analyzing their environment, and need enriched learning opportunities. Without support these students' psychological well-being may be affected. In this ongoing study I examine the importance of stimulation for the mental well-being of gifted students in Swedish school grades 4 to 8. Data collection includes municipalities with enrichment and acceleration interventions aimed for students in need of more stimulation. The study has a salutogenic perspective and a quantitative approach, with ethical approval from the Swedish Research Council. This presentation shares the theme, background and method of the research. Previously published and standardized tools were utilized - the *Health Behaviour in School-age Children (HBSC)* and *Strengths & Difficulties Questionnaire (SDQ)*, and an estimation tool. Participants include students nominated by schools as being potentially gifted, a control group of age- and gender-matched peers and their parents and teachers. Results illustrate mental health status of gifted students in Swedish schools in comparison with the wider population. The study contributes to an evidence-based understanding of gifted students' mental health strengths and risks.

## **Mathematics meets industry a day full of creativity and joy**

**Elisabet Mellroth, Adrian Muntean**

Karlstad University, Sweden

On the mathematics meets industry day (MiMM) we gather mathematics enthusiasts from a wide range of competencies. Senior researchers, doctoral students, people from industry, university students as well as high school students attend the day, all with a huge interest of mathematics. Industries, both from Sweden and other countries, are invited to pose a real problem. To create a creative atmosphere the participants are given full freedom in their approach on the problems. We have organized this day yearly since 2017 and the evaluations gives proof that gifted people flourish when engaged in such open-ended opportunities. In addition, the one-day work of the participants give industry important input on the posed problems, and sometimes the problem is given a solution. An important result of the day is the perceived joy the participants express for coming together with like-minded individuals and opportunity for challenging thinking. In our presentation we will present guidelines on how to set up a day like this. We will also present a summary of the event's evaluation based on the seven years the MiMM day has been running.

## **Greek state agencies' and teacher perspectives on identifying and serving gifted and talented students**

**Angeliki Kloukina<sup>1</sup>, Lefki Kourea<sup>2</sup>**

<sup>1</sup>University of Nicosia, Cyprus; <sup>2</sup>University of Nicosia, Cyprus

Identifying and programming appropriate instructional services to gifted and talented students has been characterized as ‘the golden rule’ of gifted education (Callahan, 2013, p.88). Recently, researchers investigated more systematically the link between identification processes and program design in local school districts, and they found that local schools did not provide targeted instructional support to gifted and talented students to maximize their learning (e.g., Gubbins et al., 2021). This proposal presents the results of a mixed-methods study conducted in the Greek context with stakeholders from 71 Interdisciplinary Assessment, Counseling, and Support Centers (a.k.a. KEDASY) and teachers from primary and secondary schools. Specifically, the study purported to : (a) assess local stakeholders’ perspectives on the identification process and curriculum placement supports provided to high-performing students ; and (b) explore teacher views and experiences regarding identifying and supporting such students. Main research findings underscore the imperative of early identification of high-performing students and the delivery of a specialized, individualized instruction based on their distinct learning profiles. Implications for practice and future research steps will be discussed.

### **Intra-network mentoring**

**Shira Hirsh, Eli Fried**

Maimonides fund, Israel

The Maimonides Fund’s Future Scientists Center for the Advancement of Gifted and Talented Students aims to provide exceptional students with meaningful opportunities to realize their unique potential through participation in distinctive, high-quality, and leading programs across diverse fields.

Ascola, the Center’s alumni network, was established to provide a professional and social framework for graduates of the Future Scientists Center’s programs. Aspiring to develop graduates as leaders in science and technology, the network operates on three levels: individual, group, and societal. It offers personal counseling, study scholarships, funding for conferences and skill development expeditions at the individual level, while fostering social and professional interactions through group meetings, entry seminars, digital platforms, alumni forums, and a mentoring program within the network.

The mentoring program aims to guide and empower younger members of the network in their personal and professional development and to enhance connections within the alumni community. The mentoring program pairs older alumni approaching the age of 30, as mentors for younger alumni in their early 20s. This process involves regular meetings where mentor-mentee pairs set goals and create work plans, supported by the network’s administration team.

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## **Oral Presentations\_09**

### **Motivational profiles of gifted students in science**

**Marie McGregor<sup>1</sup>, Jae Jung<sup>2</sup>, Paul Evans<sup>3</sup>**

<sup>1</sup>The University of New South Wales, Australia; <sup>2</sup>The University of New South Wales, Australia; <sup>3</sup>The University of New South Wales, Australia



This investigation comprised two studies that offered unique yet complementary insights into the motivations of academically gifted students in science. Using variable-centered analyses, Study 1 (N = 414, Mage = 14 years) identified two sources of multidimensionality to support the hypothesized motivation structure in self-determination theory. Thus, student ratings of motivation simultaneously reflected a global self-determined motivation, which coexisted with specific types of motivations (i.e., interests, values, pressures). Importantly, a global motivation typified by self-determination was the strongest predictor of engagement in science. Study 2 used person-centered analyses to explore motivational heterogeneity within an academically gifted population in science. The identification of four distinct motivational profiles in Study 2 underscored the importance of considering how academically gifted students may differ in their motivations. Furthermore, these motivational profiles were found to relate uniquely to the science classroom and engagement to provide useful direction on how teachers may facilitate the development of adaptive motivational patterns that predict both achievement- and well-being-related outcomes in academically gifted students. This presentation is relevant to the conference theme of *Promoting Motivation in Gifted Learners (Nurturing Talent & Supporting Emotional Development)*.

### **Wellbeing, motivation and creativity in, and for, learning in Gifted adolescents**

**Anastasia Panidou, Smaragda Spyrou**

Pinewood American International School of Thessaloniki, Greece

In this presentation, the role of wellbeing, motivation and creativity will be discussed, having as a focus the gifted learners. These concepts affect the learning in gifted adolescents, but they can also be used as a means for enhancing the learning experience.

Teaching the course of Psychology to Gifted adolescents (online and in person), was an opportunity to observe and discuss emotional reactions and concerns the students had regarding their wellbeing. These observations and discussions were used as a tool to increase the motivation of students, through creative activities.

Bibliographical research and practice will be combined to create this presentation and analysis.

### **Social experiences and psychological risk among high ability students on a summer enrichment programme in Ireland**

**Colm O'Reilly<sup>1</sup>, Tracy L. Cross<sup>2</sup>, Jennifer Riedl Cross<sup>2</sup>**

<sup>1</sup>Centre for Talented Youth-Ireland, Dublin City University, Ireland; <sup>2</sup>William & Mary Center for Gifted Education, United States of America

High-ability students have unique social experiences associated with their exceptional gifts and talents. As one example, numerous studies have found students may go to great lengths to avoid being identified as highly able in school, in part out of fear of peer rejection. We describe a study of these and other social experiences of high-ability (95th percentile scores on a standardized test) secondary school students (N = 135) attending a summer enrichment programme in Dublin, Ireland. The Strengths and Difficulties Questionnaire (SDQ), a mental health screening tool, identified areas of psychological

concern. A high percentage (30%) had scores in the “very high” range of difficulties on the SDQ. These at-risk students were more likely than those with average scores to report being rejected by their peers, feeling pressured to always be right or always do well academically, and to report they had experienced feeling they needed to hide their abilities. Effective supports for high-ability students should address their coping strategies. Recognizing the significance of peer interactions and pressure to achieve among those who are struggling psychologically may allow for targeted counseling interventions.

### **A philosophical approach to talent development**

**Anne Van de Vijver<sup>1</sup>, Sven Mathijssen<sup>2</sup>**

<sup>1</sup>University of Antwerp, Belgium; <sup>2</sup>Radboud University, the Netherlands

High ability and talent development literature present different and sometimes competing or contradictory goals for talent development. One side emphasizes that talents should be developed to enable individuals with high abilities to make societal contributions, while the other side focuses on the individual’s personal life goals. This paper investigates how the philosophical theories of Aristotle and Kant can contribute to a better understanding of talent development and its goals. Both of these theories provide a normative basis for an ethical duty to develop one’s talents and suggest that the dichotomy between societal and personal interests should not exist. Talent development should aim for realizing one’s potential and contribute to a meaningful way of living driven by self-determined goals that integrate personal interests and societal contributions. It is suggested that talent development should include a wide range of talents, including moral talents.

### **The applied dynamics of growth mindset through differential reinforcement in gifted students**

**Despoina Korentini, Theodora Koutsou**

Mensa Greece, Greece

It is a fact that behaviors do not occur in a vacuum but occur in a context and when the consequences of actions differ in different situations, people learn to act appropriately. Depending on the consequences of past behavior in a context, that context will signal possible future consequences when a particular behavior occurs. This is also the basic relation of factorial environmental behavior for the creation and maintenance of a factorial discrimination of stimuli (context-action-consequence). Deciphering the conscious or unconscious mechanisms of behavior and identity construction helps to understand how self-concept and self-esteem are examined. The purpose of this research is to change gifted students’ perceptions and behavior about themselves and their skills through differential reinforcement. Students with a fixed mindset and especially gifted ones believe that their skills and gifts are specific and cannot be developed further, seeing failure as a sign of low ability, which is an obstacle to the learning and teaching process. Through the reinforcement, the students acquired a growth mindset and understood that learning, mistakes and effort, as a means of acquiring knowledge, make them stronger, leading to a change in behavior and perception and to higher achievements.

## Oral Presentations\_10

### Supporting Parents of Gifted Children in the UK: Insight and Intervention

#### Natalie Jensen

Potential Plus UK, United Kingdom

This presentation will provide perspectives from parents on raising gifted children in the UK, illuminating the key challenges, and exploring the professional support necessary in the present educational climate. Research shows that meeting the socioemotional needs of gifted youth is as important as nurturing their academic talents and that parent voices are critical to understanding the needs of gifted children. Thematic analysis of conversations with parents of gifted children and young people (aged 2-17) in our Advice Service, will highlight stressors including perfectionism and asynchronous development, as well as struggles securing adequate support and resources from schools and will identify key patterns in parents' experiences. The presentation will outline how Potential Plus UK Advice Services continue to provide personalised support to parents and caregivers and will emphasize the necessity of collaboration with parents to nurture talent and support emotional development of their gifted children. By sharing parent perspectives from the UK, we aim to inform effective advocacy, provide key insights applicable to programmes, policies, and practices for gifted families throughout Europe and show that ongoing research is warranted.

### Bright students continuously cultivating abilities bring growth, progress, and success.

#### Pichak Siripoonsap, Ngarmmars Kasemset

Thailand-The Gifted and Talented Foundation, Thailand

Since 2007, TGT (Thailand - Gifted and Talented Foundation) has been offering programs for bright students in grade 6 through 12 to regularly join residential camps of 10 – 14 days duration. Students have opportunities to interact with others, to look after and to be responsible for them. They can identify and discover their own abilities and learn from their peers. They find it possible and simple to increase and enhance abilities just like acquiring new Apps on Mobile phones. Their continuous participation constantly keeps their abilities updated and optimized. These profounder abilities have long term impact on their personal growth, progress, and success. We share their stories.

### A Model of the Parent/Caregiver Journey

#### Julie Taplin

Potential Plus UK, United Kingdom

This presentation considers the journey that parents and caregivers go on in their efforts to nurture the talent, and support the emotional development, of their gifted children. It uses a practical model to clarify the needs of parents at each stage of their own journey of discovery. Numerous international studies evidence the positive impact of parental engagement on the achievement of young people (Harris & Goodall, 2008), but little exists to help organisations support that engagement. Potential Plus UK set about

developing a model that would help parents understand the challenges and joys they would likely experience on their journey. At the same time, we wanted to clarify the appropriate support for parents at each stage, and more readily identify the gaps in our provision. With this aim we have developed and tested with a parent focus group a Model of the Parent Journey through the stages from Identify, through Intervene and Manage, to Advocate. We will present our model, what we have learnt, and how we are using it to help parents and caregivers support their high ability children. Harris, A, and Goodall, J (2008). *Do parents know they matter? Engaging all parents in learning*. University of Warwick

### **Identifying and supporting high ability in the UK through an assessment service**

#### **Andrea Anquera**

Potential Plus UK, United Kingdom

This presentation provides an overview of the Assessment Service offered by Potential Plus UK in England since 2013, aimed at identifying and supporting young individuals aged 3 to 17 with high learning potential or giftedness. Grounded in Pfeiffer's Tripartite Model (2015) of gifted identification and Gagne's Integrative Model of Talent Development (2018), this service offers valuable insights into the profiles and needs of the assessed individuals.

Drawing on descriptive statistics from assessments conducted in 2021 and 2022, along with common recommendations provided, this presentation sheds light on prevalent profiles and requirements within the assessed cohort. Furthermore, exploratory logistic regression models are employed to examine predictors of the most common recommendations, including higher-order thinking skills, growth mindset, resilience, social and emotional support, executive functions, sensory differences, and potential referrals to special needs or mental health services.

The findings underscore the necessity of holistic support encompassing not only academic facets but also parenting skills, social and emotional development, and the inclusion of the child's perspective. By emphasising a comprehensive approach to support, this presentation advocates for tailored interventions that address the multifaceted needs of gifted individuals whilst promoting their overall well-being and development.

### **Understanding social-emotional needs from previous radical accelerants: A qualitative analysis**

#### **Rachel C Lin-Yang, C Owen Lo**

University of British Columbia, Canada

Gifted students have unique social and emotional needs, which reflects in their unique needs for programming that supports their social and emotional learning (SEL) (Smith, 2017). Research has found that many forms of acceleration can support social-emotional development through providing opportunities of engaging with intellectually equal peers (Assouline, 2015). In Vancouver, Canada, profoundly gifted students can apply for a radical acceleration program wherein they graduate high school at 14-15 years old. However, the program has been criticized for not having a formalized SEL component.

This qualitative study sought to understand the unique SEL needs reflected by these accelerated gifted students. How, and at which stage of their life, did they develop their socio-emotional skills on their paths to adulthood? Using thematic analysis, experiences pertaining to these radical accelerants' SEL development during the acceleration program and during their university are summarized. Implications for SEL support for gifted students in accelerative contexts will be discussed.

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## Symposium\_03

### The legacy of Joan Freeman

*Chair(s):* **Csilla Fuszek** (European Talent Centre\_Budapest), **Mojca Juriševič** (University of Ljubljana)

*Discussant(s):* **Eleonor van Gerven** (Slim Educatief), **Sheyla Blumen** (Pontifical Catholic University of Peru), **Caroline Sims** (University of Gavle), **Leanne Hoogeveen** (Radboud University Nijmegen, Netherlands), **Csilla Fuszek** (European Talent Centre\_Budapest), **Mojca Juriševič** (University of Ljubljana), Eva Gefferth, Rena Subotni, Javier Touron, Tasier Yamin, Narayan Desai, Antal Kinga Kincso, Renata Konyicska

This event is dedicated to the memory of Prof Joan Freeman (1935–2023) and her contribution to gifted education.

Prof Joan Freeman was a distinguished British psychologist working for the development of human abilities to their highest levels. She has conducted substantial research, notably her 35-year UK-wide comparison study of gifted and non-gifted people. She has published widely, including 17 books translated into many languages, three major government reports, hundreds of academic and popular publications, and has addressed conferences around the world. During her fruitful life, she has had an outstanding influence on the field of giftedness and gifted education. Together with nine other psychologists and educators, Prof Freeman was instrumental in founding the European Council on High Ability. She was active in the organization into her 80s as Founding President and as a spokesperson. In 2010, she became active in the formation of the European Talent Support Network within ECHA. Prof Joan Freeman had a great influence professionally and beyond on her colleagues, many of whom became her best friends over the years. As part of the open presentation, we would like to recall Joan Freeman's professional and personal legacy in various ways: formal and informal reminiscences, short films, pictures, and interactive discussions.

### *Presentations of the Symposium*

**Eleonor , van Gerven**  
**Carolin Sims**  
**Sheyla Blumen**

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## Workshop\_07

### Turning challenges into opportunities by identifying gifted employees

**Catalina Beckhoff<sup>1</sup>, David Rempel<sup>2</sup>**

<sup>1</sup>University of Hertfordshire, UK; <sup>2</sup>International University, Germany

Intellectual giftedness does not end with reaching adulthood, instead, many employees are unaware of their giftedness and may experience challenges. In this workshop, we lay emphasis on working on how gifted adults, who are unaware of their capabilities, can be approached to turn challenges into opportunities.

We conducted a systematic literature review, analysing studies about intellectually gifted employees within organisations. Results show that many gifted employees stay far behind their intellectual capabilities and far too often suffer from frustration or underachievement. However, findings indicate that gifted employees can turn experienced challenges into opportunities if they learn about their giftedness. As this topic is very sensitive and may overwhelm such individuals at first, caution and professional knowledge must be adopted to approach these talents about their potential giftedness. The workshop will begin with an introduction and a presentation of the findings of the SLR. We will then proceed to interactively work on the question of how these talents could best be approached within organisations and what support should be offered to open opportunities. Participants will be divided into thematic groups to work on the question from different perspectives. Findings will be presented, discussed, and summarized at the end of the session.

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## Workshop\_08

### Inclusion and giftedness: Exploring tensions and possibilities in schools

**Lilyana Thorsager**

Karlstad University, Sweden

Within the framework of cultural-historical activity theory, three prerequisites are essential for change to occur in a complex activity system such as a school: a need state, expansive learning, and transformative agency. A need state may arise when the activity fails to achieve its intended outcomes, thus failing to realise its object, which is its fundamental motive. In a school, where the object is to promote knowledge and development for all students, this failure may manifest as an inadequacy regarding the educational provisions and support for gifted learners. By continuously engaging in expansive learning, practitioners can develop solutions and new ways of working. This collective process entails critical examination and reformulation of the object and the prevailing knowledge and practices. While the issues underlying the need state can stimulate agency, collective efforts for reconceptualisation of the activity can support joint actions for change i.e., transformative agency. In this workshop we will explore different aspects of gifted education by modelling and analysing the school activity. It is an exploration of tensions and possibilities, but also of the complexity of the school and its



cultural and historical context. The workshop aims to inspire educational research and development work and encourage qualitative change.

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## Workshops\_09 & \_10

### **Where's the Gift? Pragmatic Language and the Pitfalls of Rejection and Acceptance**

**Paul Beljan<sup>1</sup>, Lynn Carahaly<sup>2</sup>**

<sup>1</sup>Beljan Psychological Services, United States of America; <sup>2</sup>Foundations Developmental House

Language, especially, pragmatic language, is a necessary element for the development of social and academic interactions. This talk will discuss the challenges faced by gifted students regarding how their advanced language skills can be a benefit and a curse. Language skills can be asynchronous in personal development and in how peers, teachers, and society interact with gifted children. Their linguistic abilities may cause rejection by nongifted peers but acceptance and praise by gifted peers and adults. The talk will explore ways in which gifted students may differ from their non-gifted peers regarding language and communication abilities and how being twice exceptional (2e) can compound the difficulty. The talk will not only provide strategies for educators and parents to support gifted children, but also provide strategies the child in question can understand and use to work through the issues. Skills development includes how to work through the variance of social interactions and utilize modeling to hone social behavior. Additionally, it will highlight the importance of early identification and intervention for gifted students with the goal of tempering their struggles. The speakers use case stories and personal experiences to illustrate the nuances of language difficulties and what happened to create success stories.

### **Paving the path to success: creating equitable opportunities for all gifted learners to shine**

**Holly Ann Kincaid<sup>1</sup>, Cynthia Z. Hansen<sup>2</sup>**

<sup>1</sup>Sun River Valley Schools; <sup>2</sup>CZH Educational Therapy, Gifted 2E Education Consulting, Bridges Graduate School of Cognitive Diversity

Gifted programs influence students' futures when they have clear goals and best practices surrounding multiple-pathways for identification. Well designed programs highlight and honor student's creativity and diverse thinking; however, not all programs represent diverse learners in a school setting. This fact causes inequitable identification and misrepresentation in gifted programs across the world (Gentry et al., 2022). All students deserve a school atmosphere that is aware of and honors students' strengths, talents, and interests (Baum et al., 2017). Gifted students thrive when they have an authentic environment allowing them to be seen, heard, and understood. To create and implement such a program that meets the unique cultural, learning, and social and emotional needs of all gifted learners, including twice-exceptional learners, is quite a daunting task. This workshop will aim to connect research by United States leaders in

gifted education (Baum, 2017; Renzulli and Reis, 2022) along with many years of personal experience to practice for all educators. Session participants will learn the benefits for allowing product choices, enrichment clusters, and implementation of strength-based talent-focused learning opportunities through the School-Wide Enrichment Model. Each strategy and tool mentioned will help guide all types of diverse gifted learners to thrive and achieve success.

# Friday 30 August 2024

9:00am - 10:30am

## Oral Presentations\_11

### **Specific educational and social-emotional needs of high-ability students in higher education**

**Marianne Nannings, Marjolijn Van Weerdenburg, Petrie Van der Zanden, Lianne Hoogeveen**

Radboud University, Netherlands

For decades, enhancing student success has been an important theme in higher education. There has been little systematic research into the higher-education careers of high-ability students. Students with high intellectual abilities offer great potential, but it does not guarantee academic success, and those students can be at risk of underachieving. This research aims to gain insight into factors and intervention characteristics that contribute to (under)achievement in high-ability students in higher education. The PhD project consists of three studies. Study 1 is a systematic review to examine factors associated with underachievement of these students. In Study 2, specific educational and social-emotional needs of first-year university students are investigated with a mixed-methods design to identify factors that play a role in (under)achievement. Based on these factors, student profiles (cq. clusters) will be distinguished with a variety of risk levels for underachievement. Study 3 investigates the effect of an intervention to improve experiences, knowledge of, and attitudes toward giftedness and underachievement among university student advisors. In this presentation, the preliminary results of studies 1 and 2 are provided. The presentation aligns with the conference as it focuses on optimizing the development of talent among high-ability students.

### **Transformation potential of young people in a world of multiple crises**

**Christian Fischer, Franziska Strübbe, Malina Spieker**

Universität Münster, Germany

Young people are currently growing up in a world of multiple crises. In these times which are characterized by volatility, uncertainty, complexity, and ambiguity (VUCA) due to climate change and threats of democracy, personalities with a pronounced willingness for active concerned citizenship and ethical leadership (Sternberg 2023) are gaining in importance to successfully manage global challenges.

This is where the idea of a transformative understanding of giftedness and talent starts (Fischer et al., 2024). To achieve this, teaching and learning processes need to be designed in a future-oriented way with a focus on transformative education. In addition to educational policy implications, an analysis of concepts for transformative educational

processes is required concerning the sustainable promotion of potential, that takes all children into account. To this end, approaches are presented on how to discuss with students in the context of courses about a pedagogical readiness to respond to the diversity of learners. The presentation will provide initial thoughts on a study design to investigate to what extent children with a high level of environmental sensitivity in particular have transformation potential for assuming social responsibility.

## **Counseling Parents at the Flensburg Center for Giftedness**

### **Sabine Küster**

Europa-Universitaet Flensburg, Germany

Counseling parents and caregivers is one area of activity at our center for giftedness. As an in-depth supplement to counseling sessions, we have developed a concept for a seminar aimed at parents who want to learn more about the specific needs of gifted children, ways to support them, parenting strategies, and how to deal with problematic behavior. In addition to input on various topics, there is also space to share experiences with other parents.

This presentation is about our evaluation results and the experiences we have made. It includes insight into, what kind of information transfer participants appreciate, what kind of topics parents are interested in, and what kind of problems of their children they address.

## **Parental burnout in parents of gifted/2E children**

### **Diane Van Dijk, Femke Hovinga**

SCALIQ

Parental burnout is an often overseen phenomenon in gifted families. It takes a village to raise a child, but a gifted child may be perceived as even more complex. From research (e.g. Rimlinger, 2016) we know parents of gifted children are more prone to developing parental burnout.

During the oral presentation, insights on characteristics of burnout (e.g. Schaufeli, 2020; Luthans & Youssef, 2004; in gifted people will be shared (Emans et al., 2017; Reijsegger, 2013; Vreys et al., 2016), as well as what we know about parenting gifted children (e.g. Webb et al., 2007; Bishop, 2012; Rimlinger, 2016). At the crossroads of those two themes, risk factors and circumstances for developing parental burnout will be addressed.

Several cases will be touched upon briefly. And assets shared, such as the Energy Matrix Model (Bruch & Van de Loo), books and materials to share in sessions with parents, psycho-education about giftedness in the family and what tools to use to start acting and taking care of yourself to prevent parental burnout. An example is WOOP (Duckworth, 2013; Stadler et al., 2009) and several practices based on the work by Dr. Luc Swinnen, MD (polyvagal theory & tools for beating burnout).

## **Pe(a)rs for Life**

**Carola Van Rijn<sup>1</sup>, Marielle Stutterheim<sup>2</sup>, Willeke Rol<sup>3</sup>, Winanda Riemersma<sup>4</sup>**

<sup>1</sup>Florente, Netherlands, The; <sup>2</sup>Werkplaats de open plek, Netherlands, The; <sup>3</sup>Bright Kids, Netherlands, The; <sup>4</sup>Winiq, Netherlands

From studies on the well-being of gifted students, we learn that peer contact is a substantial positive contributor to their sense of well-being. Deci and Rijan found human connection to be one of the essential general psychological needs, described in their self-determination theory for motivation.

The importance of peer contact in general is supported by a large body of studies and scientific articles, not exclusively for gifted people. Support groups and contact groups for adults are quite normal for different kinds of social groups such as lhbtq+, widowed persons, religious groups etcetera and are actively supported from a societal point of view.

From a developmental and educational perspective, the importance of gifted students having peers is recognized and actively catered for, for example in enrichment groups. This organized peer contact usually stops when finishing secondary education. However, being gifted lasts a lifetime. We want to make a case, supported with examples, for the importance of fostering peer contact for gifted people throughout their lives.

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## Oral Presentations\_12

### **Understanding the Needs of Parents of Gifted Children with the Help of Mezosystem Level**

**Adile Gulsah Saranli**

TED University, Turkiye

Parents of gifted children often feel inadequate regarding their knowledge, experience and resources to handle differences in the development of their child. This, in turn, has negative effects on the developmental progress of these gifted children. In contrast, parents with increased awareness, who know how to relate to their children, which resources to rely on for support and how to properly cope with problems will feel adequate. They will then be able to raise happy and successful children, which will, in the long run, lead to an overall development of society. For all these reasons, gaining a first hand understanding of the immediate needs of parents of gifted children should be among out primary goals. In light of these observations, the main goal of this research was to conduct a needs analysis to understand the perceptions of parents related with the support that they were able to receive from the Mezosystem level of Bronfenbrenner's theory. To this end, we interviewed 32 parents from İstanbul and Ankara Science and Art Centers (Bilsem) in an attempt to better understand their points of view.

### **Cognitive adaptation theory and its relation to resilience for gifted students in Greek general schools**

**Eftychia Mitsopoulou, Alexandros-Stamatios Antoniou**

National and Kapodistrian University of Athens, Greece

Although gifted children develop in an asynchronous manner and this disparity between their cognitive abilities and their chronological age may result in many difficulties, most of them seem to overcome adversities and demonstrate resilience skills, such as optimism, mastery and high self-esteem. We hypothesized that gifted children who study in Greek general schools show high levels of resilience by demonstrating control over obstacles and by being optimistic. The study was based on Taylor's Cognitive Adaptation Theory and the sample comprised of 24 Greek adolescents (13 boys and 11 girls) between 13 and 16 of age who were attending youth programs for gifted children in Athens. Statistical analyses showed that mastery was significantly positively correlated with self-esteem, that is, greater self-esteem was indicative of greater mastery (Pearson  $r=0.65$ ,  $p=0,05$ ). Moreover, greater mastery was correlated with less pessimism (Pearson  $r=-0.56$ ,  $p=0,05$ ). Lastly, by correlating the Cognitive Adaptation Index (CAT) with the CD-Resilience Scale, it was found that greater mastery, optimism and self-esteem indicated greater resilience (Pearson  $r=0.49$ ,  $p=0,05$ ). These findings suggest that Greek gifted and talented children use cognitive mechanisms as protective factors, in order to enhance their resilience, which has implications concerning their inclusion and the need for differentiated instruction.

### **Latent Motivational Profiles of Talented Adolescents and Associations with Emotions toward Mathematics**

**Dimitrios Moustakas<sup>1</sup>, Eleftheria Gonida<sup>2</sup>**

<sup>1</sup>Department of Mathematics, Aristotle University of Thessaloniki, Thessaloniki, Greece;

<sup>2</sup>School of Psychology, Aristotle University of Thessaloniki, Thessaloniki, Greece

There is a widespread notion that academically talented students tend to have a favorable connection with Mathematics. However, educational research indicates that their achievement motivation and emotions toward Mathematics could vary significantly. This study aimed to identify latent motivational profiles of talented adolescents and explore the profiles' associations with achievement emotions. The sample comprised 163 students from 7<sup>th</sup> till 9<sup>th</sup> grade, attending a summer program for academically talented youth. The students completed a series of questionnaires measuring their expectancies for success, the value they attribute to Mathematics, and their perceived cost (Eccles & Wigfield, 2023), along with six achievement emotions: enjoyment, pride, boredom, anxiety, anger, and shame (Pekrun, 2017). Latent profile analysis indicated 4 distinct profiles: two profiles with high expectancies, high value, and low cost (52% & 27%), one profile with high expectancies, low value, and low cost (13%), and one profile with average expectancies and value, and high cost (8%). Students having the two adaptive profiles reported more positive and less negative emotions, while the pattern was generally reversed for students with the less adaptive profiles. Such person-centered methodological approaches offer insights to support less common subgroups of talented students, emphasizing their unique motivational and emotional needs.

### **What does it take for a person with high abilities to become a high achiever? The role of psychological well-being.**

**Susan Therese Murket, Michelle Avila Vanderburg, Jay Deagon**

Central Queensland University, Australia



High ability students need more than intelligence or skills to succeed. Psychological well-being helps high ability students to become high achievers. Attaining excellent academic grades is one of many indicators of being a high achiever. High achievers can also be successful in cultural or sporting pursuits, leadership roles, and in community organisations. Psychological well-being in the doctoral research informing this presentation is defined as an individual experiencing motivation to work productively, coping with common stressors, having positive expectations about the future, contributing to the community, and having an overall sense of life satisfaction. Experiences of high achieving secondary school students from Australia shaped the Interpretative Phenomenological Analysis (Smith et al., 1996) underpinning this presentation. The students' school-based interactions, their individuality, specific contextual elements, and time-pertinent circumstances were shared via journal entries and interview responses. This presentation aims to challenge audience members to consider how the psychological well-being of high ability students can be enhanced so they can become high achieving students.

### **From multipotentiality to self-actualization through a quantum view on giftedness**

**Leon Houben, Sven Mathijssen**

Radboud University, Netherlands

Many publications acknowledge the importance of identifying needs and abilities, and providing environments in which these needs are met and the abilities can be developed into talents. The number of recent publications that pay explicit attention to individuals who have multiple abilities, however, is less extensive. The matter of multipotentiality seems to be relevant, because feeling the need of having to choose between multiple talents may cause stress with regard to career choices or lack of time or possibilities to pursue all talents. Consequently, this might affect the well-being and hinder the process of self-actualization for individuals with high abilities. Based on a literature review and from a philosophical approach, Van de Vijver and Mathijssen (2023) concluded that the end goal of talent development is self-actualization, which requires taking into account a variety of talents, including moral talents, and uniqueness of individuals. We therefore propose a metaphor that aims to bridge the gaps between the concepts of giftedness, multipotentiality, and self-actualization. This metaphor from a quantum view on giftedness might then serve as a tool for professionals in education and care to help them guide individuals with high abilities in their path towards self-actualization, through explicit attention for multipotentiality.

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## **Oral Presentations\_13**

### **The counsellor as a facilitator for meaningful peer contact between multi-exceptional adolescents**

**Debbie Mannaerts**

Graaf academy, Belgium

Adolescents grow amidst many transitions and expanding horizons is an important developmental task they face. At the same time coming home to themselves and finding their inner voices is an Odyssey that can overwhelm. As research shows, meaningful peer interactions play a crucial role in forming identity and enhancing wellbeing. For my postgraduate degree as a systemic counsellor I explored means to facilitate peer interactions between (3 to 5) multi exceptional adolescents, who are gifted with ASD and ADHD. The hypothesis is that they can benefit from sharing and interacting, but there can be hurdles to overcome before they feel safe enough to do so. As their counsellor you can tune in sensitively and facilitate the process. The resulting methodology can be used in both school counselling as well as mental health care settings. It consists of different steps and safeguards and is by design in co-creation with participating adolescents. Respecting their pace and boundaries shapes the process and the types of interactions. The presented case study (n=3) shows them getting curious about each other, preparing questions and receiving answers through the counsellor as an intermediate, sharing creative expressions and co-creating in creative methods around shared meanings.

### **Dabrowski: undressed and resuscitated**

#### **Stijn Smeets**

L'avant-garde, Belgium

In the realm of cognitive ability, a pervasive confusion exists among three distinct perspectives: the scientific, which seeks objective and generalizable knowledge; the practical, focused on efficient and effective solutions; and the experiential, concerned with self-understanding and recognition. This confusion can lead to flawed scientific methodologies, impractical problem-solving approaches, uninspiring self-expression, and, most significantly, unnecessary misunderstandings and polarization. How can we systematically navigate and integrate these perspectives? In this lecture, we aim to elucidate the strengths and weaknesses of each perspective from an epistemological standpoint. Subsequently, we will apply these insights to the existential development of cognitively able individuals, employing the often-dismissed yet experientially cherished theory of positive disintegration.

### **More than just smart: mentorship and social-emotional support for gifted students**

#### **Rodnella Turner**

The KAUST School, Saudi Arabia

Gifted students are often only seen or identified by their academic excellence. This presentation would highlight the importance of social-emotional support for gifted programming. It will explore how gifted programs can supplement lessons and learning which address the unique challenges that gifted learners face. This will be done by sharing the strategies that I have implemented in our school's gifted program to help empower gifted learners with an understanding of these key areas to help them truly thrive. I think presenting this as an oral presentation would be a good fit for this, as could be a workshop model for 45 minutes. This presentation aligns to the conference theme of "Nurturing Talent and Supporting Emotional Development."

## **Authenticity in creative writing: Design and evaluation of interventions to develop authentic writing in writing talents**

**Celena Oon**

Ministry of Education Singapore, Singapore

The Creative Arts Programme (CAP), a talent development programme in creative writing, aims to develop confident and culturally aware writers with strong authentic voices, capable of building compelling and credible fictional worlds. This study seeks to gain an understanding of the impact of targeted interventions on cultivating writers with capacity for authentic writing. This will be done via an examination of the various provisions comprising self-accessed online modules and CAP Seminar sessions such as a synchronous collaborative Writers' Circle, lectures, workshops and group exercises in community building. A mixed-method design is adopted in this study involving quantitative and qualitative methods to determine the extent to which the educational provisions, significant individuals and seminar learning environment have contributed to the growth of authentic creative writers. Data is collected from participants, and literary student products at the seminar are evaluated on the key dimensions of authenticity.

## **Advancing equity in gifted education through the voices of educational practitioners and families**

**Kristen Lamb<sup>1</sup>, Nancy Hertzog<sup>2</sup>**

<sup>1</sup>University Of Alabama, United States of America; <sup>2</sup>University of Washington, United States of America

In this presentation, researchers expand horizons and turn challenges into opportunities for gifted students by illuminating issues related to equity in gifted education through the voices of educational practitioners and families of color. Specifically, presenters report on two different studies that explored grass roots (constituents') perspectives of equity in gifted education. Examining gifted education holistically – and not just through the most touted strategies for changing policies and practices related to identification, the researchers used qualitative methods to probe the views of administrators across the State of Washington, and parent members of a local non-profit organization, Families of Color Seattle, to examine current experiences with and desired equity initiatives that would provide greater access to advanced learning opportunities across the state of Washington, more specifically in the local region of Puget Sound, WA. Findings from both studies shed light on strategies, challenges, and barriers to implementing equity initiatives in gifted education programming both in the US and across the globe.

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## **Oral Presentations\_14**

### **Teachers' motivations and strategies for developing diverse gifted students' talents and creativity**

**Leonie Kronborg<sup>1</sup>, Claudia Cornejo<sup>2</sup>**

<sup>1</sup>Monash University, Australia; <sup>2</sup>Universidad Catolica del Maule, Chile

This mixed-methods study aimed to investigate teachers' motivations, and strategies implemented when teaching diverse gifted students for talent and creativity development in schools across Victoria, Australia. Teachers participated in evidence-based university-led Professional Learning (PL) focusing on gifted education, creativity, and talent development. Participants were diverse in their teaching experience of gifted students, as a minority were highly experienced teaching secondary gifted students, yet half the cohort had less than 3 years gifted teaching experience and no previous PL in gifted education.

A survey was constructed to gain an understanding of these teachers' perspectives and experiences. For collecting quantitative data, a section of the survey focused on scales and questions developed from validated instruments, including Chan's Characteristics and Competencies of Teachers of Gifted Learners (2001, 2011), and a Classroom Practices Scale (adapted from Plunkett & Kronborg, 2004; Maker & Schiever, 2010; Van Tassel-Baska et al., 2008). A set of short answer motivation items were developed from research literature in gifted education (Plucker & Callahan, 2013). Qualitative data were collected from open ended questions that focused on identification, teaching strategies of talented and creative students, teacher motivation, and school leadership. Seven themes emerged from data analysed following Braun and Clarke's (2006) guidelines.

### **The gifted rating scales-preschool/kindergarten form (grs-p): a preliminary examination of their psychometric properties in two greek samples**

**Maria Sofologi<sup>1,2,3</sup>, Magda Ntinou<sup>1</sup>, Effie Katsadima<sup>1</sup>, Aphrodite Papantoniou<sup>1</sup>, Dimitris Sarris<sup>3</sup>, Harilaos Zaragas<sup>3</sup>, Despina Moraitou<sup>4,5</sup>, Georgia Papantoniou<sup>1,2,3,4</sup>**

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<sup>3</sup>Department of Early Childhood Education, School of Education, University of Ioannina, Ioannina, Greece,; <sup>4</sup>Laboratory of Neurodegenerative Diseases, Center for Interdisciplinary Research and Innovation (CIRI—AUTH) Balkan Center, Buildings A & B, Aristotle University of Thessaloniki, Thessaloniki, Greece; <sup>5</sup>Laboratory of Psychology, Section of Experimental and Cognitive Psychology, School of Psychology, Aristotle University of Thessaloniki, Thessaloniki, Greece

The present paper is based on data of two samples concerning the Gifted Rating ScalesPreschool/Kindergarten Form (GRS-P) that aimed to gain insight into the psychometric properties (internal consistency reliability, structural and convergent validity) of the Greek version of the GRS-P. In both studies, teachers estimated their students' giftedness with the GRS-P and executive functions with the Childhood Executive Functioning Inventory (Study 1). In Study 2, kindergarteners were examined in cognitive measurements which included the colored progressive matrices, the children category test, the Athena test, and the mini-mental state examination. Statistical analyses (EFA, CFA, Cronbach's  $\alpha$ , and Pearson's  $r$  coefficients) revealed the excellent internal consistency of the scales as well as their good factorial and convergent/discriminant validity. In relation to the children's cognitive ability measures, it emphasized the fact that the GRS-P is a reliable and valid tool for teachers to assess their gifted students in a Greek cultural context.

## **The Gifted Rating Scales - School Form (GRS-S) in Greek elementary and middle school learners. a closer insight into their psychometric characteristics**

**Maria Sofologi<sup>1,2,3</sup>, Magda Ntinou<sup>1</sup>, Effie Katsadima<sup>1</sup>, Aphrodite Papantoniou<sup>1</sup>, Dimitris Sarris<sup>3</sup>, Harilaos Zaragas<sup>3</sup>, Despina Moraitou<sup>4,5</sup>, Georgia Papantoniou<sup>1,2,3,4</sup>**

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The Gifted Rating Scales - School Form (GRS-S), an evaluation tool for the identification of gifted elementary and middle school children, was the subject of the current study, which focused on its psychometric features (internal consistency reliability and structural validity). Four hundred and eighty-nine teachers (342 women, 139 men, and 8 without gender declaration) used the GRS-S to estimate the dimensions of giftedness in their students for the current study. Particularly, 489 children (253 girls and 236 boys) were evaluated by their teachers. Eight elementary and middle school classes and sixteen 6-month age bands were used to stratify the student population. The scales' outstanding internal consistency and good factorial validity were revealed by statistical analyses (EFA, CFA, and Cronbach's coefficients). According to the current research findings, the GRS-S as a reliable and valid assessment tool for identifying gifted students (by their teachers) within the Greek cultural environment.

## **Beyond boundaries: exploring collaborative efforts in gifted education enhancement in Norway**

**Gila Hammer Furnes, Gunnvi Sæle Jokstad**

NLA University College, Bergen Norway, Norway

This article explores partner perceptions of collaborative dynamics (Norwegian: *Samhandling*) (e.g. Furnes, Saeverot & Torgersen, 2023) within a project aimed at increasing expertise in gifted education among Norwegian educators. The governmental report NOU 2016:14 and recent research (e.g., Furnes & Jokstad, 2023a; 2023b; Idsøe, 2021; Lenvik, 2021) reveal a shortage of expertise among teachers in Norway and inadequacies in adapted education provision for gifted students. The partnership involves researchers from the 'Children with High Learning Potential' research group at NLA University College, educators, school leaders, the Talent Center VilVite, and the parent organization Lykkelige Barn.

The project comprises three phases: an initial exploratory study, structured workshops, and an evaluative phase, all aimed at enhancing awareness and understanding of gifted education. It adopts a mixed-method approach (Creswell, 2013), incorporating surveys, semi-structured interviews, and action research-based workshops (McNiff & Whitehead,

2006). Expected outcomes include insights on how partnerships in education might enable a more inclusive pedagogical practice, as well as developing educational resources such as instructional videos and podcasts aimed at educators. These resources will be digitally disseminated and showcased at seminars, encouraging knowledge exchange. Expected findings for this article will shed light on interpretive variances and self-assessed contributions within the partnership.

### **Co-creating circular futures – developing scenarios with gifted children's imagination and scientists' biophysical perspectives**

**Marion Rogalla<sup>1</sup>, Maya Ivanova<sup>3</sup>, Michael Zingg<sup>1</sup>, Harald Desing<sup>2</sup>**

<sup>1</sup>St. Gallen University of Teacher Education, Switzerland; <sup>2</sup>Empa – Swiss Federal Laboratories for Materials Science and Technology, Switzerland; <sup>3</sup>University of Forestry, Department of Engineering Design, Sofia, Bulgaria

Gifted students benefit from cooperation with scientists from a research institution. Visions for a desirable future were developed with primary students in a gifted program and scientists from Empa in a collaborative design approach and implemented in a children's book on circular futures. The project contributes to the communication of scientific findings.

This presentation shows how co-creation using design thinking was implemented (Buchanan, 1992). The process is based on four main steps (discover, define, develop and evaluate) (Ball, 2019). Two half-days with Empa scientists were the core of the co-creation. Prior to these joint workshops, gifted elementary students had already spent 10 half-days immersed in topics relating to the environment, energy and sustainable material cycles. This involved games, experiments, professional explanations, theater scenes, etc. facilitated by educational experts at the St. Gallen University of Teacher Education. Each child sketched his or her visions of the future in a diary. Maps for a future city and four concrete stories which draw attention to the transgression of planetary boundaries and show possible solutions were developed. These stories were edited and illustrated by a designer for a children's book and supplemented with accompanying material for school lessons.

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## Oral Presentations\_15

### **Inclusive language teaching: lesson plans and data.**

**Alberta Novello**

University of Padua, Italy

In recent years researchers have been investigating the features of highly able students in language acquisition (Lowe 2002; Sousa 2003; Deveau 2006; Okan e Ispinar 2009; Duchovicova 2010; Novello 2022) and new strategies and activities have been proposed (Novello 2022). Based on these findings, in the past two years lessons were created and tested by the author in different contexts to confirm the effectiveness of the activities. Furthermore, the impact of the lesson plans on the creation of an inclusive environment have been observed.



The aim of the speech is to share the speaker's latest research on language acquisition in highly able students as well as the results of inclusive language lessons tested in different countries (Ireland, Italy, The USA, to mention some of them) with students aged 8 to 18. Data showing an increase in communicative competence and student engagement will be shown along with some of the lesson plans. The lessons tested covered both foreign language acquisition and native language acquisition.

### **Beyond IQ: unmasking nuances in identifying gifted underachieving students**

**Mingjing Zhu<sup>1</sup>, Jessika Golle<sup>1</sup>, Benjamin Nagengast<sup>1,2</sup>, Ulrich Trautwein<sup>1</sup>**

<sup>1</sup>Hector Research Institute of Education Sciences and Psychology, University of Tübingen, Tübingen, Germany; <sup>2</sup>Department of Education and the Brain & Motivation Research Institute (bMRI), Korea University, Seoul, South Korea

Contemporary models of giftedness endorse a multidimensional perspective, yet empirical studies of gifted underachievement often adopt intelligence as the key determinant of giftedness. This study examines the identification of gifted underachieving students (GUAs) across three representative theoretical models: the *Intelligence* model, with intelligence as the sole indicator of giftedness; the *Three-Ring* model, represented by Renzulli's Three-Ring Conception of Giftedness and composed of ability, creativity, and motivation; the *Comprehensive* model, underpinned by more comprehensive models including a fourth person-related facet: personality. Analyzing data from primary (2,785 third graders), middle (14,126 ninth graders), and high school (4,912 thirteenth graders), we found the *Intelligence* model consistently identified more GUAs than the *Three-Ring* and *Comprehensive* models. Little overlap occurred in identified GUAs between the single- and multiple-indicator models. GUAs identified by the *Intelligence* model had higher intelligence, lower creativity, and motivation than those identified by the *Three-Ring* and *Comprehensive* models. They also displayed lower mathematical ability and were less open and conscientious than GUAs identified by the *Comprehensive* model. Exploring these nuances sends a clear message that decisions about underlying concepts make a difference in identifying GUAs. It highlights the imperative to reconceptualize gifted underachievement for future studies and strategies to address gifted underachievement.

### **How a STEM identity is built and reinforced for female college students? An analysis from women's lived experiences in Chilean universities.**

**Maria P. Gomez-Arizaga<sup>1</sup>, Leonor Conejeros-Solar<sup>2</sup>, Mariana Navarro Ciudad<sup>3</sup>, Annjeanette Martin<sup>3</sup>, Karin Roa-Tampe<sup>3</sup>, Carla Bravo<sup>4</sup>, Marieta Valdivia-Lefort<sup>5</sup>**

<sup>1</sup>Universidad de Santiago de Chile; <sup>2</sup>Pontificia Universidad Católica de Valparaíso;

<sup>3</sup>Universidad de los Andes, Chile; <sup>4</sup>Universidad de Granada; <sup>5</sup>University College London

Science, Engineering, Technology, and Mathematics (STEM) are disciplines that have been largely male-dominated and with shortages in female representation (OCDE, 2015). In Chile, even though females enroll in college at a higher percentage than males, they persistently choose STEM areas at marginal rates. This situation is no different for talented women. Views of intelligence as "intrinsic brightness", along with a skewed

conception of talent has affected the way female talent is understood and the rates in which talented women enter STEM fields. In college, talented girls in STEM can also experience a decrease in self-confidence and face several barriers (Kerr & Robinson, 2004).

This presentation will focus -from a talent development perspective- on those female students who persist in STEM majors, particularly regarding facilitators and barriers they have faced in the process of constructing their STEM identity at the college level. Twenty-three female college students were part of the sample, who had been previously nominated as talented using peer, professor, and self-nomination. They were interviewed using RMI (relational mapping interview). The results focus on the role and predominance of different dimensions on STEM identity, such as self-recognition, acknowledgment and support from others, significant landmarks, and relational and sociocultural components.

### **Gifted LGBTQ Adolescents: Experiences in School and a Gifted Summer Programme in Ireland.**

#### **Orla M Dunne**

CTY Ireland, Dublin City University, Ireland

This session will discuss the findings from a new mixed methods research study (2023), which explores the experiences of 155 gifted LGBTQ adolescents in Ireland. The study found that several key factors play a significant role in prevention of bullying, increased feelings of safety and overall social and emotional growth. Participants had a mixed experience at school, reporting bullying/ harassment, a high frequency of anti-LGBTQ language, a low frequency of intervention and varying levels of peer/ teacher support. In contrast, experiences at a gifted summer program were marked by primarily positive language about LGBTQ issues, higher levels of intervention and a higher overall perception of support from peers and staff. LGBTQ leadership and extra curricular activities were also singled out as key positive factors.

This session will discuss how these findings contribute to the existing field of gifted LGBTQ research, along with providing practical items for educators of the gifted.

### **The psychological World of highly gifted young Adults: a follow up Study**

#### **Wilhelmina Mia Frumau-van Pinxten**

PPF Centrum voor Hoog OntwikkelingsPotentieel, Netherlands

In this exploratory qualitative case-study with six highly gifted adolescents now in adulthood (27-28 years) in-depth interviews were held. Thematic analyses of the interviews revealed salient constellations of meaning: an internal motor driven by curiosity, feeling 'not okay to be me', existential loneliness, stress due to multi-potentiality, perfectionism, and spiritual needs (e.g., freedom to choose their own path). In conclusion, a lack of goodness-of-fit was described by all participants for the school years up, until the college years. Despite the establishment of gifted school programs in the past, greater attention and support seems to be needed for the development of gifted students 'as a whole' throughout their school careers. Attention should thus be paid to stimulating their cognitive development as well as their social, emotional, and spiritual development..

## Symposium\_04

### Fostering STEMM talent development

*Chair(s):* **Heidrun Stoeger** (University of Regensburg, Germany), **Albert Ziegler** (Department of Psychology, University of Erlangen-Nuremberg, Nuremberg, Germany)

*Discussant(s):* **Karine Verschueren** (School Psychology and Development in Context, KU Leuven, Leuven, Belgium)

STEMM stands for science, technology, engineering, mathematics, and medical sciences. For decades, scholars have recognized that only a fraction of all talents in these fields develop their full potential. This was largely considered to be a consequence of a general deficit in educational support. Indeed, across the globe, most STEMM talents remain unidentified; if and when they are identified, talent support is rarely sufficiently responsive to their learning needs to the degree that enables the full development of talent. There has been a significant gain in scientific and public awareness in recent years that this general deficit exists. Various explanatory models have been proposed in research, and a number of interesting pedagogical suggestions have been made. In the symposium, Stoeger and Ziegler present a resource-oriented model of STEMM talent development and support. Empirical results on three promising support programs are presented: *CyberMentor Plus* (Uebler et al.), and *Socially Embedded Learning Pathways* (Jaunich et al.), and *Global Talent Mentoring* (Balestrini et al.). Karine Verschueren will discuss the contributions from a theoretical and practical perspective.

### *Presentations of the Symposium*

#### Attracting and developing stemm talent towards excellence and innovation: a resource-oriented model of stemm talent development

**Heidrun Stoeger<sup>1</sup>, Albert Zieger<sup>2</sup>**

<sup>1</sup>University of Regensburg, Germany, <sup>2</sup>Department of Psychology, University of Erlangen-Nuremberg, Nuremberg, Germany

We will provide an overview of science, technology, engineering, mathematics, and medical sciences (STEMM) talent development from first exposure to a STEMM domain to achieving eminence and innovation. To this end, a resource-oriented model of STEMM talent development is proposed as a framework. It includes a three-stage model based on Bloom (1985), focusing mainly on interest development in the first stage, skill acquisition towards expertise and excellence in the second stage, and style formation towards eminence and innovation in the final stage. A literature review shows that from an educational perspective, each phase is mainly characterized by the focus Bloom had postulated. However, all three stages (i.e., interest development, skill acquisition, and style formation) must occur in a stage-typical manner. To explain how these primary objectives of STEMM development can be supported through STEMM talent education, Ziegler's and Stoeger's (2011) educational and learning capital framework is used in the proposed resource-based model. A literature review shows that consistent provisioning

of the resources specified in the model is necessary for individuals to complete a learning pathway to STEMM eminence and innovation.

### **Promoting STEM talent in girls by combining online mentoring and school support**

**Claudia Uebler<sup>1</sup>, Sonja Bayer<sup>1</sup>, Kathrin Johanna Emmerdinger<sup>1</sup>, Albert Ziegler<sup>2</sup>, Heidrun Stoeger<sup>1</sup>**

<sup>1</sup>University of Regensburg, Germany, <sup>2</sup>Department of Psychology, University of Erlangen-Nuremberg, Nuremberg, Germany

Women continue to be underrepresented in many STEM fields and professions. Promoting girls' sustained interest and talent in STEM is, therefore, an important goal in policy and educational practice. Online mentoring by professional women in STEM fields is a promising measure to support and encourage girls interested in STEM (e.g., Stoeger et al., 2013). However, recent research suggests that there is an additional value in combining such out-of-school programs with support in the girls' immediate environment. Therefore, the CyberMentor Plus program combines a year-long online mentoring by female STEM professionals as mentors with school-based support through weekly STEM clubs. The STEM clubs are led by STEM teachers, who maintain regular contact with the online mentors. Since the program started in 2018, 977 girls have participated. In our present study, we compare the development of participants with (a) girls who participated in online mentoring only, (b) girls who participated in neither mentoring nor the STEM club, and (c) boys. To do this, we analyzed mentees' STEM outcomes, such as STEM activities and elective intentions for STEM, measured at the beginning and at the end of the program using self-report measures. Moreover, we identified program-level and individual-level factors that influence program success.

### **Socially embedded learning pathways: A new concept to foster talents**

**Kerstin Jaunich<sup>1</sup>, Tina-Myrica Daunicht<sup>1</sup>, Kathrin Johanna Emmerdinger<sup>2</sup>, Thomas Kretschmer<sup>1</sup>, Heidrun Stoeger<sup>2</sup>, Albert Ziegler<sup>1</sup>**

<sup>1</sup>Department of Psychology, University of Erlangen-Nuremberg, Nuremberg, Germany, <sup>2</sup>University of Regensburg, Germany

Socially Embedded Learning Pathways (SELPs) extend the mentoring concept of Individual Learning Pathways (ILP). ILP offered one-on-one mentoring to particularly interested and high-achieving students in their specific talent domain. It is based on the Actiotope Model of Giftedness (Ziegler & Stoeger, 2017) and Bloom's (1985) three-stage talent development model. During the program's pilot phase 2019-2022, qualitative feedback from mentors revealed that ILP can benefit from factors beyond the mentor-mentee-dyad. For example, subject-related discussions and collaborations within peer groups positively influenced mentoring success regarding STEMM talent development and STEMM interests. Based on these insights, the dyadic mentoring concept was socially expanded to include an equally subject-interested peer group. The basic principles of SELP are (1) hybrid one-on-one mentoring and group mentoring, (2) goal-directed mentoring, (3) individualized learning pathways, and (4) socially embedded learning. In the presentation, we introduce SELP and the first implementation experiences in schools within networks of professionalized teachers.

## Global Talent Mentoring

**Daniel Patrick Balestrini<sup>1</sup>, Mariam Alghawi<sup>2</sup>, Albert Ziegler<sup>3</sup>, Heidrun Stoeger<sup>4</sup>**

<sup>1</sup>University of Regensburg, Regensburg, Germany, <sup>2</sup>Centre for Giftedness & Innovation, Hamdan bin Rashid al Maktoum Foundation for Medical and Educational Sciences, Dubai, UAE, <sup>3</sup>Department of Psychology, University of Erlangen-Nuremberg, Nuremberg, Germany, <sup>4</sup>University of Regensburg, Germany

Global Talent Mentoring is a worldwide program that provides long-term, research-based support and guidance to students from all countries who excel in one or more STEM fields. The core method of talent support is one-on-one mentoring, combined with collaborative and interdisciplinary discussion of and work on STEM topics in projects and challenges. To this end, Global Talent Mentoring recruits exceptionally talented youths in STEM to become mentees and outstanding STEM experts to volunteer as mentors. The program then matches each mentee with a mentor in the same field of interest, generally from a different culture. The mentors help mentees build their learning pathways. Furthermore, Global Talent Mentoring provides a unique opportunity to connect with specialists and inquisitive young academics worldwide. In the presentation, we will first introduce the concept of GTM and basic statistics on its participants. Secondly, we will present interview samples with mentors and mentees about the program's effectiveness.

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## Symposium\_05

### Accelerating Excellence: Advocating for the Advancement of Gifted and Talented Students

*Chair(s):* **Annette Heinbokel** (Germany), **Ignace Ryheul** (Anchor schools for gifted students, Flanders), **Haido Samaras** (CTY Greece, Anatolia College, Greece), **Petra Leinigen** (Austria), **Gerald Stachl** (Bundesrealgymnasium)

*Discussant(s):* **Andrée Therrien** (ATA)

In order to provide gifted children with a suitable education, there are two main options: enrichment, acceleration, or a combination of both. Enrichment is often the preferred option by children and by adults because it is less 'drastic' than the main forms of acceleration. It can be implemented at any time, interrupted, and picked up again later. Early entry into school and grade skipping are the two forms of acceleration that are most often used in Europe. Both options are meant for good. Parents and teachers often shy away from acceleration because they worry about children being in a group with older ones. When acceleration is discussed in primary school, the adults can't know whether there will be problems when the older children start puberty and all that implies earlier than the younger children. Experience and research show that gifted children are not only intellectually but also emotionally advanced, even if less so. Therefore, they fit in better with older children. Meta-analyses of both options also show that acceleration is far more effective than enrichment. The symposium aims to provide information on how to implement acceleration so that attending a higher, more suitable grade is a positive experience.

### **Long-term effects of grade skipping - spanning 70 years**

**Annette Heinbokel**

Germany

In 2012, adults born between 1917-1987 were asked about their experiences with grade skipping. The basis of the research were two previous studies. It is necessary to ask adults because while still at school circumstances can change quickly. Adults can take all the time at school into account. If children still at school report problems, those can disappear, on the other hand they can turn up at a later stage. Because of the previous studies there are about 15 answers by parents, children and also what the adults remembered. The adults reported that there were few problems concerning achievement, though a third of them reported lack of challenge after skipping. Slightly less girls than boys reported social problems. For the boys these could be improved by being good at sports. A few more boys than girls profited socially from skipping. Even one with severe problems did not argue against acceleration. With few exceptions, they went on to study at university. Almost 90% of the women and 80% of the men reported they would skip again if circumstances were the same, typical for the positive effects of acceleration.

Annette Heinbokel is a retired teacher with decades of experience in gifted education

### **Questionnaire on acceleration**

**Ignace Ryheul**

Anchor schools for gifted students, Flanders

Despite the scientific evidence for positive effects of acceleration among gifted students, professionals are often confronted with stakeholders (teachers, parents, supervisors), who stay convinced that acceleration has negative effects, based on stories of persons they even do not know. Professionally supervised tracks can be really successful in a cognitive and mental way. Most of the students have more friends than they had before, are more confident, learned more and are happier. With the introduction of an "ECHA survey on acceleration", we try to collect first-hand testimonies from people throughout Europe and let experienced experts speak for themselves. We do not only focus on students who accelerated, but we also survey people who wanted to accelerate, but for one reason did not do so. We hope that these data can offer extensive insights in the way different stakeholders can improve a qualitative process of acceleration. Moreover, these testimonies can also be an inspiration for the pupils and students involved.

Ignace Ryheul is a Flemish teacher with lots of experience in supervising accelerating processes in secondary schools.

### **Addressing challenges in gifted education acceleration through teacher training**

**Haido Samaras**

CTY Greece, Anatolia College, Greece



Recent research consistently advocates for acceleration among gifted students, emphasizing the importance of educator support in its careful implementation. However, across Europe, the adoption of acceleration remains limited and challenging. Fortunately, there are teacher-friendly methods available for incorporating acceleration in classrooms, though these represent only a preliminary or partial solution rather than a comprehensive one. Key practices include clear identification procedures, teacher knowledge and backing, meticulous curriculum planning, and ongoing progress monitoring. To foster inclusive environments, teachers should understand gifted traits, differentiate instruction, support emotional needs, advocate for resources, and pursue professional development in gifted education. In Greece, limitations on acceleration options for gifted students, such as the ban on grade skipping and mandated centralized curriculum, impede the academic progress of gifted and exceptionally gifted students. Although differentiated learning has been recently introduced, its implementation is restricted to strategies within class levels. This necessitates teacher awareness of and support for gifted students. CTY Greece has trained over 2000 teachers in 7 years. Though a positive step, there is still an urgent demand to advocate for the integration of acceleration within the national school system. Haido Samaras is a Greek secondary school teacher and administrator/teacher trainer of CTY Greece

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## Workshop\_11

### **Nurturing creativity - Helping parents understand the working of their children's minds**

#### **Britta Weinbrandt**

Arts & Change Coaching, Germany

We only exist in relation to what we perceive. If we know how children perceive the world and in which individual ways they think and learn, we can support them accordingly. Parents of high learning potential children often find themselves in desperate situations, if their children's special needs are not met.

Creativity is supposed to be the most important tool of this century. Art Analogue Coaching is based in systemic thinking and acting, which means that it is resource-oriented. Just as an artist creates his work, so an art analogue coach shapes the process of coaching, offers a positive approach that taps into inner wisdom and nurtures divergent playful thinking. By utilising the innovative methods of art, evolving change processes are supported creatively.

Parents need to see their children's futures in the brightest colouring possible. We can use creative tools to help parents see their children as they are, and help them shape the learning experiences they need to thrive. This workshop presents innovative methods that help parents understand how their children's minds work and how to let go of anxious thinking. This in the long run leads to improved skills in friendly self-talk, self-compassion - and a brighter future.

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## Workshop\_12

### Talent Development: the key to motivation for twice exceptional students

**Susan Baum, Marcy Dann**

Bridges Graduate School, United States of America

Twice-exceptional (2e) students — those whose minds work differently with complex and often incongruous mixes of advanced abilities and learning challenges — can struggle in school environments, especially in the difficult areas of executive function skills, emotional regulation, and social development. Often, they are unmotivated, claim they don't want to learn and are uninterested in school. Without the desire to engage in school, these students continue to underachieve with growing anxiety and feelings of helplessness. The current practices of supporting 2e students by targeting on their weaknesses while well intentioned does little to motivate students. According to Self-determination Theory (Deci and Ryan, 2017), human motivation occurs best when they have experiences that foster their feelings of **autonomy, competence, and relatedness**. For 2e youngster this occurs best through enrichment and talent development. At these moments, students are goal-directed and energized by their interests and talents.

In this session, we will describe examples of how enrichment and talent development have supported student success in their production, achievement, and improvement in areas of executive function and emotional and self-regulation. Participants will create talent plans for their students that provide opportunities for students to grow their talent and develop executive function skills.

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## Workshop\_13

### The workshop on developing 4 soft skills

**Assel Amanzholova, Alina Khamatdinova, Gulim Jussupova**

Corporate Fund "Fund "El Umiti", Kazakhstan

During the workshop we will show exercises “Flying names”, “Superhero” and “Compliments”. The exercises are aimed at 4 “C’s” (4 soft skills), as participants will use creativity, communication, collaboration, and critical thinking when performing.

The topic and importance of the workshop is dedicated to soft skills development. Soft skills help a person interact with others, use creativity, adapt to different situations and so on. Soft skills directly affect a child’s academic performance, strengthen self-confidence, and help to consciously approach the choice of a future profession.

The goal is to show the participants a small part of the methods we teach our psychologists and teachers in Kazakhstan. These methods psychologists use on the lessons after diagnostics of 4 “C’s”.

The methodology is interactive workshop with active games and discussion.

Teachers’ role in work with gifted children is to build an educational process that considers the individual characteristics of children and prepare the ground for the further realization of the child’s natural abilities. Our methods help to reveal the individual

characteristics (diagnostics) and develop abilities (exercises) help a child deepen natural abilities into strong talent.

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## Workshops\_14 & \_15

### Exploring ethical perspectives: rethinking giftedness and education through dialogue

#### **Maritza Salcido**

Friedrich Alexander University, Germany

This workshop will critically examine traditional models of identifying and developing potential in gifted individuals, recognizing the need for an ethical and holistic perspective. It will address overcoming current limitations in attention to talent and giftedness, focusing on character formation and pursuing excellence. From a holistic approach, equity and inclusion in education will be considered, and how to adapt pedagogical models to address the endowment's various psychological, social, and cultural dimensions will be discussed. The goal is to facilitate an open discussion on how educators can create more inclusive and effective alternatives for care, recognizing and developing the unique potential of each learner. A more ethical and comprehensive definition of endowment is sought, promoting inclusion and meaningful intervention. At the end of the workshop, participants will leave with new ideas and strategies to support the full development of gifted potential, taking into account their individual needs and the social impact of their talents.

### Inclusive design for neurodiverse audiences

#### **Erin Tee**

Bridges Graduate School, United States

"Inclusive design for neurodiverse audiences," offers a concise exploration of creating products tailored to diverse neurodiverse backgrounds. Focused on raising awareness, the session delves into how individuals with unique brain differences perceive the world, covering sensory sensitivities, hypersensitivity to stimuli, and gender identity considerations among the neurodiverse.

The workshop provides practical insights into inclusive language, audio considerations, and the impact of technology distractions. Erin Tee advocates for a clear and simple design layout, consistent visual hierarchy, and the strategic use of visual elements like images and icons. Content recommendations include clear, concise language, avoidance of ambiguity, and addressing neurodiverse preferences by providing access to ample information.

Erin Tee guides participants on text considerations, including font choices and formatting for enhanced readability. The color section underscores the importance of single-color backgrounds and a thoughtful palette. The key takeaway emphasizes heightened awareness, positioning it as a crucial element in crafting neurodiverse-friendly designs. Erin Tee's expertise ensures actionable insights, making the workshop an invaluable

resource for inclusive design in the neurodiverse space. The proposal's significance lies in its potential to advance inclusivity in product design for neurodiverse individuals, offering practical strategies with real-world implications.

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## Workshops\_16 & \_17

### **Don't Guess – Preassess!**

#### **Tracy Ford Inman**

Tracy Inman Consulting, United States of America

Imagine a trip to your doctor. She, without examining you or even listening to symptoms, writes a prescription. Since the doctor attended years of medical school, she understands the typical issues of a person with your demographics so feels confident in her treatment. Will you get better? Chances are no – yet chances are strong that you won't be seeing her again. Our students don't have that choice. They're assigned to teachers who also have years of schooling and who understand typical educational needs of learners in whatever grade or subject they teach. Too often well-meaning educators approach all students with the same treatment, regardless of need. The key to matching treatment with individual is data collection or preassessment. This session explores preassessment best practices and strategies, complete with student examples. Participants will generate a variety of ready-to-use preassessments, so they can ensure a class of healthy learners.

### **Gifted disabled or disabled gifted student, what do you see first?**

#### **Laura Elena Runceanu**

City of Stockholm/Stockholms Stad, Department of Education/Utbildningsförvaltningen, Stockholm, Sweden

Disabled students are now present in many inclusive schools around the world. Some of them are also gifted, but historically these students have been identified and served mainly because of the characteristics, visible or invisible, that classify them as disabled. Hence, gifted disabled students may have their potential unexplored and their talents not fully developed due to prevailing ableism (Hehir, 2002), a lack of adequate educational challenges or access to equal educational opportunities both in school and outside the school (Trail, 2022). Some educators still believe that being disabled and gifted is an oxymoron (Fugate, Behrens, and Boswell, 2020). The way we think about and represent these students colours the way we interact and educate them; do we see their strengths or their weaknesses first? This workshop aims at exploring participants' social representations in connection to their own lived experiences and/or interactions with these students in their respective countries and educational settings. Their social representations will be elicited and discussed in the workshop by using a free association technique (Vergès, 1992, 1994, 1995) by using first the target "gifted disabled student" and then "disabled gifted student".

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11:00am - 12:30am

## Oral Presentations\_16

### Exploring the alignment of Nissen's giftedness assessment scales with the DMGT model: Implications for giftedness identification

**Tove Ekelund**

Karlstad university, Sweden, Sweden

This study investigates the alignment between Nissen's assessment scales for giftedness and Gagné's Differentiated Model of Giftedness and Talent (DMGT). Nissen's assessment scales have previously lacked clear theoretical grounding, leaving a gap in understanding how these scales could align with theoretical models. This study aims to address this gap by systematically examining whether the statements within Nissen's assessment scales can be theoretically anchored within the DMGT model. It aims to provide a deeper understanding of the theoretical underpinnings of Nissen's scales and their potential relevance in identifying gifted students. The DMGT model provides a robust foundation, encompassing various factors in giftedness development. Nissen's scales are recognized in Denmark as valuable tools for identifying giftedness among students. This study employs a qualitative comparative assessment of Nissen's scales within the dimensionality in the DMGT model. The results were validated through an independent analysis to construct validity. Some preliminary results are for example that Nissen's scales identify components in the DMGT model regarding intellectual giftedness. However, the interpersonal catalysis physical traits in Gagné's DMGT-model is completely lacking in Nissen's lists. In the presentation, I will more thoroughly present the results.

### Identification and support of gifted and talented students in Saudi Arabia

**Fahad Alfayez<sup>1</sup>, Abdulrahman Alfhaid<sup>2</sup>, Abdullah Aljughaiman<sup>3</sup>, Norah Almulhaim<sup>3</sup>**

<sup>1</sup>Mawhibah; <sup>2</sup>Ibdaat; <sup>3</sup>King Faisal University, Saudi Arabia

This study aims to describe the most prominent priorities, objectives, and policies that drive gifted education in Saudi Arabia. It also provides a variety of concrete examples that demonstrate the increasing attention to gifted education in Saudi Arabia. A related goal of this study is to show the overall research efforts in developing measurement tools standardized to all ages and the outcomes of research evaluation of some of the programs adopted by Saudi Arabia in the recent years. Saudi Arabia has shown great interest in gifted education, conducted many programs for different age groups, and established a variety of gifted education institutions. However, even though many programs have been developed for this purpose, not enough effort has been put into developing policies and regulations that can help sustain these programs and drive all efforts toward a clear vision of gifted education. In addition, there is a need to provide good educational programs and services, including curriculum differentiation strategies within public schools, to serve all gifted students across settings. Finally, there is a need for programs promoting long-term excellence instead of having only traditional gifted programs.

## **Nurturing well-being for high achievement: Insights from an innovative study on school environments and student flourishing**

**Szilvia Fodor, Violetta Tóth-Varga**

ELTE Eötvös Loránd University, Budapest, Hungary

Positive psychology in schools recognizes the pivotal role of student well-being in academic success, prompting holistic interventions (UNICEF, 2020). Through mapping well-being indicators, school resources, and identifying strengths and weaknesses, institutions can implement comprehensive support systems.

This research, utilizing Seligman's PERMA and Kern's EPOCH models, aims to assess student well-being, focusing on factors like school attachment, relationships, and positive emotions.

A mixed-method approach is adopted, combining quantitative questionnaires with qualitative data collection through reflexive photography. Employing the unique qualitative method of reflexive photography, school spaces can be identified that positively impact well-being. The study involves 315 students (ages 14-18) from a recognized high-school in Hungary.

Findings indicate an overall decline in well-being compared to 2019 averages, with notable gender differences revealing lower well-being among girls, characterized by heightened negative classroom emotions. The transition from 9th to 10th grade also marks a significant decline in well-being. Key spaces influencing happiness include classrooms, the library, and areas conducive to social interactions like the cafeteria and corridors.

This study offers actionable insights for targeted interventions, emphasizing the emotional impact of specific physical spaces. By combining quantitative and qualitative methodologies, it provides a comprehensive understanding of how school environments influence student well-being and achievement.

## **Influences of parental occupation on students' advancement in STEM: Uncovering mechanisms behind a tolerated equity gap**

**Sonja Katharina Bayer<sup>1</sup>, Albert Ziegler<sup>2</sup>, Heidrun Stoeger<sup>2</sup>**

<sup>1</sup>Universität Regensburg, Germany; <sup>2</sup>University of Erlangen-Nuremberg

Apart from equity gaps in STEM that are the focus of interventions in the education and talent support systems (e.g., disadvantages due to socio-economic status), there exist so-called tolerated equity gaps where no efforts are made to reduce them (Ziegler & Stoeger, 2023). The impact of parents' professional background, particularly whether they are working in STEM fields, on young people's professional development can be seen as such a tolerated equity gap. Studies show that parental employment in STEM influences students' interest and later career choices in STEM (Sikora & Pokropek, 2012; Plasman et al., 2021). While qualitative research suggests that parents working in STEM fields can enhance learning opportunities for their children and promote their advancement in STEM (Chakraverty & Tai, 2013), these mechanisms have not been systematically studied so far. Using the framework of educational and learning capital (Ziegler et al., 2017), we empirically analyzed how parents' occupation in STEM affects students' learning resources in STEM and how this, in turn, affects students' career



choice intentions in STEM fields. In our study, conducted with a sample of 815 boys and 1001 girls, we also account for gender differences and take a differentiated view on various STEM fields.

### **Prevalence of Emotional, Intellectual, Imaginational, Psychomotor, and Sensual Overexcitabilities in Highly and Profoundly Gifted Children and Adolescents: A mixed-methods study of development and developmental potential**

**Vanessa Reineke Wood, Els De Wit**

The International Gifted Consortium (IGC), Research Center for Highly-Profoundly Gifted, United States of America

This mixed-methods study examined the prevalence of emotional, intellectual, imaginational, psychomotor, and sensual overexcitabilities in children ages 4-13 years who were previously identified as highly or profoundly gifted via a Wechsler Intelligence Scale for Children (WISC) score of 140+. The study aimed to aid the identification and support of highly-profoundly gifted children and adolescents and curb historical misunderstanding, misidentification, and misdiagnosis. The study included 88 study participants (parents) from the United States and Belgium who completed the OEQ II, Adapted IGC, the IGC Development and Family History Questionnaire, and a semi-structured interview. Four of the five overexcitabilities—emotional, intellectual, psychomotor, and sensual—were exhibited *a lot of the time*. Imaginational overexcitability was exhibited *some of the time*. Nearly all (99%) of the highly-profoundly gifted children expressed combinations of three or more higher-level overexcitabilities including emotional, intellectual, and imaginational. A holistic assessment of overexcitabilities and giftedness by a professional trained in profound giftedness is warranted for those unidentified children and adolescents with behaviors and development similar to the identified highly-profoundly gifted children examined in this study. To aid inclusive, early identification of giftedness and highly-profoundly gifted children, the OEQ II, Adapted IGC is recommended as a screening tool for all children entering school.

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## Oral Presentations\_17

### **Giftedness in mathematics and high performance in Mathematics Olympiads: a cross-cultural study in the United States and Turkiye**

**Seyda Aydin Karaca<sup>1</sup>, Ann Robninson<sup>2</sup>**

<sup>1</sup>University of Arkansas at Little Rock, United States of America, Hacettepe University, Turkiye; <sup>2</sup>University of Arkansas at Little Rock, United States of America

This study was carried out to examine and to compare the experiences of teachers and researchers with Mathematics Olympiads experience in Turkiye and in the United States about being gifted in mathematics and having Mathematics Olympiads success. The selection process of students for the Mathematics Olympiads is likened to the process of identifying giftedness in mathematics. Although being gifted in mathematics and having mathematics Olympiad success have similarities, we suggest they may depend on

fundamentally different concepts. We aim to reveal these similarities and differences by interviewing teachers and researchers with Mathematics Olympiad experience in Turkiye and in the United States. In both Turkiye and the United States, five teachers who have successful in Mathematics Olympiads students and five researchers who have published articles related to Mathematics Olympiads will be interviewed. The interview protocol was based on six questions designed to reveal the experiences of teachers and researchers about giftedness in mathematics and success in Mathematics Olympiads. The data are analyzed through content analysis including open coding, axial coding, and thematic analysis are used. The presentation includes findings and implications for practice.

### **Sport Potential at School and its identification. Towards the Italian Version of the Sisp Scale**

**Clarissa Sorrentino**

University of Salento, Italy

Talent identification and its support represent emerging research interests in the Italian context in recent years. School identification questionnaires often are focused on the logical, mathematical, humanistic and artistic areas while, in Italy, little interest has been paid, over the years, to the sports area and at the moment we lack identification tools that investigate sport potential for primary and secondary school teachers. The contribution presents the validation and adaptation process of the Scale for Identification of Sport Potential (SISP) (Platvoet et al., 2015), through teaching observations conducted on a group of students from four secondary school classes. Differently from the original abbreviated version, the Italian instrument presents 30 items that explore new sports talent characteristics: respectively the style of play, the sense of happiness and living with success. (Sorrentino 2022, 2023). Results are promising 21 out of 30 items of the scale items have good concurrent validity. Future qualitative studies, that combine primary and secondary school data are needed to define the items to be considered in the Italian version of the scale.

### **Fostering Statistical Literacy using TinkerPlots™ – A Journey of Discovery for Gifted**

**Crystal Man Chun Ngan, Eric Tze Ho Fung**

The Hong Kong Academy for Gifted Education, Hong Kong S.A.R. (China)

This study aimed to enhance statistical literacy of gifted students by offering a new introductory course on statistical inference using simulation and resampling techniques with TinkerPlots™. The course largely followed the curriculum, “Change Agents for Teaching and Learning Statistics (CATALST) Project”. The 18-hour pilot programme with 6 sessions (including lab activities and group projects) was conducted in HKAGE during the summer of 2023, involving 15 gifted junior secondary students. The findings revealed that simulation and resampling approach using TinkerPlots™ significantly increased student interest, particularly for the beginners. The use of graphics and visualization aids facilitated a deeper understanding of statistical concepts. Secondly, the adoption of simulation and resampling techniques let them grasp the testing procedures without using a single formula. Thirdly, the course successfully raised students' awareness of the importance of Statistics in problem-solving and encouraged them to explore daily-life

applications by conducting their own group projects. However, students still found that some statistical concepts (e.g., p-value) were difficult, and their performance in the class assessments of statistical literacy was not satisfactory. In conclusion, the use of simulation and resampling with TinkerPlots™ in the course enhanced gifted students' understanding of statistical inference and its practical applications.

### **Peer nomination: Italian adaptation of Tracking Talents (Gagné, 1999)**

**Francesca Baccassino, Stefania Pinnelli**

University of Salento, Italy

The contribution illustrates the Italian adaptation of "Tracking Talents" (1999) by Gagné. Gagné's tool is described by the author as Peer, Teacher, and Self-Nominations Form (PTS NF) because it collects information on a wide variety of talents from multiple sources. The choice to use this tool in Italy arose from the lack of horizontal peer identification tools. Peer nomination, considered as effective as intelligence tests (Kaya, 2013), has proven valuable in shared learning environments where peers can observe different skills not always noticed by parents and teachers: peer interaction is typically less inhibited (Kitano and Kirby, 1986) and a large pool of judges helps to increase reliability (Masse and Gagné, 1996). The Italian version of the tool was tested in six primary school classes in Southern Italy. The results highlighted the impact of socio-emotional variables on the analysis of talent, opening a further field for emotional relationships. The experimentation also highlighted some minor changes aimed at optimizing the functionality of the tool and some major changes aimed at avoiding false nominations. The contribution will discuss these aspects and the ongoing experimentation process.

### **Advancing the Identification and Support of Gifted Students in the Italian Education System: Challenges and Opportunities**

**Brunella Fiore<sup>1</sup>, Paolo Barabanti<sup>2</sup>, Antonella Benedetta Cutro<sup>3</sup>**

<sup>1</sup>University of Milan-Bicocca, Italy; <sup>2</sup>INVALSI - National Institute for the Evaluation of the Education and Training System; <sup>3</sup>USR - Regional School Office

There is resurgence of interest in cognitive strong students among researchers, educators, and policymakers in Italy. However, challenges are in accurately identifying gifted students within standardized frameworks and implementing effective strategies to nurture their talents. This work critically examines current practices and explores international and national perspectives on identifying and supporting gifted students. Drawing on a comprehensive review of literature, including insights from psychological and sociological research, the study delves into methods for interpreting standardized test data, particularly from INVALSI – Italian National Institute for the Evaluation of the Education and Training System, to pinpoint exceptional abilities. While international experiences vary, with notable investments in East Asia and emerging trends in Europe, Italy lags behind despite nascent academic interest. Notably, schools lack cohesive approaches, with limited engagement from principals and teachers' organizations. However, proposed legislation signals a potential shift towards recognizing high cognitive potential. Leveraging national data, including INVALSI assessments, offers a promising avenue to identify and elevate student excellence, paving the way for a more equitable

educational landscape. This paper describes the Italian situation. Furthermore, it shows some examples based on the INVALSI standardized data and tailored interventions to maximize the potential of gifted students.

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## Oral Presentations\_18

### Tools for observation and understanding of the gifted child

#### **Stefania Pinnelli**

university of Salento, Italy

The contribution reports some research data collected during a three-day Winter Camp experience carried out at the University of Salento from 26 to 29 December 2023. The Winter Camp hosted 50 children nominated by the schools whose access requirements were either who had an evaluation of giftedness or who were judged excellent and talented by the teachers. The Camp included intensive activities on 4 themes (Mathematics, Creative Lab, Young Researcher, Philosophy for Children). The activities were organized using the teaching methodologies of debate, problem based learning and future thinking

The group of 50 children had the presence of 62 parents (24 fathers, 38 mothers) who responded to a questionnaire to identify them with a profile based on the proposal of Betts, T.G., Neihart, M. (1988); of the 50, 20 children had assessment (27 parent questionnaires) and 3 children were with 2E (autism spectrum disorder). The contribution discusses the results of the parents' questionnaires and the lines for improvement and presents a class observation tool - SP Grid - organized on personality traits, attitudes, skills and prosociality, comparing the results between those who had the IQ assessment and those which arrived without evaluation and only teachers nomination.

### Enrichment activities and career development of gifted students

#### **Urška Žerak, Neža Podlogar, Mojca Juriševič**

University of Ljubljana Faculty of Education, Slovenia

Career development is an interrelated process that presents gifted students with unique challenges, such as multipotentiality, perfectionism, the need for intellectual stimulation and challenge. Recent studies emphasize the sociocultural context in the process of identity development, which is a crucial component for career development. The main aim of this study was to investigate how mentors of gifted students address career development in the context of mentoring enrichment activities. Using a mixed-methods research design, 122 mentors completed a questionnaire in which they self-reported on the key elements of the activity and the aspects of career development that were emphasized in the activity. They reported that the implemented activities improved the gifted students' knowledge of their potentials, as well as their self-confidence and motivation to continue working in the specific domain ( $M = 4.12$ ,  $SD = .62$ ). Mentors perceived that independence, creativity, cooperation, and communication skills (27.6%) as well as developing various skills in the domain (18.1%) and adapting activities to students' interests, abilities, and prior knowledge (15.5%) were particularly important

aspects of the activities for gifted students' career development. The overall results show that enrichment activities provided in authentic and responsive learning environments facilitate the career development of gifted students.

### **Bullying and psychological well-being in high ability students**

**Javier Ortuño Sierra, Cristina Abalos-Villanueva, Ana Ciarreta-López, Eduardo Fonseca-Pedrero, Rebeca Aritio-Solana**

University of La Rioja, Spain

Bullying is a prevalence problem among adolescents worldwide. Bullying has a major impact on the individual, affecting psychological well-being and mental health. Recent studies have analyzed the prevalence of bullying behaviours in gifted students. The main goal was to analyze the prevalence of bullying behaviours among high ability students and its impact in different indicators of well-being. The sample included a total of 89 adolescents (67% were males) with high abilities. Age range was between 11 and 17 years old ( $M = 14,12$ ;  $SD = 1,09$ ). We used the European Bullying Intervention Project Questionnaire. The ANOVA revealed that those adolescents who had experienced bullying in the last months had statistically significant lower levels of self-esteem ( $\lambda = 0.475$ ,  $F(3,83,000) = 6.37$ ,  $p \leq 0.001$ ,  $\eta^2 = 0.059$ ), higher levels of psychological difficulties ( $\lambda = 685$ ,  $F(3,83,000) = 5.261$ ,  $p \leq 0.05$ ,  $\eta^2 = 0.03$ ), and higher anxiety levels ( $\lambda = 725$ ,  $F(3,83,000) = 4.968$ ,  $p \leq 0.05$ ,  $\eta^2 = 0.02$ ) than those adolescents that did not suffer from bullying. Results revealed that those adolescents suffering from bullying showed more psychological problems and poorer levels of self-esteem. Prevention strategies should focus on detecting bullying among adolescents with high abilities,

### **Decades of opportunities... but studies? Not enough: A systematic review of European talent development research**

**Hernan Castillo-Hermosilla<sup>1</sup>, Ty'Bresha Glass<sup>1</sup>, Katherine Gajardo<sup>2</sup>, Tugce Karatas<sup>1</sup>, Shahnaz Safitri<sup>1</sup>, Nielsen Pereira<sup>1</sup>**

<sup>1</sup>Purdue University, USA; <sup>2</sup>Universidad de Valladolid, Spain

The field of gifted and talented (GT) education has emphasized talent development (TD) as an approach that can help identify and serve diverse groups of GT learners who might not be discovered by traditional identification systems (Davis, 2021; Meyer et al., 2023; Ziegler & Stoeger, 2023). This session aims to understand what research approaches have been used to study TD opportunities for European students using data from a cross-cultural systematic review of empirical studies from 1959 to 2022. Results report publications using data from Denmark, the Netherlands, Norway, Sweden, Turkey, and the UK. Eighty-three percent of the studies used qualitative methods and seventeen percent used mixed-methods. There were no European quantitative studies found in this systematic review. The most used data collection approach was interviews (67%). All studies focused on participants' perspectives and their experiences in TD educational settings. Perceptions were retrieved from teachers and students participating in those programs, parents of students participating in TD opportunities, and experts/specialists in GT education. This systematic review offers a call for more diverse research methods and in other countries/cultural contexts for a more integral understanding of TD opportunities in European educational settings.

## **Parental Involvement in Children's STEM Education: A synthesis of reviews**

**Maryam Shiani<sup>1</sup>, Heidrun Stoeger<sup>2</sup>, Albert Ziegler<sup>1</sup>**

<sup>1</sup>Department of Psychology, University of Erlangen-Nuremberg, Germany; <sup>2</sup>Department of School Education, University of Regensburg, Germany

Gifted STEM education is a central field of gifted education. Research shows that its success depends on the social context of the talent. In particular, the family context (SES, parental style, parental involvement, etc.) acts as a mediator of educational outcomes. In our presentation, we will specifically focus on the role of parental involvement. Over recent decades, research publications about this topic have increased and important findings have been published that are highly relevant to gifted STEM education. We will synthesize the findings of all reviews on parental engagement with children's STEM education between 1 January 2000 and 31 October 2023 from Web of Science, ERIC, PsycINFO, and PSYINDEX. All in all, 5,103 studies were screened, which, based on inclusion criteria and methodological quality were reduced to 1,579. A team of five research fellows coded the studies. The inter-coder reliability measure indicated a high reliability, with Cohen's Kappa above 0.80. Several study characteristics were examined, including recurrent themes, key ideas, and major findings. The results will be discussed regarding their relevance for gifted STEM education.

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## **Open Format\_01**

### **Building for Brilliance: The Role of Architectural Design in Learning Environments for the Gifted**

**Semih Karabulut, Füsün Akarsu, Ferhat Yaşar Ergin, Kaan Şen**

TEV Inanc Turkes Lisesi, Türkiye

The relationship between the space in which learning occurs and the learning experience itself is well discussed. Literature is established around protecting the learner from outside effects and is mainly concerned with the immediate space around the learner. However, learning experience and its relationship with space is not limited to classroom activity especially when the subjects of interest are the gifted. This opens a broader discussion regarding the learners' everyday encounters with the architectural aesthetics of the learning place, translating the discussion from "learning space" to "learning environment". As the first and only high school in Turkey designed for the gifted, we are invested in exploring the ways to improve our learning environment. Inspired by the unique architecture of our own school campus, we embark on a project to document and discuss the relationship between this unique architectural space and the learning experience in the format of a short documentary film. With contributions from our architects, graduates and students we aim to determine the significance of such a relationship. Our film is posed to execute a spatial analysis of the campus and possibly inspire our peers to design better architectural environments to enhance the learning experience for the gifted.

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## Open Format\_02

### **Creative and critical conversations about the use of Artificial Intelligence in Gifted Education and its impact on the future**

**Gillian Eriksson<sup>1</sup>, David Maddock<sup>2</sup>, Marcia Delcourt<sup>3</sup>, Pamela Rau<sup>4</sup>**

<sup>1</sup>University of Central Florida, United States of America; <sup>2</sup>School District of Osceola County, United States of America; <sup>3</sup>Western Connecticut State University, United States of America; <sup>4</sup>Brevard County Public Schools, United States of America

This session will explore both the current fears, concerns, and cautions about A.I. and the impact of a wise use of applications as tools and creative productivity for different types of high ability learners. Each presenter will share a perspective with examples from gifted education policies and best research-based practices. Possibilities for customizing learning for individual abilities, talents and interests while fostering agency about global issues will be shared. The audience will generate questions, design prompts, visualize images and use these to improve curriculum enrichment activities in a schoolwide context. Implications for a global and comparative curriculum for High Ability students will be explored. This will conclude with research on the impact of A.I. used in a USDOE Federal grant to train teachers and leaders to serve low-income, English Learners, Immigrants, and Twice-Exceptional students. To be clear: this abstract was NOT A.I. generated! Explore the following topics:

- Promises and Perils: The dynamics, applications and functioning of A.I. in relation to Gifted Education
- Seeing is Believing: Using A.I. to Include the High Ability Visual Thinker in Curriculum
- Beyond Silos: Creative Thinking Strategies using A.I. Applications across Content Areas
- Authenticity in Identities of the Future: Talk to Case studies as simulated Avatars

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## Open Format\_03

### **Beyond tech-classrooms: Unleashing gifted teenagers' potential in nature**

**Jessica Vinces Guillén, Philipp Meyrahn**

Montessori Schule Idstein - Germany

Gifted teenagers often face a unique set of challenges, stemming from their asynchronous development in intellectual and emotional capacities, inquiring-mind, and unique thought processes. These challenges can lead to feelings of isolation, heightened emotional sensitivity, frustration, and disillusionment as they progress through their development with limited connection to nature. Simultaneously, they live in an era where an abundance of products and technology frequently cultivates a consumerist mindset propelled by the pursuit of immediate gratification. Despite considerable research on the challenges and needs of gifted students, few programs incorporate exposure to nature to enhance emotional well-being and coping mechanisms. Similarly, nature-based

approaches are not mentioned among the themes of the 19th ECHA CONFERENCE 2024 and could potentially serve as a valuable addition. This nature-based pilot project combines minimalism and simple living with a socio-emotional skills training to help students develop a deeper connection with themselves and their surroundings. By immersing students in nature, the program aims to foster introspection, creativity, and resilience. At the same time, it provides a supportive space for participants to express themselves, navigate social connections and handle uncertainty and perfectionism with adaptive coping strategies to be able to unfold their full potential.

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## Symposium\_06

### **And then we grew up: gifted adults' voices from 36 countries in 3 continents**

Chair(s): **Susana Graciela Pérez-Barrera** (Universidad de la Empresa, Uruguay), **Andree Therrien** (AT A)

Discussant(s): **Susana Graciela Pérez Barrera** (Universidad de la Empresa), **Andree Therrien** (ATA)

Although highly able/gifted (HA/GT) adults' life experience would bring extraordinary important data about what we need to improve in gifted education, most research and literature in the field remain with a strong focus in children and adolescents. Many authors claim there is not enough empirical research on gifted adults' life and their needs (Vötter and Schnell, 2019a, 2019b; Alshehri, 2020; Vötter, 2020; Brown, 2021; Brown & Peterson, 2020, 2022). This symposium will share part of the data of a unique qualitative/quantitative cross-cultural study developed by 46 researchers from 25 countries in the EU, Americas, and Asia, who integrate the Phoenix International Research Group. The 1,059 HA/GT already identified, in process or self-identified adults from 36 countries have answered the "And When I Grew Up?" questionnaire, including 40 and 9 supplementary questions to investigate personal, professional, demographic, and socioemotional aspects. Over 50,000 answers from 372 men, 675 women and 12 LGBTQIAPN+ persons are being analysed using the Statistical Package for the Social Sciences (SPSS). The presenters will approach some of the results of the study developed in 2022-2023 which will allow comparisons and the verification of intra, and intergroup differences based on the HA/GT adults' own voices.

### *Presentations of the Symposium*

### **Who are the 1,059 participants of the Phoenix International Research Group study?**

**Susana Graciela Pérez Barrera**

FUniversidad de la Empresa

Many authors claim there is not enough empirical research on gifted adults' life and their needs (Vötter and Schnell, 2019a, 2019b; Alshehri, 2020; Vötter, 2020; Brown, 2021; Brown & Peterson, 2020, 2022). To introduce this symposium, this presentation will bring some of the global quantitative data of the study developed by the Phoenix International

Research Group, integrated by 46 researchers from Argentina, Brazil, Canada, Chile, Colombia, Cyprus, Czech Republic, Denmark, France, Germany, Greece, Honk Kong, China, India, Indonesia, Jordan, Mexico, Netherlands, Peru, Saudi Arabia, Slovenia, South Korea, Thailand, United States and Uruguay. The 2022-2023 study had 1,059 participants from 36 countries. A 40-question-online form aimed at answer the main research question, intending to know what happened when they were identified during adulthood; common aspects between or among adults from different countries; the diagnosis they received before been identified as HA/GT persons; differences between the identification during infancy and adulthood; gender, socioeconomic-background-related differences or communalities, their feelings after being identified, and if HA/GT affects their self-concept. The data here presented will show who these adults are, which are their sociodemographic backgrounds, how and which professionals have identified them, and which were the previous diagnosis they had before been identified as gifted.

### **Psychosocial variables in gifted and twice exceptional adults from the Phoenix International Research Group study**

**Andree Therrien**

ATA

The literature on gifted adults remains an understudied field and this is even more evident when talking about twice exceptional adults (Baum, Schader, Owen, 2017; Strop, Goldman, 2011; Cross, 2018, Siegle, 2013; Plucker, Rinn, Makel, 2017). At first, this presentation focuses on how gifted adults define themselves in terms of personal and psychological characteristics. In a second step, how they felt when they were identified (confirmation, sadness, surprised, confused etc). Finally, we will show the different diagnoses that accompany the twice exceptional before and after the gifted identification (ADHD, anxiety, ASD, etc). We analyse these data in a comparative section between genders, countries, economics and several other variables.

### **Opportunities and challenges of gifted women in work or educational contexts: a qualitative approach**

**Maria Paz Gomez-Arizaga<sup>1</sup>, Maria Leonor Conejero/Solar<sup>2</sup>**

<sup>1</sup>Universidad de Santiago de Chile, <sup>2</sup>Pontificia Universidad Catolica de Valparaiso

The concept of giftedness traditionally has been associated with being male, white, and from a privileged socioeconomic background (Parekh et al., 2018). However, other definitions also include contributions regarding women. At the workplace, success has been understood as “traditional” achievements; however, women assign equal importance to non-traditional- accomplishments (Silverman, 2010). Moreover, they can face issues with understanding their talents and dealing with problems inherently associated with their gender (Fahlman, 2004). Thus, in career development, the path is not straightforward for female talent. consider meaningful to society (Reis, 2005). Regarding identification of gifted female students, they have fewer referrals to participate in gifted programs than men (Bianco et al., 2011). In Chile, private gifted identification of girls can be as low as 20%. However, this situation can be reversed in adulthood (Alta Capacidad Consultores, 2023). This investigation, focused on gifted Chilean women - which is part of a larger international research initiative aimed at gifted adults- will delve

into the qualitative results of a survey in which 25 of 37 participants were female. It will focus on favourable and unfavourable aspects that women undergo in their job or study contexts, and what strategies they display to cope with potential difficulties.

### **Creativity components and the job satisfaction in gifted adult women**

**Simone Miranda Dos Santos Sviercoski**

Universidad de la Empresa

This study aimed at identifying the relationship between the components of creativity and job satisfaction, based on a survey conducted with 22 highly able/gifted adult women, aged over 50 years old, living in 5 Latin American countries participating in the study "And when I grew up" conducted by the Phoenix International Research Group in 2022-2023. Through some selected answers, it was possible to identify those components of creativity (Sternberg, 1988), which directly influence satisfaction: a) intelligence: the synthetic ability to redefine problems; the analytical ability to recognize those ideas on which it would be worth to invest on among one's own ideas and the practical-contextual skill: persuasion capacity; b) the cognitive style, including the legislative: in the formulation of problems and the creation of new rules; the executive: in the implementation of ideas, with problems that present a clear and well-defined structure, and the judiciary: in the preference for issuing judgments, evaluating people, tasks and rules, and c) personality/motivation: predisposition to take risks, self-confidence, tolerance for ambiguity, courage to express new ideas, perseverance, and a certain degree of self-esteem.

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## **Symposium\_07**

### **Relationship between intelligence and social-affective variables**

*Chair(s):* **África Borges del Rosal** (Universidad de La Laguna, Spain)

Intelligence is one of the most relevant variables that define high intellectual abilities. However, in intelligence there are other types of variables such as those of a socio-affective nature that play an important role. There is scientific evidence that confirms this, as in the case of self-esteem, which is shown to be positively and significantly related to intelligence. Other variables, such as sensitivity, show that in contrast to studies that assume that high sensitivity is a characteristic of high abilities, there is very little literature that relates these two realities. In a recent study (Delgado et al, 2023) with university students, no relationship was found. The case of other variables such as academic engagement and performance have been shown to be related to intelligence. The aim of this symposium is to analyze the relationships between intelligence and socioaffective variables.

*Presentations of the Symposium*

### **The concept of intelligence as a function of intelligence**

### **Adalberto González Martín, Triana Aguirre**

Universidad de La Laguna

It is important to know the perception that people have of their intelligence, so the objective of this study is to relate the score they obtain in intelligence with their opinion. MMR is used. The sample consisted of 150 university students. They were given the TAI Intelligence Matrices test and answered an open-ended question about their intelligence. The qualitative data were analyzed with ALCESTE. Various classes are observed and it is analyzed whether intelligence is significant. The results obtained are evaluated

### **The relationship between self-esteem and intelligence amongst students**

#### **Adriana Naomi Yzturiz Medina, Sandra Núñez, Elena Rodríguez-Naveiras**

Universidad de La Laguna

Intelligence is a concept that can be defined differently depending on a variety of theories. Binet (1983) would describe intelligence as a superior psychological process that can be measured, therefore, those whose results are within their age and cultural context, should be considered intelligent. However, not all people are within the same range, there's people whose results are higher, these people could be considered to have high-ability. According to Pfeiffer (2015), high-ability is defined not only by high intelligence, but also high performance and potential. Self-esteem is defined as the evaluative aspect of self-knowledge that reflects the extent to which people like themselves and believe they are competent (Brown, 1998; Tafarodi & Swann, 1995); it can be high where there's a favorable view of the self, or low, making the evaluations of the self uncertain or negative (Campbell et al. 1996). This study uses correlation to see the interaction between the variables self-esteem and intelligence among students from first-year secondary school and universities.

### **Relationship between intelligence and environmental sensitivity factors**

#### **Garoé Delgado López, Alejandro Galera Alaminos, Michelle Padrón León, África Borges**

Universidad de La Laguna

The study of intelligence and sensitivity in people has had a great boom in recent years. Pluess et al. (2018), developed several studies in adolescents, which allowed them to break down the concept of environmental sensitivity into three different factors, Ease of Excitation (EOE), which reflects feeling easily saturated or overwhelmed by environmental stimuli; Aesthetic Sensitivity (AES), which reflects aesthetic awareness, an aspect related to the depth of feelings and thoughts before different stimuli; and Low Sensitivity Threshold (LST), which reflects an unpleasant arousal before environmental stimuli. The aim of this study is to contrast, by means of multiple regression in a sample of 142 university students, the possible relationships that may exist between intelligence and the aforementioned sensitivity factors. The results obtained showed that regardless of which factor was used, there was no relationship between intelligence and the different environmental sensitivity factors; therefore, we can conclude that a person's IQ level does not determine whether he or she perceives the environment in a more or less sensitive way.

## **Relationships between intelligence, academic engagement, and academic performance**

**Yurena Fernández Díaz, Jesús del Pino Relwani Moreno, África Borges**

Universidad de La Laguna

Intelligence is considered one of the most important variables in explaining academic performance. In this study, we examine the relationships between intelligence, academic engagement, and academic performance in a sample of 134 university population subjects. Through intelligence tests, assessments of academic engagement, and measurements of academic performance, the potential associations between these variables in the context of higher education were explored. The results revealed the absence of a significant correlation between measured intelligence and academic performance at higher educational levels. This finding challenges the conventional notion that intelligence is a strong predictor of academic success in university settings. The theoretical and practical implications of these results will be analyzed, along with potential directions for future research in the field of high abilities.

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## **Workshop\_18**

### **Nourish the Odyssey of talents from early age**

**Marijke Schekkerman**

De Begaafden Wijzer, Netherlands

We all know that early identification of gifted children is important for their psychological wellbeing. In the research *The Psychological Well-Being of Early Identified Gifted Children* they found that especially children who are selected based on high creativity reported lower self-concept and experienced more internalizing and externalizing problems than less creative children due to the fact that teachers are not always aware of the creative intelligence. Therefore, the period in kindergarten and the early groups in schools are very important to nourish the talents of all children and especially the creative intelligence. So early identification should focus on the theory of Sternberg's intelligence, defined in Analytics, creative and practical intelligence. In the classrooms and daycare this can be the theoretical underlayment for nourishing talents.

In this workshop, we will work on the theory, the talents of the teachers and the activities which can be a part of the curriculum in kindergarten and the first grades of school. This special curriculum is based on the theory of Sternberg's successful intelligence combining fairytales and emotional development.

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## **Workshop\_19**

### **If only: Creating environments that invite and provoke critical and creative thinking**



**Nancy B. Hertzog<sup>1</sup>, Jen Flo<sup>2</sup>**

<sup>1</sup>University of Washington, United States of America; <sup>2</sup>Capital Region ESD 113

Inspired by their visit to the preprimary and elementary schools of Reggio Emilia, presenters focus on creating learning environments where teachers invite children to engage with materials and ideas that provoke higher-level thinking skills. In Reggio Emilia, educators design the environment as the “Third Teacher” and believe that “the aim of teaching is to provide conditions for learning,” (Edwards et. al., 2012, p. 57). Presenters will invite participants to imagine classrooms as workshops where students represent and express their ideas with media and materials, and where iterations, edits, and expansions of ideas facilitate and enhance the development of critical and creative thinking.

Participants will be asked to imagine mandated curriculum as opportunities for students to explore, play with ideas, and pursue inquiry. The session will incorporate aspects of a workshop. Participants will share collaboratively and represent their ideas with materials collected or provided.

Presenters will share examples of projects that offered students opportunities and possibilities to pursue topics in depth according to their interests and curiosities. Participants will discuss how carefully designed invitations and provocations can be implemented as accelerated and enhanced instruction. Imagining classrooms as workshops encourages experimentation, expression, and growth – just what we need to challenge our learners!

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## Workshop\_20

### **Gifted minds, diverse paths: Unveiling the complex profiles of exceptional learners. (2E and Multilingual Learners)**

**Rodnella Turner**

The KAUST School, Saudi Arabia

In this workshop, we will explore the landscape of the variety of profiles gifted students have, particularly those who are twice exceptional and multilingual. Attendees will gain insight into recognizing and identifying these diverse profiles. This workshop aims to foster a deeper understanding of the diverse cognitive, social and emotional needs within these specific “sub-groups” of gifted learners. The population that will find this workshop relevant includes but is not limited to: teachers, administrators, student support staff, student support directors and parents of gifted children. My session will support the conference theme of “Turning challenges into opportunities for gifted learners.” By recognizing and accommodating these profiles in our schools, educators can create an environment that nurtures the full potential of gifted students while also addressing their individual needs. The methodology of the presentation will involve access to case studies, white papers and current school practices aimed at enhancing participants understanding and skills in recognizing their highly able learners in the classroom and school environment.

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## Workshops\_21 & \_22

### Cluster grouping using local norms increases inclusion!

#### **Dina Brulles**

Arizona State University, United States of America

Cluster grouping has become the de-facto method for serving gifted learners in many countries. The model, when used along with two additional current trends—administering universal testing and incorporating building norms—completes the process of increasing diversity and inclusion in gifted services. Effective gifted cluster models emerge from the school's student population, beginning with an identification process that removes subjectivity and potential bias. Once the identification process is complete, the team determines the ability and achievement levels of all students in the grade level. The team then composes cluster groups and creates classroom placements based on this data. Lastly, the school administration develops a plan to train and support gifted cluster groups emphasizing culturally responsive teaching.

Learn how cluster grouping can be viewed as structured autonomy. While the structure has been established, schools create classroom compositions based on the number of students who would benefit from advanced learning opportunities. Given the wide range of learning levels in schools, educators must determine which students are farthest removed from the norm in both directions. They then create a balance of achievement and ability throughout the grade level. This session guides educators in developing and supporting an effective and inclusive cluster-grouping model in any school.

### Unlocking potential: Strength based strategies for twice-exceptional learners

#### **Wendy A. Behrens<sup>1</sup>, Claire Hughes<sup>2</sup>, Eleonor van Gerven<sup>3</sup>, Debra Troxclair<sup>4</sup>, Susan Baum<sup>5</sup>**

<sup>1</sup>Minnesota Department of Education, United States; <sup>2</sup>Cleveland State University, United States; <sup>3</sup>Slim! Educatief, The Netherlands; <sup>4</sup>Lamar University, United States; <sup>5</sup>Bridges Graduate School of Cognitive Neurodiversity, United States

Join us for a panel discussion on strength-based education teaching strategies tailored for the unique needs of twice-exceptional learners – students who are gifted with learning disabilities. This thought-provoking session aims to explore the innovative approaches that harness the strengths of these students, fostering an environment in which their talents can shine despite the challenges they face.

Our panel of experienced educators and special education experts will delve into personalized instructional methods, adaptive technologies, and inclusive classroom practices designed to empower twice-exceptional learners. Attendees will gain valuable insights into identifying and nurturing the diverse abilities of these students, fostering resilience, and promoting a positive self-image. Through collaborative dialogue and real-world examples, our panelists will showcase success stories, debunk myths surrounding twice-exceptionality, and provide practical recommendations for educators to implement in their classrooms. Together, let's redefine education for twice-exceptional learners,

recognizing and celebrating their unique gifts while addressing their specific learning needs. Join us in embracing a strength-based approach to education that unlocks the full potential in every student.

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## Workshops\_23 & \_24

### **The inner journey of twice-exceptional children: Exploring worlds of wonder with the help of ancient Greek heroes.**

#### **Katerina Tsomi**

Bridges Graduate School of Cognitive Diversity in Education, Greece

The presentation aims to shift participants' perspective from outer behaviours to inner lives of twice-exceptional children. Ancient Greek mythology, full of stories of exceptional heroes, will serve as a treasure chest of metaphors to better understand the complex inner psychological worlds of twice-exceptional children. These ancient heroes' stories mirror similar strengths and challenges found in twice-exceptional children's stories and they may serve as powerful and empowering metaphors for them. Myths may be utilized to intersperse seeds of resilience and acceptance in children who experience challenges (Mills & Crowley, 2014). This presentation aims to provide appropriate medicine stories for some of the twice-exceptional profiles.

### **A SMARTer goal for high ability students**

#### **David Russell Maddock<sup>1</sup>, Gillian Eriksson<sup>2</sup>**

<sup>1</sup>The School District of Osceola County, FL, United States of America; <sup>2</sup>University of Central Florida

Research conducted in 2019 found that specifically educating teachers about high ability students was associated with teachers having higher opinions towards their high ability students and writing higher quality goals. Additionally, the research identified how the SMART goal framework can be used within a strengths-based framework to right goals that improve outcomes for students with high ability. This workshop will present research on how adult education can impact teacher opinions toward high ability education, what components make a high quality goal for students with high ability, and provide a template for writing high quality goals for these students. Participants will leave with tools to help them create SMARTer goals for their high ability students that can be used to improve the educational outcomes for these students.

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## Workshop\_25

### **How to transcend the misdiagnosis of gifted children: A neuropsychological model of autism**

#### **Justin Michael Gardner**

Beljan Psychological Services, United States of America

Very often gifted children are misdiagnosed with Autism due to the inherently flawed ways that clinicians tend to observe, classify, and pathologize the behaviors of their gifted patients. However, utilizing a brain-based regulatory model of Autism allows clinicians the ability to understand the functional neurocognitive relationship between intellect and behavior in order to transcend the misdiagnosis of gifted children. Attendees will: (a) learn about the tenets of pediatric neuropsychology; (b) develop a more comprehensive understanding of the intricacies involved in evaluating Autism in gifted children; (c) and enhance their skills in fostering better social, emotional, and academic outcomes for gifted children – whether or not they have Autism.

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**1:30pm - 3:00pm**

## Oral Presentations\_19

### **Behavioral evaluation of Executive Functions in Intellectual Gifted Children**

**Celia Josefina Rodríguez Cervantes<sup>1,2</sup>, Maria de los Dolores Valadez Sierra<sup>1</sup>**

<sup>1</sup>Institute of Psychology and Special Education, Applied Psychology Department, University Center of Health Sciences, University of Guadalajara, Mexico; <sup>2</sup>Psychology Department, Campus Vallarta, Guadalajara LAMAR University

In educational context, there are some myths about the expected behavior of intellectual gifted children, which can hinder their emotional, academic and social development. Behavioral assessment of executive functions is an understudied area of research that allows us to gather information about behavior in family and school context. This work allows us to observe the behavioral manifestation of executive functions from perspective of parents and teachers. OBJECTIVE: To analyze executive functions that are manifested through behavior in intellectual gifted children. METHOD: This is an ex post facto correlational descriptive study. Seven students from 7 to 11 years old identified as intellectual gifted children participated. For the behavioral assessment of executive functions, BRIEF-2 family and school questionnaires were used. ANALYSIS: Data were analyzed using SPSS. Correlational data analysis was performed. RESULTS: Sociodemographic and correlational data are presented. The results show data on levels without behavioral problems of executive functions, and correlation between behavioral regulation index and emotional regulation and cognitive regulation indices in parents and teachers. CONCLUSIONS: Behavioral evaluation of executive functions shows the performance in developmental contexts for intellectual gifted children in which it is possible to observe an association between cognitive functions, behavioral regulation and expression of emotions.

### **Expanding Horizons in Sweden: From forbidden to flourishing**

**Valerie Gail Margrain, Gisela Priebe, Elisabet Mellroth**

Karlstad University, Sweden

This presentation topic outlines recent remarkable gifted education policy and research changes in Sweden. We outline a) Swedish cultural ambition for egalitarianism and

traditional social negativity toward giftedness; b) policy and leadership changes within the last 10 years in Sweden at national and municipal levels; c) an overview of recent research grants and publications from Sweden, including a doctoral programme funded at approx. 37 million Euro; and d) implications for psychological wellbeing of gifted students and teachers. The aim of the presentation is to share a sense of optimism for gifted students and the teaching community which we hope can be useful to others. Lewin's Force Field Theory plays a useful role in our analysis of factors such as alignment of policy and public agenda, and global-local needs. Our methodology includes historical review, literature review, and narrative. The findings of our reviews are that: gifted education can operate alongside 'one school for all' philosophy'; research plays an important role in evidence-based discussions; and investment in needed for teacher professional learning and local innovations. Our conclusions are that change operates on many levels and when social forces align, horizons expand and significant positive change is possible.

### **Measuring parent attitudes toward advanced education**

**Jonathan Plucker<sup>1</sup>, Jennifer Madsen<sup>2</sup>, Paul DiPerna<sup>3</sup>**

<sup>1</sup>Johns Hopkins University, United States of America; <sup>2</sup>New Jersey Association for Gifted Children, United States of America; <sup>3</sup>EdChoice, United States of America

Although the field has studied the experiences of students for over 100 years, our knowledge of parents' perspectives and experiences is surprisingly limited. The time is ripe to address this. In many communities, there's a concerted effort to argue gifted education is unnecessary. Decades of research refute these claims, yet they beg an important question: Do parents/caregivers share these misgivings about advanced programs?

Evidence suggests parents disagree, but much of this information is anecdotal. We will share data from a long-term project studying parent attitudes toward advanced learning. In partnership with the advocacy group EdChoice, we've included questions on gifted education in their monthly polls of public attitudes toward education. The polls are conducted by Morning Consult, a well-respected polling organization, and the sample and results are representative of parents across the United States.

During this session, we will (1) describe our methodology for collecting country-level data on parent attitudes toward gifted education, (2) share the results of our surveys thus far, highlighting interesting responses from parents, and (3) gather input from participants on which questions and topics should be included in future surveys.

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## **Oral Presentations\_20**

### **Language: The key to diagnosing autism in gifted children**

**Justin Michael Gardner**

Beljan Psychological Services, United States of America

Subtle linguistic cues may serve as the key to more accurately identifying autism in gifted children. Research and clinical practice indicate that diagnosing Autism solely based on

observed behaviors is elusive and oftentimes leads to a very high rate of misdiagnosis in gifted children given the large overlap in gifted-related “Autistic-like” behaviors and idiosyncrasies. The purpose of this session is to facilitate brief attendee discussion by linking novel research findings in linguistics and pediatric neuropsychology as they pertain to developing more accurate ways of identifying Autism in gifted children as well.

### **Mathematically Gifted students use of self regulated learning strategies while solving mathematical problems**

**Nurit Paz-Baruch, Hala Hamud**

Bar Ilan University, Israel

Self-regulated learning (SRL) represents a necessary fundamental 21st-century skill for children and adolescents and is essential for the development of gifted students. This study explored mathematically gifted junior high school students' SRL strategies while solving mathematical problems compared to typical achievers. A sample of 71 ninth-grade students from three junior high schools were divided into two study groups. Participants completed SRL Questionnaires. In addition, students underwent Think-Aloud Interviews while solving mathematical problems at two levels of difficulty. The results only revealed significant differences between mathematically gifted and typical achievers students on the organization subscale of the SRL questionnaire. No differences were found between the study groups in the metacognitive strategies used questionnaire. mathematically gifted students outperformed typical achievers students on the mathematical problem-solving test and generally used more SRL strategies during the qualitative think-aloud interviews. Moreover, the between-group differences in effect sizes were higher on the high-level problem-solving task than the low-level difficulty task. The results represent a significant milestone in the research on junior high school mathematically gifted students' SRL strategies.

### **Foreign language teaching (Japanese) in an Early University Entrance programme designed for gifted students**

**Hazel Skinner**

Centre for Talented Youth Ireland (CTYI), Ireland

The Centre for Talented Youth, Ireland (CTYI) based in Dublin City University (DCU) provides enrichment classes for gifted students across Ireland each year. CTYI currently runs the only dual enrolment programme in Ireland, the Early University Entrance (EUE) programme, where Irish students in their transition year of secondary school are afforded an opportunity to study university-level courses on a college campus. The students participating in the programme have been identified as high ability. EUE was established to follow and support the academic, social and emotional development of the students throughout their time in a third-level setting.

Japanese is one of the most recent subjects added to the Early University Entrance programme. Little research has been conducted into the foreign language aptitudes of gifted students (Bain et al., 2010). This presentation will outline the benefits to second-level gifted students from learning Japanese in a 3rd level environment. It will also discuss how standard pedagogical methods of Modern Foreign Language (MFL) teaching used



in second-level institutions can be adapted to account for the students' lack of experience in a third-level setting. This presentation will be delivered by a former CTYI student and current staff member teaching Japanese on the EUE programme.

### **School system transformations through ECHA training**

**Elisabet Mellroth, Valerie Margrain**

Karlstad University, Sweden

In 2023 the first large ECHA training started in Sweden, and in Scandinavia, through Karlstad University. In this presentation we will share how this program for an ECHA certificate is arranged. An important part is the so called Treffekt® which is an agreement between Karlstad University, the employer, and the participant of the training. Through Treffekt® the school leaders agree on supporting the participant throughout the training, and to plan for how to use the new competence. The training for an ECHA certificate is divided into three courses (15 ECTS). The first course is theory building in which the participants read, discuss and have workshops on different themes relating to high ability. In the second course they plan for an upcoming research study. In the final course the participants implement their study and scientifically explore their outcomes. The product is a scientific report about the study. We expect those products to become rich material that also benefits other schools and regions in Sweden and perhaps also for other countries. Ongoing offerings of the courses and collation of these reports will contribute to a valued body of work which in turn can transform local policy and practice.

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## Oral Presentations\_21

### **Trends in research findings on talent development in Europe: A cross-cultural systematic review**

**Hernan Castillo-Hermosilla<sup>1</sup>, Ty'Bresha Glass<sup>1</sup>, Katherine Gajardo<sup>2</sup>, Tugce Karatas<sup>1</sup>, Shahnaz Safitri<sup>1</sup>, Nielsen Pereira<sup>1</sup>**

<sup>1</sup>Purdue University, USA; <sup>2</sup>Universidad de Valladolid, Spain

Talent development (TD) programs are considered effective in developing students' academic potential in diverse disciplines as stated by Ziegler and Stoeger (2023). Moreover, high-ability students participating in TD programs report better experiences than regular instruction at a school level (Gomez-Arizaga et al., 2020). This session presents data trends from a systematic review of publications from 1959 to 2022 of research findings about students participating in TD opportunities in Europe. Results report combined datasets from five European countries with 384 participants (342 students of 8-21 years, 25 teachers, 10 experts, four parents, and three special education specialists). Studies emphasize: (1) the importance of a community-based approach for successful outcomes through parental involvement and collaboration between stakeholders (e.g. teachers, special education specialists, parents) promoting academic and artistic achievement, (2) TD programs help students gain confidence and independence, and (3) teacher factors, such as confidence, expertise, and previous

training, mediate the student success in TD programs. This session calls for more diverse research in Europe in terms of geographic location to promote a more intercultural understanding of TD and other potential results identified in future research.

### **Breaking stereotypes: extracurricular preferences of gifted students in STEM**

**Valentina Mladinov, Petar Čuček**

Višnjan Astronomical Society, Croatia

The aim of this study is to investigate a pattern of participation in extracurricular activities (EC) among gifted individuals motivated for STEM.

Višnjan Educational Programmes' participants demographic data was extracted from application forms (2015–2019) alongside number and type of EC they are involved in at the moment of application. ECs were categorised into 16 categories.

The cohort consisted of 607 students ( $f = 243$ ,  $m = 364$ ), 10–14 years of age. The range of ECs per student varied from 0–13. Female students had a significantly higher mean number of ECs ( $M=4,35$ ) compared to male students ( $M=3,79$ ),  $t(603)= 2,97$ ,  $p=0,0015$ . Among the whole sample, the most frequent ECs were sports (23,4%); informatics, mathematics, robotics, coding (18,3%); foreign languages (12,8%); music (11,7%) and various scientific activities (10,6%). Statistically significant, males favoured sports and informatics, mathematics, robotics, coding, while females were more active in arts, dancing, performing arts, foreign languages, various scientific activities, and humanities. In STEM-related ECs, males leaned toward astronomy, mathematics, robotics, coding, physics, while females showed a preference for biology. Gender differences in chemistry, mathematics, scientific workshops, and technical and modelling workshops were non-significant.

In conclusion, this study reveals finding that gifted students exhibit broad interests beyond STEM.

### **Artificial neural networks and the Actiotope Model of Giftedness**

**Cindy D. Han<sup>1</sup>, Shane N. Phillipson<sup>2</sup>, Vincent C.S. Lee<sup>1</sup>**

<sup>1</sup>Monash University; <sup>2</sup>Swinburne University of Technology, Australia

In the Actiotope Model of Giftedness (AMG), the development of exceptionality requires the interactions between the 11 educational and learning capitals acting on an individual's current level of talent. To date the statistical techniques that have been used to fully operationalize the model are unable to fully operationalize the systemic nature of these interactions. Based on nearly 800 student responses to the Questionnaire of Educational and Learning Capitals (QELC) and their mathematics grades, we investigate the potential of artificial neural networks (ANNs) to model this complexity. After Rasch modelling the responses to the questionnaire, the optimal neural architecture comprises 13 input neurons, one hidden layer comprising two neurons and one output neuron, and tan-sigmoid and Bayesian Regularization as the activation and training functions, respectively. To test its potential to predict future mathematics scores, the capitals of low performing students were altered to match those of high performing students, indicating that a focus on organismic and aspirational capital, for example, was sufficient to raise mathematics scores from low to high. We conclude that the use of ANNs has the potential

to provide educators with evidence-based strategies to support student learning at both an individual and whole-school level.

### **Suicide Risk and Mental Health in high ability students**

**Javier Ortuño Sierra, Rebeca Aritio Solana, Cristina Abalos Villanueva, Ana Ciarreta López, Eduardo Fonseca Pedrero**

University of La Rioja, Spain

Suicide behavior rates have dramatically increased worldwide. At this moment suicide is the second cause of death among adolescents. Suicide behaviour includes, ideation, communication and conduct related to suicide. The main goal was to analyze the prevalence of suicide behaviours among high ability students and the possible influence of mental health indicators. The sample included a total of 89 adolescents (67% were males) with high abilities. The age range was between 11 and 17 years old ( $M = 14,12$ ;  $SD = 1,09$ ). We used the Sentia scale to screen for suicide behaviours. The results revealed that suicide behaviours were prevalent among adolescents. In addition, those adolescents at risk for suicide behaviours had statistically significant lower levels of well-being ( $\lambda = 0.575$ ,  $F(4,85,000) = 6.22$ ,  $p \leq 0.001$ ,  $\eta^2 = 0.065$ ), and higher levels of depression ( $\lambda = 0.658$ ,  $F(4,85,000) = 4.291$ ,  $p \leq 0.001$ ,  $\eta^2 = 0.09$ ), and phone abuse ( $\lambda = 0.834$ ,  $F(4,85,000) = 5.168$ ,  $p \leq 0.05$ ,  $\eta^2 = 0.05$ ) than those adolescents at no risk. Results revealed that those adolescents experiencing lower levels of well-being, and higher levels of depression and with phone abuse are at more risk for suicide behaviours.

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## Oral Presentations\_22

### **The development of social communication by gifted children: Evaluating a school intervention programme**

**Ilias Vasileiadis<sup>1</sup>, Ioanna Dimitriadou<sup>2</sup>, Spyros Koutras<sup>3</sup>**

<sup>1</sup>University of Western Macedonia, Greece; <sup>2</sup>University of Macedonia; <sup>3</sup>Queen Margaret University

The gifted students, with powerful cognitive interests and difficulties in social communication, exhibit low levels of social competence. To enhance their social skills, they participate in social support programmes. This research aimed to evaluate an intervention programme focused on improving the social competence of gifted students with specific cognitive interests in the final grades of primary school. Following an interdisciplinary approach using semi-structured interviews and observations in the school context, and with the participation of 18 students with specific cognitive interests and difficulties in social communication, their educators, peers, and parents, the levels of social competence of the students were assessed before and after the implementation of an eight-month social empowerment programme. The research results showed that the level of social competence of the participating students was low before their involvement in the intervention program. Furthermore, it was evident that social competence increased in every dimension after the students participated in the intervention programme. These results highlight the importance of social support

programmes in the classroom for gifted students to improve their social communication in school.

### **Low-, average-, and high-achieving students: Same STEM classroom, but different perceptions**

**Lukas Ketscher<sup>1</sup>, Heidrun Stoeger<sup>2</sup>, Albert Ziegler<sup>1</sup>**

<sup>1</sup>University of Erlangen-Nuremberg, Germany; <sup>2</sup>University of Regensburg, Germany;

How students perceive a situation determines their actions in that situation. For example, different students can perceive the same STEM lesson in very different ways, mainly as a threat, a learning opportunity, a social event, etc. Depending on this perception, they may be more likely to be quiet and hide, participate in class, or be inattentive. However, how students of different achievement levels perceive STEM lessons is unknown. Our study involved 450 students from high-achiever track secondary schools in Germany. They completed a questionnaire that measured the eight dimensions of situation perception postulated by Rauthmann et al. (2014) (Duty, Intellect, Adversity, Mating, Positivity, Negativity, Deception, and Sociality). Significant differences were revealed using the Kruskal-Wallis-Test when comparing the perception of STEM education classes between high achievers (upper 10 %), low achievers (bottom 10%) and average achievers. The different situational perception profiles of students of varying achievement levels are discussed concerning possible pedagogical implications, especially for talent support.

### **The impact and role of professional development on the motivation for teachers to differentiate curriculum for gifted students**

**Victoria Poulos<sup>1,2</sup>**

<sup>1</sup>Crest Education, Australia; <sup>2</sup>University of New South Wales

This study sought to determine the factors that motivate teachers to differentiate curriculum for gifted students in a case study school in Victoria, Australia. For this purpose, 10 teachers from Year 7-9 mixed ability classes at the school were engaged in interviews about their practice of differentiation specifically for gifted students, the factors that either motivated or demotivated them to differentiate, and their experience of professional development. Thematic analysis was conducted on the collected data. The resulting themes provided useful insights into the challenges that teachers face to cater for gifted students and the need for professional development. The key findings of the study indicated the presence of many barriers to differentiate curriculum for gifted students including misconceptions, negative attitudes, gaps in support and competing interests. A general lack of training in gifted education was evident in the findings to suggest that greater professional development is needed to assist teachers provide appropriate differentiation for gifted students.

### **Academically high achieving students and their physical activity perceptions and experiences – A mixed method approach**

**Felicia Jeanette Helene Augustsson**

Karlstad University, Sweden

This research explores self-perceived physical abilities among academically high achieving students. Physical self-perceived abilities impact children and youth's engagement and enjoyment of physical activity. Additionally, scholars have identified a nonathletic stereotype attributed to highly able students by teachers, high achievers are assumed to be a sub-group of highly able students. Therefore, it is important to further investigate these students' self-perceived abilities and their perspectives on physical activity.

Using a mixed-method approach, this study employs surveys and interviews to gather data from academically high achieving students in Swedish Upper Secondary Schools (aged 16 and above). The quantitative survey assesses various dimensions of self-concept and self-reported physical activity levels. Additionally, individual semi-structured interviews are conducted to delve into the students' perspectives on physical activity throughout their previous school years.

This study will shed light on academically high achieving students' self-perceived abilities and their encounters with physical activity, especially within school settings. These insights are valuable for Physical Education teachers and other school staff involved in facilitating physical activity experiences for these students.

I will present the study in more details and appreciate questions and ideas that can contribute to the study design.

### **What is going on in Teaching and Instruction in STEM Education? A Concise Umbrella Review (2000-2023) from the Perspective of Gifted STEM Education**

**Mehmet Bicakci<sup>1</sup>, Fabian Heller<sup>2</sup>, Heidrun Stoeger<sup>2</sup>, Albert Ziegler<sup>1</sup>**

<sup>1</sup>Friedrich Alexander University, Germany; <sup>2</sup>Regensburg University

Most of the evidence on STEM education is first collected with average students before being applied to subgroups of students such as the gifted. Thus, if gifted STEM education wants to keep pace with the latest scientific and practical advances, it needs a concise overview of the latest developments and their validity. This umbrella review analyzes the reviews on teaching and instruction within STEM education from 2000 to 2023, aiming to highlight the key characteristics of these studies. Conducted as part of the MesH\_MINT project, this study focuses on identifying and synthesizing educational content across STEM fields from various databases, with initial findings presented from the ERIC database. ERIC database was searched with related keywords. Five coders screened the titles and abstracts of 2,358 ERIC records for reviews concerning STEM education. In the second step, the same five coders sorted the abstracts into thematic categories; 611 studies in the teaching and instruction category remained, and the general characteristics of these studies will be presented. The review types, their STEM field of focus, and topics will be analyzed. Our umbrella review will also include outcomes reported that are relevant to gifted education. The findings are discussed within the realm of gifted education.

## Symposium\_09

### Teacher professionalization in gifted education and talent development: Lessons from large-scale projects in Europe

*Chair(s):* **Karine Verschueren** (KU Leuven, Psychology and Educational Sciences, Belgium)

*Discussant(s):* **Colm O'Reilly** (CTI, Dublin City University)

To support talent development among (potentially) high-performing students within regular schools, it is key to professionalize teachers and school teams regarding evidence-informed gifted education and talent development. In this symposium we share findings from three large-scale teacher professionalization projects in Europe. We describe their varying aims and methods, and findings on their effectiveness. In the first paper a Germany-wide professionalization project in schools is presented to implement mentoring programs for the individual support of (potentially) high-performing students. The second presentation describes a large-scale project in Flanders in which evidence-informed educational practices to support the development of gifted and talented learners are shared through 'anchor schools' and professional learning communities. In the third paper, a Germany-wide project is presented for teacher professionalization regarding the implementation of adaptive formats for self-regulated and research-based learning among (potentially) high-performing students in the school context. Lessons drawn from successes and challenges of these professionalization initiatives will be shared and reflected on in the Discussion.

#### *Presentations of the Symposium*

### Professional mentoring at schools

**Kathrin Emmerdinger<sup>1</sup>, Heidrun Stoeger<sup>1</sup>, Albert Ziegler<sup>2</sup>**

<sup>1</sup>Regensburg University, <sup>2</sup>University of Erlangen-Nuremberg

In our presentation, we introduce a Germany-wide professionalization project in schools to implement mentoring programs for the individual support of high-performing and potentially high-performing students. It offers two mentoring concepts:

1. Individual learning pathways: Highly interested, high-achieving secondary school pupils receive intensive 1:1 mentoring in their specific talent domain (subject) from their subject teachers. Following intensive diagnostic analysis, individual learning pathways are planned, implemented, and adapted over several years.
2. CyberMentor Plus: The already established online mentoring program CyberMentor, which promotes girls' interests in STEM, is supplemented by an additional offer at the school. Female students in grades 5 to 12 are assigned a personal mentor from the STEM field. In addition, the mentees participate in STEM clubs led by STEM teachers at their school. These STEM subject teachers are in regular contact with online mentors.

Almost 100 schools are taking part. Professionalization begins with an input phase in which relevant mentoring knowledge is imparted to teachers. The subsequent phase involves active support and optimization of the mentoring concepts at the schools. In addition, the aim is to network the schools to harness synergy effects.



## **The TALENT project in Flanders: Supporting evidence-informed Gifted Education and Talent Development through Anchor Schools and Professional Learning Communities**

**Karine Verschueren<sup>1</sup>, Ilse Verhoeven<sup>2</sup>, Liv Van Hyfte<sup>3</sup>**

<sup>1</sup>KU Leuven, Psychology and Educational Sciences, <sup>2</sup>Anchor school Middenschool H. Hart, <sup>3</sup>Anchor school KA Ekereren

The TALENT project aims at promoting talent development in Flemish schools by bridging developmental and educational science and educational policy and practice. In a first phase, in close collaboration with key educational stakeholders, an interuniversity research program on gifted and talented learners' development and education was established. Scientific knowledge and evidence-informed tools were disseminated through an online platform and e-learning modules. In a second phase, funded by the Flemish Government, Professional Learning Communities (PLCs) were created to share evidence-informed educational practices within schools and professionalize school teams. PLCs have been described as a valuable setting for teachers' professional development and effective tool for changing teaching practices (Vangrieken et al., 2017). In these learning communities 20 'anchor schools', supported by the TALENT expertise center, work collaboratively with a network of other schools to share evidence-informed educational practices, with the collective purpose of promoting the development, motivation, and learning of gifted and talented students. At this moment, 428 primary and secondary schools in Flanders are participating in this project. We will introduce these PLCs as a powerful tool for making changes in teaching practices, presenting its method and effectiveness, and we will reflect on conditions and challenges in reaching this goal.

## **Professionalization for the Adaptive Promotion of Self-regulated Learning**

**Christian Fischer, Christiane Fischer-Ontrup, Steffen Janke, Iris Morgenstern**

University of Münster

In our presentation, we will introduce a Germany-wide project for the professionalization of teachers for the implementation of adaptive formats for self-regulated and research-based learning (diFF) for high-performing and potentially high-performing students in the school context. The diFF-project for diagnosis-based individualized challenge and support is an adaptive learning architecture for innovative school and lesson design that aims to promote self-regulated and research-based learning in pupils with the help of the acquisition of effective learning strategies and to challenge learning interests and performance potentials. Teachers take over the learning support of pupils and teach learning strategies according to the scaffolding principle with a view to the zone of proximal development. In order to facilitate this learning support, teachers are appropriately professionalized, with a focus on adaptive teaching competence combined with a potential-oriented pedagogical attitude. The professionalization of teachers focuses on imparting relevant knowledge on self-regulated and research-based learning as well as supporting the practical implementation of the diFF-project in schools. Over 100 schools are taking part in the diFF-project, with the schools working together in networks to enable transfer to the school landscape. In the lecture we will present the concept of professionalization as well as insights into the accompanying research.

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## Workshop\_26 & \_27

### The abc's of identity development (avatars, bibliotherapy & connective literacy): tools and strategies for 2e learners

**Debra Troxclair<sup>1</sup>, Eleonor Gerven<sup>2</sup>**

<sup>1</sup>Lamar University; <sup>2</sup>Slim Educatief

Twice exceptional learners may waiver in their identity because of the duality of the ways in which they experience the world because of their twice exceptionality. Using **avatars** provides opportunities for learners to test different ways of being, interacting, and responding to circumstances and allows opportunities for testing different characteristic traits related to their identity "under development" by depersonalization of their participation (Hébert, et al., 2014; Wood and Syzmanski, 2020). **Bibliotherapy** encourages social emotional growth and literacy for gifted learners (Halstead, 2009; Seney, 2017; Ferguson, 2009). Literature which includes gifted learners as main characters in situations, offers students the chance to reflect, discuss how the characters in the story resolve problems, and develop an identity. In reacting to literature, they may recognize themselves/their situations in the literature as they dissect and diffuse problems as part of supportive solution-oriented group. **Connective literacy strategies** call upon students to generate multiple scenarios for interaction as one of their uniquely designed avatars in a variety of circumstances by changing the elements of the literature (setting, plot, problems, solutions) (Presenters, 2023). Product development, an element of the bibliotherapy strategy, provides twice-exceptional learners to demonstrate social emotional development in a variety of formats (oral, written, creative/artistic).

### Curriculum of Identification: How to Make G/T Identification of Students Part of the Classroom Routine

**Marcia A. B. Delcourt**

Western Connecticut State University, United States of America

The concept of giftedness is constantly being debated as new perspectives of ability emerge and society changes in terms of access to educational resources. Related to these factors, the identification of gifted and talented children is also evolving. Research indicates that school leaders and classroom teachers need support to identify their gifted and talented students (Renzulli et al., 2002, 2009). This presentation will provide examples of how to incorporate the identification of students into the classroom routine using the Curriculum of Identification (COI; Delcourt, 2023). The COI is based on the notion that it is easier to recognize capabilities in students when they have the opportunity to engage in an activity where their strengths and talents can be displayed. COI Lessons focus on revealing potential and realized talent and aptitude in a specific area (Baum et al., 1999; Baum et al., 2017). This workshop will include examples of COI lessons, targeted student behaviors across specific domains, and results of observations by classroom teachers. Workshop participants will revise sample lessons for use in their own schools and classrooms.

## Workshop\_28

### **Fostering autonomy: Empowering high-ability students through self-directed goal setting**

**Pamela Rau<sup>1</sup>, Elizabeth Bronson<sup>1,2</sup>, Brittany Hague<sup>1,2</sup>**

<sup>1</sup>University of Central Florida, United States of America; <sup>2</sup>Osceola School District, United States of America

This workshop aims to provide a facilitation model that scaffolds educators' ability to promote independent learning and optimize academic and personal growth of high-ability learners. Participants will gain strategies to involve students in setting goals that further develop their strengths and talents. The proposed initiative stems from insights gained through an American federally funded Javits grant, providing a robust foundation for the development and implementation of effective practices. Delivering a practical and comprehensive approach to promoting student agency, attendees will gain valuable insights into leveraging the findings from the Javits grant to tailor strategies that address the multifaceted and unique challenges and obstacles of advanced learners. With actionable research-based approaches shared, attendees will analyze five multi-cultural case studies and simulate the steps of student formulated objectives that lead to student-designed curriculum focused on individualized interests, autonomy, and self-actualization. This immersive workshop will empower educators and enhance advocacy for all students. By understanding the unique needs of gifted students and integrating a method to promote independent creation of objectives, educators in all arenas can help their learners find value and purpose not only in their current educational environment, but also in their future endeavors.

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## Workshop\_29

### **Inclusive ways to support the emotional needs of the gifted (SENG)**

**Lin Lim, Gayle Bentley**

Supporting Emotional Needs of the Gifted, United States of America

Veteran teachers will share ideas to support the whole gifted individual across the lifespan, focusing on inclusive practices to promote mental health, the building of peer supports, and the strengthening of family-school-community collaborations. SENEG will share how our group is updating our practices to best support gifted, diverse communities in our globally connected world.

Supporting our gifted population's social and emotional needs is vital to their well-being and success beyond school. Current research supports the exceptionality of gifted brain development as well as the variability of gifted physiology and psychology. SENEG is evolving in their work based on this research by developing support groups for various stakeholders in the gifted community, hosting global educational events, and promoting inclusive, collaborative ways to support all gifted individuals.

Immordino-Yang, M., Darling-Hammond, L., & Krone, C. (2018). *The brain basis for integrated social, emotional, and academic development: How emotions and social relationships drive learning*. National Commission on Social, Emotional, and Academic Development.

Rinn, A. N., Mullet, D. R., Jett, N., & Nyikos, T. (2018). Sensory processing sensitivity among high-ability individuals: A psychometric evaluation of the highly sensitive person scale. *Roeper Review*, 40(3), 166–175. <https://doi.org/10.1080/02783193.2018.1466840>

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## Workshop\_30

### **Turning Challenges into opportunities- Twice-Giftedness doesn't stop after post-secondary education Workshop Working with the "Overlooked" Gifted – (gifted but not High Achieving)**

**David Rempel<sup>1</sup>, Catalina Beckhoff<sup>2</sup>**

<sup>1</sup>IU International University, Germany; <sup>2</sup>University of Hertfordshire

Empirical research shows misunderstandings are the core of many arising conflicts for the 2e gifted, throughout the lifespan. These are typically caused by a difficult self-perception of the gifted person, as well as due to differences in preferences, habits, and the individual perception. Raising awareness of 2e giftedness, as well as implementing a trustful, tolerant, and appreciative culture(s), to openly communicate feedback, to discuss individual boundaries, and potential wishes, are identified as promising factors to create a beneficial environment. Efforts from all involved, as well as allowing adjustments wherever possible, can then prevent potential conflicts, and can even allow the gifted mind to satisfy a variety of different interests and the need for creative, innovative, and challenging tasks. Applying flexibility, should be implemented as key elements of a talent nurturing environment to give 2e gifted the chance to find balance and unleash their talents.

Our main goal is to raise awareness of possible challenges overseen 2e gifted individuals experience across the lifespan, especially after post-secondary education and to work out how these challenges could be overcome.

The interactive workshop, will work through the challenging subject of overseen 2e gifted individuals, including the heightened drive, great complexity and sensitivity.

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## Workshop\_32

### **Future-ready classrooms: Elevating engagement and 21st-century skill acquisition in high-ability learners**

**Eleni Hatzimavroudi, Haido Samara, Thodoris Andriopoulos, Sofia Chaskou**

Center for Talented Youth (CTY) Greece

Expanding on Sir Ken Robinson's 2006 Ted talk, one might argue: "Think about it—students starting school now won't join the workforce until 2040 at the earliest, and yet

educators must prepare them for the uncertainties of future workplaces." Teachers accomplish this by providing essential tools and fostering adaptable skills, utilizing innovative educational methods that highlight diverse "out-of-the-box" thinking and 21st-century skills within collaborative environments. In this interactive workshop, we will delve into methods to navigate the aforementioned concepts, offering practical tips and strategies. These strategies, grounded in approaches like gamification, differentiated learning, and experiential learning, prove effective for both gifted students and contribute to an enriched learning experience for all students in a standard classroom. Participants will actively participate in activities designed to enrich their toolsets with new strategies and ideas applicable in diverse settings, including classrooms and workplaces.

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## Workshop\_33

### **A picture is worth a thousand words: Using film to address social and emotional needs of gifted and twice exceptional students**

**Susan Baum<sup>1</sup>, Kristin Berman<sup>1</sup>, Rose R. Blucher<sup>2</sup>, Marcy Dann<sup>3</sup>, Kim Vargas<sup>4</sup>**

<sup>1</sup>Bridges Graduate School, United States of America; <sup>2</sup>Blucher Educational Services for Boundless Potential; <sup>3</sup>Bridges Academy; <sup>4</sup>Bridges Education Group

Gifted and twice exceptional students face unique social and emotional barriers that may obstruct development. Recent research (Sobotik, Olszewski-Kubilius, Worrell, 2019) underscores the importance of positive social and emotional development for helping students to grow from novice to expert in their talent areas. Film provides opportunities to examine real life scenarios addressing various vulnerabilities and concerns specifically affecting gifted and 2e children such as perfectionism, identity, expectations, and environment.

The workshop presenters represent multiple perspectives ranging from counselor, administrator, teacher, and parent to discuss various aspects addressed in the films. Work from Hebert on Film Therapy will form the basis of these analyses. This interactive workshop will use clips from classic films featuring gifted students to engage the audience and stimulate lively discussion related to specific vulnerabilities and ways to address these issues in real life with students. Participants will engage in activities stimulating discussions that will reveal ways to help students to understand and address their issues.

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## Workshop\_34 & \_35

### **Wings happen: Approaching Dabrowski's concept of Positive Disintegration through a StoryPlay - play therapy lens. Implications for Twice Exceptional children and adolescents.**

**Katerina Tsomi**

Bridges Graduate School of Cognitive Diversity in Education, California, USA

StoryPlay weaves together the elements of story, creativity, and play to form a resiliency-based method of play therapy that effects transformational healing for children and adolescents who experience anxiety and mental health challenges (Mills, & Crowley, 2014). The use of StoryPlay creates a fitting therapeutic environment for neurodiverse populations because it is indirect, strength-based and has an understanding of asynchronous development and sensory differences (Baum et al., 2017).

StoryPlay's "Butterfly Metamorphosis" is a powerful metaphor which can help twice exceptional children and adolescents deeply understand and accept their inner transformational processes. It is a symbolic paradigm which describes a concept similar to Dabrowski's positive disintegration process but in a playful way, thus open and accessible to twice exceptional individuals of all ages. "Butterfly Metamorphosis" and its accompanying creative technique "The Butterfly Mandala" can be of use to mental health practitioners, teachers and parents of twice exceptional individuals. Together, they form a soothing and dynamic process that normalizes disintegration and focuses on the person's inner and outer resources. This process will be presented in detail in this creative workshop.

### **Fostering growth mindset in gifted students**

**Theodora Koutsou, Despoina Korentini**

Mensa Greece, Greece

Gifted students often face unique challenges and opportunities in their academic and personal development. As educators you can help them cultivate a growth mindset, a key factor in success and well-being. In this workshop, you'll learn what these concepts mean, why they matter, and how to foster them in your gifted students. A fixed mindset identifies the belief that intelligence depends on innate abilities - so if a student is not good at something, they will never be good at it. Research has shown that students with a growth mindset work harder, so they are more willing to accept challenges and can learn from mistakes. By the end of the workshop, you will gain a thorough understanding of the power of a growth mindset and growth-oriented feedback. You will develop a clear vision and confidence to renew feedback habits and foster a growth-oriented feedback culture in your classrooms. By instilling a growth mindset in your gifted students, you will also empower your students to rise to challenges and change the way they interpret and work with failure.

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## **Workshop\_36**

### **How schools and families can partner to meet the needs of high ability children**

**Jessica Alison Potts<sup>1</sup>, Martina Rosenboom<sup>2</sup>, Krista Heins<sup>3</sup>, Julie Taplin<sup>4</sup>, Femke Hovinga<sup>5</sup>, Leonieke Boogaard<sup>6</sup>, Britta Weinbrandt<sup>7</sup>**

<sup>1</sup>Davidson Academy Online; <sup>2</sup>Talent-Consulting; <sup>3</sup>Peers4Parents; <sup>4</sup>Potential Plus UK;

<sup>5</sup>SCALIQ; <sup>6</sup>De Koepel Hoogbegaafdheid; <sup>7</sup>Deutsche Gesellschaft für das hochbegabte Kind (DGhK)



Gifted advocates are often characterized as pushy helicopter parents, even by educators who are well-versed in the needs of high ability children. On the flip side, teachers and administrators who must work within the confines of school systems are sometimes seen as uncaring or unreasonable by parents of gifted children. The truth is that neither stereotype is completely accurate, and an effective collaboration between families and educators is vital for the well-being of gifted children. This hands-on workshop will offer educators, administrators, and parents not only the opportunity to voice their frustrations about working within systems that are not designed for gifted students, but also specific tools and recommendations for creating stronger partnerships. Participants will learn about effective gifted advocacy techniques, best practices for engaging families with gifted children, and communication strategies that are designed to de-escalate fraught relationships. During the hands-on portion, participants will work in small groups to create an engagement strategy based on case studies that are drawn from the presenters' experiences. While this workshop is aimed mostly at classroom teachers and school administrators, anyone who regularly partners with others for the benefit of gifted children will walk away with useful tools.

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**3:30pm - 5:00pm**

## Oral Presentations\_23

### **The importance of holistic education for gifted students in international online learning programs**

**Jessica Alison Potts**

Davidson Academy Online, Czech Republic

Many families select online learning for its academic possibilities, but the emotional and communal needs of gifted students learning in online environments must be considered equally. These non-academic needs are often neglected with gifted international students, whose time zones and cultural differences tend to separate them from students who are largely based in the United States and Western Europe. When international students feel isolated in online classes, they experience increased levels of anxiety. Conversely, high levels of engagement in online classes result in higher achievement and satisfaction for international students. A healthy and responsible model of online learning for gifted international students must be holistic in nature, with students' academic, social, emotional, cultural, and ethical needs integrated into the curriculum and the support services they receive. This presentation makes the case for a human-based, holistic approach to online learning for gifted students in transnational classrooms. The presenter will offer a framework for holistic online learning for international students, including recommendations for grouping, scheduling, and student support services. Attendees will better understand the benefits and drawbacks of online learning for international students, and will be able to pass on advice regarding selecting human-based online programs to international families with gifted students.

## **An out of school learning activity on social entrepreneurship education in talented gifted education: Production and marketing of personal smart mug**

**Nurettin Can Bodur**

Uşak University, Turkiye

Talented gifted students are a small part of the population. However, they are characterized as individuals who can lead societies with their abilities, leadership characteristics and creative solutions. In this study, it was aimed to carry out an out-of-school learning activity on social entrepreneurship in the education of talented gifted students. The study was carried out with two teachers, seven students and two mentors. Case study, one of the qualitative research designs, was used. The research group was formed by the typical case sampling method. Students received 38 hours of social entrepreneurship practice. Students worked as a team for a production and marketing activity. Data were collected through interviews and processed by document review and content analysis. As a result, it was observed that the views of teachers and mentors about the study were quite positive and they found the study useful. When students' pre-interview and final-interview answers are compared, it can be said that they learned technical and practical information about the concepts of the entrepreneurship and had the chance to experience real life. Teachers and mentors stated that the idea of students' work is very valuable especially in terms of developing an understanding of profitability, sustainability, environmental friendliness.

## **Atlas Juniors - an innovative technological educational initiative for gifted students from peripheral areas**

**Elna Lustov**

Center for Gifted and Outstanding students, Israel

Atlas Juniors is an innovative technological educational initiative designed for gifted middle and high school students, particularly from peripheral areas. This program offers these students unparalleled access and hands-on experience with leading Israeli start-up companies. Central to the Atlas Juniors experience are product-oriented research projects guided by seasoned mentors from these start-ups. The program emphasizes fostering innovation, critical thinking, and entrepreneurial skills.

Over three years, the Atlas Juniors program immerses students in the technological sector, starting with a learning and mini-research phase at a chosen company, followed by a choice between a research track or specialized training, leading to internships. This comprehensive approach ensures that each participant acquires an in-depth understanding of the start-up ecosystem, equipping them with the necessary skills and insights to excel in today's rapidly evolving and innovative business world.

We believe that our experiences and insights gleaned from the Atlas Juniors program can significantly contribute to the global educational community. Our model demonstrates an effective approach to nurturing gifted students in the technology and entrepreneurship field. By sharing our methodologies and experiences, we can assist educators worldwide in enhancing their strategies for fostering gifted students' growth.

## Examining the association between work engagement and personality traits of high achiever engineers

**Sümeyye Arkan**<sup>1</sup>, **Mustafa Serdar Köksal**<sup>2</sup>

<sup>1</sup>Zonguldak Bulent Ecevit University, Turkiye; <sup>2</sup>Hacettepe University, Turkiye

Gifted adults with superior high IQs tend to lack a sense of well-being in the work environment. Similarly, high achiever adults with high IQs compared to their peers could be experiencing the same feeling. Their personality traits with high IQ have a multiplier effect and may affect their subjective well-being. This study investigates the association between work engagement and personality traits of high-achiever engineers. We interviewed a group of engineers and their colleagues from technology-focused organizations. TONI-4 intelligence test, the Big Five Inventory, and the Utrecht Work Engagement Scale were administered to these seven high-achiever engineers and semi-structured interviews. We used the thematic analysis. We examined their answers under three themes: stages of work life, feelings and commitment, and readiness and nature of work. The engineers, despite exhibiting traits of openness to experience, seek more inspirational and purposeful tasks at work, which are currently lacking in their assigned responsibilities and workplace environment. By the work engagement scale, some participants lack complete dedication and commitment. All in all, we can infer that high achievers with different personality traits do not feel committed to their jobs, and in connection with this, their subjective well-being is low.

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## Oral Presentations\_24

### leap: a paradigm shift in gifted education

**Fay Charafeddine**

Al Bayan Bilingual School Kuwait, Kuwait

In the proposed talk, "iLEAP: A Paradigm Shift in Gifted Education," I delve into the transformative iLEAP program at Al Bayan Bilingual School, designed to nurture creativity and innovation among gifted and talented students. I explore the critical need for bespoke learning experiences that go beyond traditional academic boundaries, focusing on the development of creative, social-emotional, and problem-solving skills. By leveraging design thinking as a framework, I highlight the program's agile and innovative approach to gifted learning. Central to our discussion is the importance of self-discovery, allowing gifted learners to uncover their unique skills, talents, and passions, and aligning these discoveries with impactful community projects. This process not only enhances personal growth in gifted learners, but allows them to see their potential for a larger impact as future changemakers. My experience with creating and piloting iLEAP offers insights into the power of bespoke, passion-based education in cultivating the potential of gifted and talented learners. By showcasing the theoretical underpinnings, methodology, and outcomes of iLEAP, this talk aims to highlight the significance of tailored education systems that prioritize individual growth and societal contribution, offering insights into the future implications for the field of gifted and talented education.

### **Invenio - Complex screening assessment system**

**Michal Jabůrek<sup>1</sup>, Ondřej Straka<sup>1</sup>, Šárka Portešová<sup>1</sup>, Petr Palíšek<sup>2</sup>, Ivan Černický<sup>2</sup>**

<sup>1</sup>Invenio - National Center for Gifted, Czech Republic; <sup>2</sup>Masaryk University, Czech Republic

Invenio is a diagnostic battery created by psychologists and psychometricians from the Department of Psychology at the Faculty of Social Studies of Masaryk University. The goal of the presentation is to introduce this modern, innovative, psychometrically sound standardized online assessment system to assist teachers in identifying gifted students. Our tests take the form of simple computer games with fun graphics and a story that will captivate children and not stress them at the same time. Behind each of our diagnostic games are many years of development, verification, and analysis of large amounts of data. The presentation aims to familiarize the audience with a few subtests such as logical reasoning, and spatial reasoning. The system does not solely focus on cognitive abilities but also targets non-intellectual abilities, such as socio-emotional difficulties. This is crucial because difficulties in these areas can effectively mask the intellectual potential of some talented students. The system evaluates the ability profile, strengths, and weaknesses of the examinees, enabling personalized intervention and development programs. We anticipate a significant increase in the number of identified students in the 1st through 5th grades through the use of this system.

### **The myth of genius in mathematics. The experience of the Talent Winter Camp and the predilection for the Math lab "MatematichiAmo" by parents and teachers.**

**Clarissa Sorrentino, Stefania Pinnelli, Francesca Baccassino, Ludovica Rizzo, Elena Abbate, Andrea Fiorucci**

University of Salento, Italy

In December 2023, the first Winter Talent Camp for gifted children was held at the University of Salento. This experience included four different workshops, differentiated by age, to strengthen creative, mathematical, methodological-scientific and philosophical thinking skills for a total of 48 children. The numerous requests (46%) to attend the laboratory on mathematical enhancement gave rise to an exploratory research question: "Is the representation of giftedness by parents anchored to logical-mathematical thinking?"; "Considering the competence in mathematics at the same level as other disciplinary competences, is the choice to attend a mathematics laboratory linked to the real interests of the child or the usefulness of the same in future choices?". The qualitative analysis conducted through a questionnaire created ad hoc on 62 parents and individual structured interviews conducted on 11 children made it possible to reveal that the request of participation in the Math lab was linked to future expectations on the part of the parents and teacher recommendations and not to the real interests of the children, opening critical reflections on the pedagogical importance of parental choices and teacher orientation on children's well-being.

### **Innovation talent: The most needed type of giftedness in today's turbulent times. Lessons from women innovators in science, in the case of Marie Curie and Mileva Marić**

## **Larisa Shavinina**

Canada

This presentation introduces the concept of innovation talent and thus this type of giftedness, which is much needed today in times of exceptionally heightened global instability and wars. The presenter will explain how innovation talent differs from entrepreneurial giftedness, innovation leadership and other types of high ability. By comparing the careers of Marie Curie and Mileva Marić, this presentation will address some of the important lessons from women innovators in science such as: How can women model their professional careers after the brilliant career of Marie Curie who received two Nobel prizes in science? What can women do – and what should they do – to escape the sad destiny of Mileva Marić, the first wife of Albert Einstein? She made her husband famous, while he ruined her life.

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## **Oral Presentations\_25**

### **Equity in gifted education**

**Birgit Broekhoven**<sup>1</sup>, **Lineke van Tricht**<sup>2</sup>, **Leeanne Hinch**<sup>3</sup>, **Marlies Tierens**<sup>4</sup>, **Adnan Hoxha**<sup>5</sup>

<sup>1</sup>Stichting VO Haaglanden, Netherlands, The; <sup>2</sup>Bureau Talent; <sup>3</sup>Dublin City University; <sup>4</sup>PDC Thomas More; <sup>5</sup>Heimerer College

High ability students from a less privileged background are less likely to be identified as such and get the support they need to develop their talents. The project 'Equity in Gifted Education', co-financed by Erasmus+, contributes to equal opportunities in gifted education, by doing research and taking action on three major issues: identification of cognitive talent in disadvantaged student populations, academic language, and parent participation.

We want to contribute to the issue of inequity in education and specifically gifted education. In all countries, socioeconomic status (SES) has an influence on students' performance. Another issue is that in Europe not much research has been done on equity in gifted education. Improving the opportunities to excel in the higher levels of education for low SES students with high abilities is a difficult problem, because many influences play a role in the development from abilities to achievement. The results of our project are a culture-sensitive identification guide and learning module for teachers, improved academic language skills, and actively involved parents. Different experts and schools from the Netherlands, Belgium, Ireland, and Kosovo will work together in this project, benefiting from each other's experience and expertise. In this oral presentation, we will present our project.

### **Gifted girls and the authority gap**

**Annette Heinbokel**

Institut fuer Enrichment und Akzeleration, Germany

Today women can reach the highest positions in many countries: In Europe, Christine Lagarde is President of the European Central Bank, Ursula von der Leyen is the President of the European Commission.

We can assume that intellectually gifted girls will turn into competent women, whatever profession they choose. However, they will quite often find that the glass ceiling still exists, and even if they are competent, they do not always have the necessary confidence to achieve top positions.

Research shows that the achievement in teams consisting of an almost even number of females and males is higher than if there are only men. - In the US, female justices were more prone to being interrupted by male justices and attorneys. German female politician report that when they are speaking, male politicians tend to stop listening and begin talking to each other.

Seeing themselves as not as brilliant and gifted as boys starts as early with children as young as six. No country is rich enough to be able to do without the competence of women. In her book 'The Authority Gap' Sieghart, Mary Ann makes suggestions what we can do as individuals, parents, teachers, colleagues, and employers.

### **Talent identification program of Kentucky: Using above-level assessment to support gifted learners**

**Tyler Clark, Julia Roberts**

Western Kentucky University, United States of America

The Talent Identification Program of Kentucky (TIP-KY) was launched in 2021 to provide above-level assessments to gifted students in the region. Grade-level assessments provide information about whether a student is meeting proficiency standards; however, these assessments do not have the capacity to tell more. TIP-KY allows students in grades 4 – 8 to take an assessment intended for students 2 – 3 grade levels above where they currently are to provide information about what students already know above their grade level. The results and corresponding reports outline service options that may be put in place both inside and outside the school to ensure students are appropriately challenged to meet their full potential. This session will describe the talent search model and lessons learned with creating a talent search.

### **Finnish public discussion of gifted education**

**Sonja Laine**

University of Helsinki, Finland

This presentation presents preliminary results of a research in which the Finnish public discussion of gifted education was examined. The aim was to unearth what is discussed about the educational policy of gifted education and alternatives for gifted education at the comprehensive school level, and how the discussion has changed over the years. The data consists of approximately 300 articles from a central Finnish newspaper Helsingin Sanomat from years 1992 to 2023. This extensive data was analyzed using inductive oriented content analysis. The data illuminates the state of gifted education and challenges related to it in the context of egalitarian school system. Preliminary results show that during the whole timeline there has been a concern on how gifted students are noticed at school and change towards better consideration of the gifted is called for. However, the thoughts and rhetoric of why change is needed and how gifted education



should be best carried out varied considerably between the participants of the public discussion, and over time.

## **Interdisciplinary Programme for gifted Students in Kaunas Universities and Theatres**

### **Bronė Narkevičienė**

Kaunas University of Technology, Lithuania

In 2016, the Kaunas Municipality set up a working group of researchers, educators and educational administrators to improve the education of the city's gifted students. First, the researchers decided to conduct a study. The aim of the study was to find out what is the situation of education of gifted students in the city's schools and extra-curricular education institutions, and what opportunities are offered to them by the seven Kaunas-based universities or their branches. After analysing the data from the study, it was decided to create a interdisciplinary programme for all universities to educate gifted pupils in grades 3 to 11 in Kaunas. In 2017, the curriculum was launched. After psychodiagnostic tests by psychologists, 350 pupils were accepted into the programme. In 2021, two theatres joined the programme: Kaunas National Drama Theatre and Kaunas State Music Theatre. In 2024, about 400 children are enrolled in the programme. The programme is financed by Kaunas City Municipality. The author will present the results of the study of the situation of education of gifted students in the city, the concept of the programme, some results of the evaluation of its implementation and the impact of the programme on changing the situation.

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## **Workshop\_37**

### **Overexcitabilities: Practical understandings and approaches in the learning environment**

#### **Els De Wit, Vanessa Reineke Wood**

The International Gifted Consortium (IGC), Research Center for Highly-Profoundly Gifted, United States of America

In this session, we will introduce emotional, intellectual, imaginal, psychomotor, and sensual overexcitabilities and the developmental role of overexcitabilities distinguished in Dabrowski's human development theory (*The Theory of Positive Disintegration*). We will focus on the greater-than-typical sensitivity, intensity and awareness found in the holistic social, emotional, physical, cognitive, and altruistic development. Emphasis will be placed on the integral understanding that overexcitabilities are experienced both internally and externally. Practical applications will exemplify strength based approaches to both managing and harnessing overexcitabilities in the learning environment and social-emotional experiences. Participants will be able to see the extraordinary development and spark motivated by overexcitabilities. Educators, practitioners, and leaders will be encouraged to use their knowledge and greater understanding to more effectively engage gifted and talented children, adolescents, and individuals. By utilizing

gifted and talented individual's natural drive for curiosity, meaningful experiences, and development, opportunities open and developmental potential becomes limitless.

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## Workshop\_38

### Dialogue Instrument for Gifted Children/Adolescents and Coaches

**Mia Frumau<sup>1</sup>, Susan Mandemakers<sup>2</sup>, Marij Persons<sup>3</sup>, Anouke Bakx<sup>4</sup>**

<sup>1</sup>PPF Centrum; <sup>2</sup>SPOZ & RSV Breda; <sup>3</sup>Breinsteyn; <sup>4</sup>Radboud University & Fontys;

In this workshop, first a dialogue instrument for gifted children and adolescents is presented, including the backgrounds of the instrument, using theoretical underpinnings from positive psychology. Next, the participants can try out the instrument themselves. The instrument consists of a set of 220 dialogue cards. The aim of the instrument and a worksheet is gaining self-insights for children/adolescents by a structured way of dialoguing strengths and difficulties. It offers coaches support (in the way of dialogue cards) for dialogues in an inquiry-based way with gifted children and adolescents. This instrument reveals mutual insights: self-insights for the child/adolescent and it offers the coach insights into how the child/adolescent thinks and what really matters for the child/adolescent. Using this instrument and worksheet, children/adolescents feel heard and understood because it gives way to express themselves regarding issues that matter for them. The presenters of this workshop have backgrounds in science, education and health care. From these perspectives the participants will be interactively guided, supported and challenged to explore the instrument and worksheet. (The English dialogue instrument will be presented.)

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## Workshop\_39

### Unlocking potential: The Trellis and Bloom Model for 2e neurodiverse learners

**Claire Hughes<sup>1</sup>, Debra Troxclair<sup>2</sup>, Wendy Behrens<sup>3</sup>**

<sup>1</sup>Cleveland State University; <sup>2</sup>Lamar University; <sup>3</sup>Minnesota Department of Education

The Trellis and Bloom model is an innovative instructional framework that bridges the gap between gifted education strategies and special education support. It is specifically designed to cater to the unique needs of twice-exceptional (2e) neurodiverse learners. In this session, we will delve into the theoretical foundations and practical implications of this model, which combines the enrichment and extension of student strengths from gifted education with the support and accommodation of learning challenges from special education.

An interactive component of this session involves the hands-on analysis of AI-generated lesson plans, using the Trellis and Bloom model template as an analytical tool. Participants will work in small groups to modify and adapt these lesson plans, with a specific focus on how they can simultaneously extend and support the multifaceted learning needs of 2e students. Additionally, attendees will have access to sample lesson plans tailored explicitly for 2e neurodiverse learners and the opportunity to join a learning

community for ongoing support in implementing the framework. These resources serve as practical examples of applying the Trellis and Bloom framework, providing valuable insights for adaptation and implementation in various educational settings.

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## Workshop\_40

### **Exploratory study on the affective educational narratives of profoundly gifted autistic families and children**

**Lin Lim<sup>2</sup>, Gary Saunders<sup>2</sup>, Katerina Tsomi<sup>1</sup>**

<sup>1</sup>Bridges Graduate School (BGS) of Cognitive Diversity in Education, United States of America; <sup>2</sup>Quark Collaboration Institute Inc

The authors will present the findings of a qualitative exploratory study that involved North American affective educational narratives of seven parents of sons, five parents of daughters, and two profoundly gifted autistic (PGA) teens. Authors use developmental dynamic systems theoretical (Fischer & Bidell, 2006; Smith & Thelen, 1994: 2003) and positive psychology approaches (Seligman, 2018). Qualitative coding revealed the following broad themes around - Identity, Personal Views, and Educational Interactions. Educational Interactions were further coded into two sub-themes - contextual and relational. The codes were then further analyzed and classified into positive, neutral, or negative affective tones. The overall affective tone of parents were findings reviewed affective differences between self-reported perceptions and experiences of teens and parents of sons and daughters. Parents of sons reported the most extreme affect (negative or positive), while teens reported the most negative affect (neutral and negative), and parents of daughters reported the most positive affect (neutral to positive). Variations in different sub-themes are discussed and reflected on connections with findings from existing research in gifted and autistic populations. Practical suggestions are presented for parents, practitioners, and schools to consider to support the social-emotional academic needs of PGA families.

## Saturday 31 August 2024

9:00am - 10:30am

### Oral Presentations\_26

#### Trying to be identified as gifted adult in Greece

**Vasiliki Nikolopoulou<sup>1</sup>, Aikaterini Gari<sup>1</sup>, Christos Apostolidis<sup>2</sup>**

<sup>1</sup>National and Kapodistrian University of Athens. Greece, Greece; <sup>2</sup>Chairman Mensa Greece

This study is part of a research on adults with high ability/giftedness developed by an international team of researchers led by the Faculty of Educational Sciences at UDE, in Montevideo, Uruguay entitled PHOENIX. The study seeks to obtain data related to the identification process and how adults experienced it, as well as to understand the attitudes and feelings of adults with high ability/giftedness/talent- self-identified, identified by others, formally identified or in process of identification from 23 different countries. The Greek sample consisted of 83 adults, 73.5% of them are men and 25.3% are women from 36 to 50 years old. The e-questionnaire, entitled “And When I Grew Up?”, included a set of demographic questions and also asked them about the identification process and their personality characteristics with close and open questions. The great majority ( $n=53$ ) was identified through the MENSA-Greece IQ test, with IQ=130 or greater. The results are discussed in relation to the needs of the Greek school/family system and the interventions should be done in order to promote identification, and acceptance for giftedness.

#### A needs-based model for supporting gifted learners. Estonian experience.

**Viire Sepp<sup>1,2</sup>, Halliki Põlda<sup>3</sup>, Eda Heinla<sup>3</sup>**

<sup>1</sup>Estonian Talent Centre NGO; <sup>2</sup>University of Tartu; <sup>3</sup>Tallinn University

Both Estonian and international studies show that formal education addresses only a part of SEN students where the gifted ones are left behind due to a lack of resources. (Põlda, 2018). A systematic model for talent identification and support in Estonia has not been created before (Järvik, 2022; Serbak, 2019).

The need to support talented learners is currently formulated in the Education Strategy 2035 “to develop a comprehensive talent policy for keeping talent in Estonia, attract new talents, integrate them into our society”. The research aimed to define the terms ‘giftedness’ and ‘gifted learner’ and to develop recommendations on how to use those terms in the context of Estonian educational law.

Therefore, both developmental theories of giftedness (i.e. Gagné, 2004; Ziegler 2009 et al.) and international practices were studied to define the concepts. Additionally, a

qualitative Delphi method (Adler & Ziglio, 2002) was applied in workshops 2022/23 with Estonian experts working with gifted learners on different levels and types of education (n=60).

As a result of the research, we are presenting definitions of giftedness and gifted learner and describe a needs-based model of supporting giftedness in the Estonian education system on three levels: general, enhanced, and special support.

### **Identifying supports for gifted students from low-income households in Dublin, Ireland**

**Leeanne Hinch<sup>1</sup>, Jonathan Plucker<sup>2</sup>**

<sup>1</sup>Dublin City University, Ireland; <sup>2</sup>Johns Hopkins University

Currently there are no standardised provisions for gifted students in the Irish education system (O'Reilly, 2018). Teachers shoulder the burden of differentiating without adequate support if they wish to try to support these students in their classes. Often students' families must seek out alternative educational opportunities for their child to ensure they are adequately challenged, which not every family is capable of doing, particularly those from socio-economically disadvantaged backgrounds. Research has shown that gifted disadvantaged students need different kinds of support than their peers (Plucker & Peters, 2016). A number of studies have examined cognitive, emotional, and social supports for students (VanTassel-Baska et al., 2009) as well as psychological, academic, and environmental supports (Ayoub, Alabbasi & Plucker, 2021). The Centre for Talented Youth, Ireland (CTYI) provides enrichment classes for approximately six thousand gifted students across Ireland each year, including specific programmes targeting disadvantaged students. Over 120 of these students aged 10-12 years old and their parents have been surveyed to determine what supports for these students currently exist, and what they believe needs to exist so that these children can fulfil their potential. Recommendations will be suggested for what accommodations can be made for children in similar situations.

### **Pursuing equity & excellence: An update on excellence gap intervention research**

**Jonathan Plucker<sup>1</sup>, Melanie Meyer<sup>2</sup>, Ashley Shen<sup>3</sup>**

<sup>1</sup>Johns Hopkins University, United States of America; <sup>2</sup>Baylor University, United States of America; <sup>3</sup>University of North Texas, United States of America

The Excellence Gap Intervention Model (EGIM) is a set of research-based strategies for reducing differences between student subgroups at advanced levels of performance and improving equity in advanced academics. The seven facets of the EGIM (accountability system support, teacher professional learning, frontloading, expanded opportunities, universal screening with local norms, flexible ability grouping, psychosocial interventions) provide a road map for school leaders who are committed to pursuing equity and excellence for their students.

In this session, we will share the latest research on the EGIM and present research-based strategies that educational leaders can use to address excellence gaps, including: instructional strategies that reflect the understanding that talent and ability are dynamic and can be supported in strengths-based learning environments; teaching pedagogy

anchored by challenging, but supported, learning experiences; data gathering techniques to evaluate student progress and adjust the learning environment to meet current academic needs. It is critical for schools to identify and address systematic differences in students' opportunities to learn. Educators are a critical influence on efforts to increase equity and excellence, and this session will equip them to put research into practice.

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## Oral Presentations\_27

### What are pre-service mathematics teachers' preferences for differentiation strategies for gifted students?

**Seyma Sengil Akar<sup>1</sup>, Savas Akgül<sup>2</sup>, Gülşah Batdal Karaduman<sup>2</sup>**

<sup>1</sup>Kastamonu, Türkiye; <sup>2</sup>İstanbul Cerrahpasa, Türkiye

Gifted students have to attend formal education institutions. This obligation makes it important and necessary for them to be supported in the classrooms where they study. However, it is emphasized in the literature that students wait in the classroom and waste time because teachers cannot determine appropriate educational strategies for gifted students. One of the strategies is subject-based differentiation based on the learning needs of gifted students. However, it is the teacher who will make this differentiation and the literature reveals that teachers do not have this competence, knowledge and skills in many aspects. Moreover, it is also seen that teachers have difficulties in responding to the needs of different students due to lack of knowledge. This study was conducted with pre-service mathematics teachers who took the course on teaching mathematics to gifted students. Pre-service teachers are given different teaching strategies in the classroom. At the end of the course, pre-service teachers will be given an outcome and asked to develop an activity for this outcome and then differentiate this activity. The main objectives of this study are to analyze the differentiation strategies and educational strategies chosen by the pre-service teachers. The research is in the process of data collection.

### Teachers' Views on the Differentiation Process for Gifted Students

**Gulsah Batdal Karaduman<sup>1</sup>, Seyma Sengil Akar<sup>2</sup>, Savas Akgül<sup>3</sup>**

<sup>1</sup>İstanbul University-Cerrahpasa, Türkiye; <sup>2</sup>Kastamonu University, Türkiye; <sup>3</sup>İstanbul University-Cerrahpasa, Türkiye

The differentiated programs provide teaching, learning, and assessment for learning experiences that address the diversity of students so that all students can learn effectively. There are many principles, models, methods, strategies, and approaches on how education should be differentiated by taking into account the cognitive and emotional characteristics of gifted students. 10 teachers, who were also graduate students and working in different schools in Istanbul, participated in this study. Teachers previously took the "differentiation for gifted students" course for a semester. Within the scope of this course, teachers have created differentiated lesson plans on different mathematics subjects for their gifted students. They implemented these lesson plans in their mathematics classes. Interviews were held with the teachers after these practices. They



were asked open-ended questions about this process. Their answers were evaluated using the content analysis method. Teachers stated that they enjoyed preparing and implementing differentiation activities. They emphasized that students became more effective learners in this process. They said that they would benefit from differentiation strategies for different courses. The findings of the study were discussed using different research. Differentiation strategies that educators can apply in their schools will be introduced and suggestions will be made for their effective implementation.

### **Enhancing gifted student experiences in Greek schools through in-service teacher professional development**

**Haido Samaras, Eleni Hatzimavroudi, Thodoris Andriopoulos**

Anatolia College, Greece

In Greece, the support for gifted students relies largely on teacher awareness rather than formalized policies, given the lack of established methods for identification and specialized educational provisions. While enrichment opportunities like summer camps and subject-specific competitions are available, their accessibility varies (Riga & Malafantis, 2023). Differentiated learning, initiated by the ministry of education, is mostly restricted to class-level strategies and often deemed challenging and time-consuming to implement by teachers (Tomlinson, 2003; Papadakis & Ziskos, 2015; Sakellariou, Mitsi & Konsolas, 2019). The Center for Talented Youth (CTY) Greece has initiated collaboration with state school counselors and successfully trained over 2000 teachers through workshops in Greece and Cyprus. Nevertheless, there is an urgent requirement for more structured teacher training that aligns with national educational strategies to enhance the identification and support of gifted students. CTY Greece aims to broaden its reach and assess the workshops' effectiveness in altering teacher perspectives towards supporting gifted students within mainstream classrooms.

### **The do's and dont's: gifted and teacher-friendly considerations**

**Rima Jay Prakash**

CETAPS, Portugal

How can teachers be supported? What are the do's and dont's in a classroom setting? What is the gap between research-based best practices in gifted education and what is actually happening within the four walls of a classroom? This presentation shares some of the key results from a doctoral thesis which aimed to understand how secondary teachers of English as a Foreign Language in Portugal differentiate instructional practice to accommodate their gifted learners. Data collected comprised of self-reported strategies obtained via a questionnaire from 110 schoolteachers of English, as well as 26 classroom observations. Based on the sample of teachers of EFL that participated in this study, little or no evidence of differentiation that caters for the gifted was encountered. Furthermore, the data collected shed light on counterproductive practices taking place and foregrounded the misconceptions that teachers harboured. To help lessen the achievement gap between what is currently happening within classrooms and what needs to happen, a comprehensive synthesis will be presented based on a framework promoting advanced content, varying processes and products and grouping strategies.

Special emphasis will be placed on providing strategies that are not only gifted-friendly but teacher-friendly too.

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## Symposium\_08

### **Impact of activities in gifted education (image): a nation-wide research project in the Netherlands**

*Chair(s):* **Marjolijn van Weerdenburg** (Radboud University - BSI - The Netherlands)

*Discussant(s):* **Karine Verschueren** (KU Leuven, Belgium)

According to the law on tailored education in the Netherlands, regional partnerships of school boards need to ensure appropriate education for gifted students. They have the legal task to provide a range of specific facilities. Large differences exist in the ways they have organized this and educational adaptations for gifted students are not yet optimal in the Netherlands. To improve tailored education for gifted students, 95% of the partnerships in the Netherlands received funding from the Ministry of Education to develop, expand or strengthen their activities.

The goal of the project 'Impact of Activities in Gifted Education' (IMAGE) is to enhance knowledge about improving education for gifted students by measuring the impact of these activities. Research questions concern I) working mechanisms of activities, II) conditions under which these mechanisms work, and III) the extent to which activities have a positive effect on outcome variables such as enhancing knowledge, expertise and collaboration. IMAGE is executed by a large consortium of researchers. It encompasses five large longitudinal studies. During this symposium the latest results from several of these studies are presented.

#### *Presentations of the Symposium*

### **Characteristics and conditions of successful professionalization regarding gifted education: Teachers' perceptions**

**Anouke Bakx<sup>1</sup>, Isabelle Diepstraten<sup>1</sup>, Joyce Gubbels<sup>2</sup>, Marjolijn van<sup>3</sup>**

<sup>1</sup>Fontys University of Applied Sciences, The Netherlands, <sup>2</sup>Dutch Center for Language Education Nijmegen, The Netherlands, <sup>3</sup>Radboud Universiteit - BSI - The Netherlands

Teachers strongly affect student outcomes and wellbeing. Especially for teaching gifted students, improving teacher quality by professionalization could mean a lot, since many teachers feel insecure in this area. The study aimed at gaining insights into what teachers considered the most important characteristics and underlying (school and individual) conditions of successful professional development activities. 28 teachers were interviewed (14 primary education, 14 secondary education). In the context of gifted students, similar outcomes were found as those in literature on professional development. However, our study provided more in-depth information to accompany the various conclusions and provided possible explanations for conflicting results in the literature. According to teachers, each characteristic or condition of professionalization interacts, and therefore changes with a particular context. Characteristics and conditions

work out differently for participation versus impact. Providing knowledge, combined with practical applications, was mentioned most often as a characteristic of excellent professionalization. School conditions for successful professionalization were a shared vision, incorporation of giftedness in school policy, an open school culture and a facilitating role of management. Shortages (time/money/support) and a culture of resistance to change inhibited professionalization. Individual conditions (intrinsic motivation, voluntarism) were reported most as incentives for professionalization. Implications for practice are presented.

### **Parents in gifted education: Their perception of interacting with and involvement of school leaders, teachers and other parents**

**Jessica Vergeer<sup>1</sup>, Anouke Bakx<sup>2</sup>, Marjolijn Weerdenburg<sup>1</sup>**

<sup>1</sup>Radboud Universiteit - BSI - The Netherlands, <sup>2</sup>Fontys University of Applied Sciences, The Netherlands

Parents play a crucial role in the (educational) environment of students. Their interactions and collaborations with various actors have a significant impact on the educational success of their gifted child. Until now, few studies have focused on the working mechanisms and underlying conditions of interactions and involvement among actors involved in education. This study focused on the parental perspective on these factors. 24 parents of gifted students (11 from primary, and 13 from secondary school) were interviewed to gain insights into their perspective on these factors (interaction and involvement). Regarding interaction, the approachability, willingness, and open communication of interaction partners were deemed as strengths, whereas a lack of these qualities were considered as barriers in effective interaction. Focusing on involvement, the willingness of the involved actor was perceived as crucial, along with several student-related factors impacting the involvement of teachers and school leaders, as well as the opportunity to collaborate with other parents. Barriers to involvement included the approachability of other parents, teachers' lack of knowledge, and policy-related issues with school leaders. These findings offer an initial insight into the underlying mechanisms and conditions essential for enhancing interactions and involvement among various actors in gifted education.

### **Improving tailored education for gifted students in the Netherlands: Insights from screening procedures, effective collaboration and networks**

**Marjolijn Weerdenburg**

Radboud Universiteit - BSI - The Netherlands

Since 2019, a vast majority of Dutch schools in primary and secondary education received funding to improve tailored education for gifted students. This has led to an increase in activities with the aim to expand or strengthen existing gifted programs, to set up innovative programs, to develop screening procedures and to improve collaboration among schools. Several longitudinal IMAGE studies (with two or three measurements in a period of 3 years) investigate the impact of these activities. Data from the first measurements revealed insights to improve gifted education. First, we found characteristics of students education that predicted chances of assignment to pull-out classes in primary and secondary. We also found bias in screening procedures indicating

a risk for inequity in these situations. Second, results revealed characteristics of effective collaboration among partners in the system around gifted students with complex educational needs (such as twice-exceptional students and drop-outs). With these results we have developed a model that is helpful for teachers, care takers, parents and policy makers. Finally, results revealed a large variance in characteristics of networks in gifted education. Some of these networks showed effective collaboration among all partners (e.g., teachers, care takers, parents and policy makers) and will be presented.

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## Workshop\_41

### **Flexible school trajectories for high ability learners at risk of falling ill and/or dropping out**

#### **Debbie Mannaerts**

Koninklijk Lyceum Antwerpen, Belgium

In Flanders exemplary schools joined forces to share good practices for gifted learners, in collaboration with universities. Setting up flexible trajectories for high ability or twice/multi-exceptional learners based on their needs can be very challenging, as well as reconciling the needs of all involved in a school setting. This is especially true when their wellbeing is diminished and they are at risk of dropping out. Mentors and school counsellors can play a crucial role in getting everyone on board to tune in to the psychological needs of students to experience autonomy, competence and connection to others. Goals of trajectories are to enhance school engagement, motivation and wellbeing of the student. We chose a contextual and systemic approach and integrated knowledge of the self-determination theory (Ryan en Deci, 1985) and the motivational pathways underlying gifted underachievement (Snyder and Linnenbrink-Garcia, 2013) to help practitioners choose interventions. In this workshop we will present our framework and share experiences. Cases will be interactively explored and challenges and hurdles discussed. Focus is on how to tune in to individual students' needs and keep a workable structure at the same time. And reflect on how to reconcile this with applicable regulations in your own work setting.

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## Workshop\_42

### **Overexcitabilities and Developmental Dynamisms: Identifying and realizing potential and the dynamics of development in motion**

#### **Vanessa Reineke Wood, Els De Wit**

The International Gifted Consortium (IGC), Research Center for Highly-Profoundly Gifted, United States of America

In this session, we will dive deeper into overexcitabilities, higher-level overexcitabilities, and developmental dynamisms. In a recent mixed-methods study, the prevalence of emotional, intellectual, imaginal, psychomotor, and sensual overexcitabilities were examined in children ages 4-13 years who were previously identified as highly or

profoundly gifted via a Wechsler Intelligence Scale for Children (WISC) score of 140+. We will explore higher-level overexcitabilities and developmental dynamisms as an integral part of Dabrowski's human development theory, levels of development, and developmental potential. We will consider past studies of giftedness and overexcitabilities and the most recent research findings from the study of 88 highly-profoundly gifted children and adolescents from the U.S.A. and Belgium. Participants will know how to recognize overexcitabilities and the complexities of higher-level overexcitabilities leading to the formation of developmental dynamisms. Through this dynamic journey of human development and expanding horizons, and challenges, we will walk away with an advanced understanding of the five forms of overexcitabilities, holistic development, and extraordinary developmental potential. This workshop will inspire educators, practitioners, and leaders to see, embrace, and journey the magnificent "Ithaca" of passion, curiosity, imagination, and the mind-body connection in the gifted and talented individuals they live, work, and play with.

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## Workshops\_43 & \_44

### **Cultivate critical thinking in AI: AI pedagogy for gifted learners**

**Claire E. Hughes, Rebecca Odom-Bartel**

Cleveland State University, United States of America

Educators will explore an innovative pedagogical model that integrates AI technologies into gifted education to create more enriched and responsive learning experiences. The session provides a deep dive into Project CULTIVATE's AI Pedagogical Model, underpinned by connectivist learning principles and leveraging Large Language Models to increase communication and critical thinking.

We'll begin by dissecting the AI Pedagogical Model, illuminating its structure and how it focuses on the cultivation of higher-order thinking skills in structuring, seeking, selecting, integrating, and implementing results from AI to create effective communications. Through practical examples and interactive discussions, we will demonstrate how AI can be a powerful tool in enhancing critical thinking and creativity in the classroom.

Acknowledging the increasing importance of ethical considerations in AI usage, the pedagogical model will also help teachers to guide students in understanding the responsibilities and societal impacts of AI technology. This includes fostering digital citizenship and ethical awareness among the next generation.

The session provides a blend of theoretical insights, practical strategies, and interactive learning through a curriculum lens. It will conclude with a dedicated Q&A segment, allowing for the exchange of ideas and addressing specific concerns.

### **Processing speed in gifted children as measured by the WISC V: it's just wrong**

**Paul Beljan, Justin Gardner**

Beljan Psychological Services, United States of America

This presentation will discuss why the Wechsler Intelligence Scale for Children – Fifth Edition (WISC V) should not be considered in assessing gifted intellect. Processing

speed in humans occurs in hundredths of thousandths of milliseconds. In fact, a magnetoencephalogram is used to measure the speed of neuronal communication, but the WISC V uses a stopwatch. This presentation is based on the presenter's research article: Processing Speed in Gifted Children: A Clinical Neuropsychological Perspective, which is set for publication in the January 2024 Special Issue of the Roeper Review. The research shows that the WISC V Processing Speed Index (PSI) as measured by the WISC V yields lower scores in gifted children compared with their neurotypical counterparts. This presentation will explain why gifted children score lower on the PSI. The attendees will learn a proper method for assessing processing speed in gifted children. The objective of this lecture is to further reduce possible misdiagnosis in the population.

**11:00am - 12:30am**

## Keynote Lecture\_05

### **Self-regulated learning and motivation in academically talented learners: The case of academic help-seeking**

#### **Eleftheria-Sofia Gonida**

Aristotle University of Thessaloniki, Greece

Self-regulated learning is an active, multifaceted process involving cognitive, metacognitive, motivational, affective and behavioural aspects, all of which interact to achieve a learning goal. Motivation is a critical component in initiating and sustaining self-regulated learning in the face of academic challenges. Do learners identified as academically talented have stronger motivational profiles, and are they more successful self-regulated learners? Theory and research on self-regulated learning and motivation are presented, with an emphasis on academic help-seeking as an important self-regulatory strategy associated with adaptive motivation that can alleviate the challenges academically talented students face.