## UNDERSTANDING AND SUPPORTING TWICE-EXCEPTIONAL STUDENTS: THE ROLE OF EDUCATIONAL PROFESSIONALS IN PROMOTING INCLUSIVE PRACTICES

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In the following chapter, the discussion centres on twiceexceptional students, who are recognized for their unique combination of gifted abilities and special educational needs The research conducted for this study focuses on the prevalence of misconceptions among education professionals and the challenges they face in identifying and working with this group of students. The findings reveal a significant level of awareness among professionals about the complexity of giftedness and special educational needs while pointing out certain misconceptions. Additionally, the overall results collectively point to a strong awareness of the challenges related to twice-exceptionality, highlighting the critical need to address particular deficits and provide individualized support. The diversity of responses by the research participants indicates varying perspectives on how these challenges manifest and how they should be addressed. Moreover, the results indicate that educators familiar with the concept of twice-exceptionality are better equipped to identify the unique needs of twice-exceptional students and are less prone to misconceptions. Finally, the chapter highlights the critical role of further education and training for professionals to improve inclusivity and the success of twice-exceptional students.

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#### 1 Introduction

The concept of inclusion embodies the potential to cultivate a society that not only appreciates diversity but also seeks to create circumstances that allow each person to enjoy dignity and engage fully in society (Kiswarday, 2014). However, despite the widespread adoption of the inclusive paradigm, we still live in a society that fails to fully understand the needs of gifted students and students with special educational needs (Kircher-Morris, 2022). Consequently, this lack of understanding makes it particularly challenging to address the requirements of students who fall into both of these categories.

In literature dealing with the subject, students embodying both, giftedness and being subject to special educational needs, are often referred to as twice-exceptional students (Lee & Ritchotte, 2019; Ronksley-Pavia, 2015; Trail, 2022). Due to their atypical functioning in school environments, they frequently remain unnoticed, undiagnosed, or misdiagnosed (Ančimer Aljaž & Juriševič, 2018; Anderšek-Lep, 2012; 2015; Behrić, 2021; Klingner, 2022; Magajna, 2010; Ozbič & Kogovšek, 2012; Satler, 2016; Trail, 2022), despite the fact that they require significant support (King, 2022). The limited understanding of their situation and life experiences hinders educational professionals and policymakers from addressing their unique needs effectively (Ronksley-Pavia et al., 2019). The contrasts between their strengths and weaknesses lead to conflicts that affect not only the students but also their parents and teachers, thereby making the school experience exceedingly frustrating (Košak Babuder & Kavkler, 2014). Additionally, the extremes of their abilities and specific educational needs can lead to academic, social, and emotional conflicts (Trail, 2022). This is precisely why our research is focused on exploring this phenomenon.

#### 1.1 Definition of Twice-Exceptional Students

Defining the concept of twice-exceptional students is a challenging task due to the diversity of definitions for both gifted students and students with special educational needs (Juriševič, 2012; Ronksley-Pavia, 2015).

The first scholar in Slovenia to write about twice-exceptional students was Magajna (2007), who initially used the term to describe gifted children with specific learning difficulties. She emphasized that these students are a heterogeneous group encompassing various types of giftedness and specific deficits (Magajna, 2010). In her later works, she expanded the term to include gifted children with challenges in other areas, such as emotional or behavioural disorders, sensory impairments or physical disabilities (Magajna & Božič, 2012).

The phenomenon of twice-exceptionality has also been examined by other researchers in Slovenia. Božič (2015) defined twice-exceptional students as gifted individuals with specific learning difficulties. In a broader interpretation, Andrenšek-Lep (2012, 2015) did not only include gifted students with learning difficulties or deficits in specific learning areas but also all children with special educational needs. Furthermore, she argued that a formal diagnosis is not necessarily required, as this group also includes students who are gifted but, for various reasons, struggle to succeed in school (e.g., students from underprivileged backgrounds, low-income families, dysfunctional families, or those with learning challenges that do not meet the criteria for specific deficits but still require classroom adaptations and tailored assessment strategies) (Andrenšek-Lep, 2014).

Satler (2016) described twice-exceptional students as a distinct group of children and adolescents who are simultaneously gifted and face challenges in academic or functional areas. Similarly, Ozbič and Kogovšek (2012) noted that gifted students with special needs form a unique group that cannot simply be seen as a combination of giftedness and learning difficulties but rather as a complex interplay of both.

In Slovenian practice, the terms twice-exceptional, twice-gifted, and multiexceptional students are used interchangeably (Juriševič, 2012). The term generally refers either to gifted students with special educational needs or to gifted students with specific learning difficulties, particularly those with more severe forms of learning disorders known as deficits in specific learning areas (Ančimer Aljaž & Juriševič, 2018). One of the primary obstacles faced in the global examination of twice-exceptional students is the absence of a universally accepted definition. Ronksley-Pavia (2015) noted that ambiguous definitions are a hallmark of the concept of twice-exceptionality.

Some authors classify only gifted students with learning difficulties as twiceexceptional (Buica-Belciu & Popovici, 2014; Silverman, 2009; Yenioğlu et al., 2022). In contrast, other experts argue that these students represent merely a subgroup within the broader category of twice-exceptionalism (Bell et al., 2015).

Furthermore, Brody and Mills (1997) argue that twice-exceptional students possess the potential for high achievement but also have characteristics of students with deficits and disorders, which create significant learning challenges. Similarly, Jackson Gilman and colleagues (2013) define them in comparable terms.

The Colorado Department of Education (2017) defines twice-exceptional students as individuals recognized as gifted in one or more areas while also being students with special educational needs requiring adaptations and support. This definition aligns with the predominant usage of the term in international literature, where twice-exceptional students are most commonly described as gifted students with special educational needs (Assouline et al., 2010; Assouline & Whiteman, 2011; Foley-Nicpon & Teriba, 2022; Foley-Nicpon et al., 2013; Kelvington et al., 2022; Ronksley-Pavia, 2015).

# 1.2 Identification of Twice-Exceptional Students and Working with Them

By the late 1980s, researchers began to acknowledge that twice-exceptional children possess both giftedness and deficits, indicating a need for focused attention and appropriate accommodations in their educational work to effectively address both aspects (Kiswarday, 2017). Their behaviour is often contradictory and at odds with prevailing stereotypes. Additionally, they may develop compensatory strategies that mask their difficulties. Consequently, identifying this specific group of students requires a thorough understanding of the characteristics associated with gifted students, as well as the effects that various deficits may have on their academic performance. Understanding the complex interactive influences, which often hinder

the recognition of exceptional potential or specific deficits, is key. These factors collectively lead to the fact that twice-exceptional students are often not identified, thus not receiving the necessary encouragement and support. (Klingner, 2022; Magajna, 2010; Magajna & Božič, 2012; Nagiy, 2012; Šuligoj, 2014; Trail, 2022).

As Reis et al. (2014) claim, the greatest challenge in identifying twice-exceptional students lies in the coexistence of giftedness and special educational needs. This combination results in unique individual characteristics that are not typically observed in groups consisting solely of gifted students or solely of students with special educational needs. This is echoed by other researchers who emphasize that identifying twice-exceptional students is challenging precisely because of the overlapping of their strengths and weaknesses, which creates a unique learning profile (Bell et al., 2015; Brody & Mills, 1997; Morrison & Rizza, 2007; Trail, 2022).

It is, therefore, clear that twice-exceptional students are a highly heterogeneous group of students with complex educational needs. In the process of identifying and diagnostically evaluating twice-exceptional students, a multidimensional approach is therefore important (Bildiren & Firat, 2020), which connects the student, family, teachers, and other professionals (Magajna & Božič, 2012). Identifying twice-exceptional students requires a comprehensive assessment of both, their giftedness and deficits, as one does not exclude the other. Thus, experts from both fields and those with knowledge of twice-exceptionality should be involved in the identification process (Klingner, 2022; Šuligoj, 2014).

For the successful integration of twice-exceptional students into everyday school practice, it is especially important to identify both exceptionalities early. This enables the prevention of academic failure, promotes the holistic development of the student, and prevents the development of social and emotional problems. The planning of an individual education plan should be multidisciplinary and include cognitive, academic, social, and emotional needs associated with both exceptionalities. Designing an appropriate learning environment requires a comprehensive assessment of strengths and weaknesses, which in turn demands personalized learning approaches and adaptations to the learning process. Equal attention should be given to both extremes: identifying and encouraging potential and strengths while also seeking appropriate ways to compensate for deficits that cause difficulties in various areas of learning. It is important to provide counselling

and measures to promote social relationships, emotional understanding, and acceptance of diversity (Kiswarday, 2017; Klingner, 2022; Trail, 2022). Furthermore, understanding learning and motivational patterns is essential. It is important to work with students to find their natural way of learning (Andrenšek-Lep, 2012). At the same time, it is necessary to maintain high expectations and adjust tasks so that they remain challenging and engaging (Kiswarday, 2017).

Educational professionals play an important role as advocates for students with twice-exceptionality, as the school environment can often be very stressful and frustrating for them (Kiswarday, 2017). The primary task of teachers is teaching, not diagnosing, but this is still a responsibility that falls within the scope of their demanding tasks if they wish for all their students to reach their full potential (Šuligoj, 2014).

This is why teachers should be equipped with appropriate competencies to support students with diverse abilities (Navarro et al., 2016). In addition, teachers should adapt, modify, or differentiate learning so that all students in the classroom can participate according to their abilities (Sharma & Nuttal, 2016).

However, only highly qualified professionals who continuously educate themselves in the fields of giftedness, special needs, and twice-exceptionality can provide such support to students. Teachers should understand what twice-exceptionality means and how to adapt teaching content, goals, assessment, and other elements of the educational process to ensure that this group of students can succeed.

Unfortunately, research shows that teachers often lack sufficient professional training to effectively identify and address the needs of twice-exceptional students (Ančimer Aljaž & Juriševič, 2018; Ozbič & Kogovšek, 2012). Therefore, the research investigates misconceptions about gifted students with special educational needs and the challenges educational professionals face when working with this unique population.

#### 2 Methods

#### 2.1 Research Questions

The research addresses the lack of comprehensive understanding and awareness among educational professionals regarding the complexities of twice-exceptional students – those who are both gifted and have special educational needs. While educational professionals play a critical role in identifying, supporting, and fostering the development of these students, misconceptions and inadequate knowledge can hinder effective intervention and equitable support.

We posed two central research questions:

- 1. What misconceptions about gifted students and students with special educational needs are prevalent among educational professionals?
- 2. How do educational professionals perceive the challenges they may face when working with gifted students and students with special educational needs?

For both research questions, we are particularly interested in whether there are differences between professionals familiar with the term "twice-exceptional students" and those who are not.

#### 2.2 Sample

The research is based on a non-probability convenience sample of 312 educational professionals from primary schools across Slovenia.

The sample included a diverse group of educational professionals. About a third of the participants (37.5%) were subject teachers, followed by nearly a quarter of elementary school teachers (24.0%). Approximately a fifth of the respondents were teachers providing additional professional support (20.2%). School counsellors accounted for 14.4%, while teachers working in the morning/after-school care and extended programmes represented the smallest group, at merely 3.8%.

The participants demonstrated a diverse range of professional experience in education. Nearly a third (29.5%) had between 19 and 31 years of experience, followed closely by those with 7 to 18 years (28.5%). Professionals with 32 to 40 years of experience accounted for 15.4%, while those with up to 3 years represented 13.1%. A slightly smaller group had 4 to 6 years of experience (12.2%). The smallest group comprised those with over 40 years of experience, making up merely 1.3%.

Participants held various professional titles, reflecting their career progression and expertise. Just under two-fifths of respondents (37.5%) held the title of advisor. A little over a fifth (22.1%) did not hold a professional title, followed closely by those with the title of mentor (21.8%). The highest designation, counsellor, was held by slightly less than a fifth of respondents (18.6%).

Participants were also asked whether they had attended training related to special educational needs or gifted students in the past five years. About two-fifths (39.1%) reported attending training focused on special educational needs, while a quarter (26.0%) had participated in training that addressed both special educational needs and gifted students. A much smaller proportion (5.4%) had attended training exclusively on gifted students. Nearly a third (29.5%) had not participated in such training.

An important question for our research was whether participants were familiar with the term "twice-exceptional students." Just over half of the respondents (52.2%) indicated familiarity with the term, while slightly less than half (47.8%) reported that they were not. This fairly equal distribution highlights a concerning issue: many educational professionals work with twice-exceptional students but are unfamiliar with the terminology defining this unique group. Consequently, this lack of awareness may hinder their ability to understand and fully address these students' specific needs.

#### 2.3 Measurement Instruments

This study utilized a questionnaire designed specifically to meet its objectives, incorporating relevant insights derived from existing literature. The initial part of the questionnaire included demographic questions, followed by several thematic sections, with two particularly relevant for this research. The first section explored

misconceptions surrounding gifted students and students with special educational needs, while the second addressed the challenges professionals face in working with these groups. Participants rated their responses using a scale ranging from 1 (not agree at all) to 5 (completely agree).

### 2.4 Data Collection Procedure

The data for the research were collected using an online questionnaire. Educational professionals completed the questionnaire in April 2022. The link to the questionnaire was sent to the management staff of primary schools. The email addresses were obtained from primary school websites.

#### 2.5 Statistical Analysis

The collected data were processed and analysed using the SPSS software. The analysis was conducted using descriptive and inferential statistics. Initially, descriptive statistical methods were applied. Before further analysis, the Kolmogorov-Smirnov test was performed, revealing that the variables deviated from a normal distribution, as statistically significant differences were observed in all cases (p < .05). Consequently, the non-parametric Mann-Whitney test was used to compare two independent samples.

#### 3 Results

### 3.1 Misconceptions About Gifted Students and Students with Special Educational Needs

We examined whether educational professionals in primary schools have misconceptions about gifted students and students with special educational needs. Specifically, we investigated teachers' agreement with the following statements on a scale from 1 (not agree at all) to 5 (completely agree):

- A student cannot be identified as both a student with special educational needs and gifted simultaneously.

- A gifted student with special educational needs does not require special attention and care, as they can compensate for learning and thinking deficits with their giftedness.
- A student identified as gifted excels in all academic areas.
- Poor academic performance of a gifted student is mostly a reflection of their lack of effort and poor study habits.
- A gifted student with deficits in reading, writing, or mathematics can overcome these difficulties independently due to their giftedness.
- A gifted student encounters challenges only in the domains of behaviour and emotions.
- Addressing deficits should take precedence over developing strengths and potential.

The descriptive statistics highlight prevailing attitudes towards misconceptions about gifted students and students with special educational needs. Across the seven statements, the means predominantly fall below the scale's midpoint ( $M \leq 3.00$ ), indicating a general tendency among respondents to disagree with these misconceptions.

The statement suggesting that more time should be dedicated to addressing deficits than developing strengths has the highest mean (M = 2.50, SD = .96), indicating it is perceived with less disagreement than other misconceptions. Similarly, the idea that poor academic performance of a gifted student reflects a lack of effort and poor study habits (M = 2.31, SD = 1.05) is rated higher than most other statements.

Statements regarding self-compensation for learning deficits (M = 1.88, SD = .78) and the presumption of universal academic excellence among gifted students (M = 1.64, SD = .74) were met with stronger disagreement, reflecting an understanding that giftedness does not inherently resolve specific challenges or guarantee success in all academic domains.

The lowest mean scores are associated with misconceptions that a gifted student with special educational needs does not require special attention (M = 1.58, SD = .82), that difficulties of a gifted student are confined to behavioural and emotional domains (M = 1.52, SD = .66), and that dual identification of giftedness and special

educational needs is not possible (M = 1.47, SD = .82). These results demonstrate a consensus among respondents in rejecting these overly simplistic views. Overall, the findings underscore a high level of awareness regarding the complexities of giftedness and special educational needs.

Furthermore, the study aimed to explore the relationship between educational professionals' familiarity with 'twice-exceptional students' and their agreement with common misconceptions about gifted students with special educational needs. Educational professionals were divided into two groups: those familiar with the term and those not. The data was analysed using the Mann-Whitney U test to compare mean ranks between groups and determine if there is a difference in educational professionals' perspectives on these misconceptions based on their familiarity with the term.

Statistically significant differences were found in six out of seven statements between educational professionals familiar with and those unfamiliar with the term 'twice-exceptional students.' The following misconceptions showed significant differences:

- A student cannot be identified as both a student with special educational needs and gifted simultaneously: U = 8951.50, p < .001.</li>
- A gifted student with special educational needs does not require special attention and care, as they can compensate for learning and thinking deficits with their giftedness: U = 9047.50, p < .001.</li>
- A student identified as gifted excels in all academic areas: U = 10066.50, p
  = .004.
- Poor academic performance of a gifted student is mostly a reflection of their lack of effort and poor study habits: U = 8534.00, p < .001.</li>
- A gifted student encounters challenges only in the domains of behaviour and emotions: U = 8986.50, p < .001.
- Addressing deficits should take precedence over developing strengths and potential: U = 10237.00, p = .011.

Across these misconceptions, educational professionals familiar with the term were consistently more likely to reject misconceptions compared to those unfamiliar with the concept. For the remaining misconception, no statistically significant differences were observed:

- A gifted student with deficits in reading, writing, or mathematics can overcome these difficulties independently due to their giftedness: U = 11975.50, p = .818.

# 3.2 Challenges in Working with Gifted Students and Students with Special Educational Needs

We were also interested in understanding the challenges educational professionals face when working with gifted students and students with special educational needs. Educational professionals rated their level of agreement with the following statements on a scale from 1 (not agree at all) to 5 (completely agree):

- A student's strengths or potential may be overlooked due to their giftedness.
- A student's potential may be overlooked due to deficits or difficulties.
- Identifying giftedness in a student with special educational needs is challenging.
- A gifted student may experience difficulties with reading, writing, or mathematics.
- A gifted student with deficits, obstacles, or disorders, like a student with special educational needs, requires an individualized program, additional support, and appropriate accommodations.
- It is important to focus on addressing a student's deficits and difficulties, as this is the only way to strengthen their areas of potential.

The descriptive statistics reveal key insights into educational professionals' challenges when working with gifted students and students with special educational needs. Across the six statements, the mean scores range from agreement to neutrality, indicating varying levels of awareness and consensus about these challenges.

The statement emphasizing that a gifted student may experience difficulties in reading, writing, or mathematics has the highest mean (M = 4.39, SD = .79), reflecting agreement among respondents. Similarly, the recognition that gifted students with deficits, obstacles, or disorders require individualized programmes, additional support, and accommodations (M = 4.23, SD = .85) is also rated highly, demonstrating a widespread understanding of the need for tailored approaches to support twice-exceptional students.

Moderate levels of agreement are observed for the statement that a student's potential may be overlooked due to deficits (M = 3.71, SD = 1.22). Meanwhile, responses for the statement emphasizing the importance of addressing deficits to strengthen potential (M = 3.44, SD = 1.21) and the statement that a student's strengths or potential may be overlooked due to their giftedness (M = 3.37, SD = 1.26) hover closer to the neutral midpoint of the scale. These mean scores indicate mixed perspectives, with some professionals agreeing and others either neutral or disagreeing, highlighting variability in their views about these specific challenges.

The lowest mean score is associated with the statement that identifying giftedness in a student with special educational needs is challenging (M = 2.83, SD = 0.93). Although this score is below the neutral midpoint, it is closer to neutrality than disagreement.

Overall, the findings highlight a strong awareness among educational professionals regarding the challenges associated with twice-exceptionality, particularly the need to address specific deficits and provide individualized support. However, some response variability points to differing perspectives on how these challenges manifest and should be addressed.

Further, we explored the relationship between educational professionals' familiarity with the term 'twice-exceptional students' and their perspectives on challenges related to gifted students with special educational needs. The data was analysed using the Mann-Whitney U test to compare mean ranks between the groups and determine if there is a difference in educational professionals' perspectives on these challenges based on their familiarity with the term.

Statistically significant differences were found in three out of six challenges between educational professionals familiar with the term 'twice-exceptional students' and those unfamiliar. The following challenges showed significant differences:

- A student's strengths or potential may be overlooked due to their giftedness: U = 10260.50, p = .014.
- A gifted student may experience difficulties with reading, writing, or mathematics: U = 9491.00, p < .001.
- A gifted student with deficits, obstacles, or disorders, like a student with special educational needs, requires an individualized program, additional support, and appropriate accommodations: U = 9827.00, p = .002.

Across the statistically significant challenges, educational professionals familiar with the term 'twice-exceptional students' were consistently more likely to recognize the unique needs and challenges of this group of students compared to those unfamiliar.

For the remaining three challenges, no statistically significant differences were observed:

- A student's potential may be overlooked due to deficits or difficulties: U = 11060.00, p = .148.
- Identifying giftedness in a student with special educational needs is challenging: U = 11512.00, p = .404.
- It is important to focus on addressing a student's deficits and difficulties as the only way to strengthen their areas of potential: U = 11268.50, p = .258.

These findings emphasize the importance of professional development and training to raise awareness of twice-exceptionality among educational professionals, thereby improving their ability to provide effective and equitable support to this diverse population.

### 4 Discussion

The research findings address both central research questions and provide insight into the prevalence of misconceptions and perceptions of challenges in working with twice-exceptional students. Although Trail (2022) emphasizes that twice-exceptional students are often misunderstood and overlooked, our research reveals a positive shift towards greater awareness among educational professionals about the complexity of this phenomenon. The findings show that professionals demonstrate a high level of understanding of the coexistence of giftedness and special educational needs. However, the results also indicate that some misconceptions persist, albeit to a lesser extent. This is reflected in statements such as, "Addressing deficits should take precedence over developing strengths and potential" and "Poor academic performance of a gifted student is mostly a reflection of their lack of effort and poor study habits". These results suggest that while the understanding of twiceexceptionality among professionals is improving, certain misconceptions still exist, underscoring the need for further education and development.

Notably, statistically significant differences were found between professionals familiar with the concept of twice-exceptional students and those who are not in terms of rejecting misconceptions. Familiarity with this concept is associated with lower agreement with misconceptions, confirming that awareness is critical to developing effective pedagogical approaches. This highlights the need to strengthen educational programmes aimed at understanding twice-exceptional students.

The research also explored the challenges professionals face when working with gifted students with special educational needs. Overall, our findings emphasize a high level of awareness among professionals regarding the challenges associated with twice-exceptional students, particularly the need to address specific deficits (e.g., in reading, writing, and mathematics) and to provide individualized support. The high level of agreement with statements emphasizing the importance of tailored programmes and additional support for twice-exceptional students reflects a recognition of their unique needs. However, the diversity of responses indicates varying perspectives on how these challenges manifest and how they should be addressed.

There are statistically significant differences between professionals who are familiar with the concept of twice-exceptional students and those who are not. This finding suggests that well-informed professionals are better equipped to identify and address the unique needs and challenges of these students. Experts (Ančimer Aljaž & Juriševič, 2018; Klingner, 2022; Ronksley-Pavia et al., 2019; Trail, 2022) have

highlighted how a lack of knowledge about twice-exceptional students can lead to misdiagnoses and inadequate support.

The findings also suggest that embedding the concept of twice-exceptionality into teacher education curricula could significantly enhance future educational professionals' understanding of these students' needs. This would allow for earlier identification and more effective interventions that address both their strengths and their challenges.

In light of the research findings, we propose expanding professional development programmes for educational professionals in the areas of gifted students, students with special needs, and twice-exceptional students. Furthermore, fostering collaboration between experts in gifted education and special education could enhance shared knowledge and improve approaches to supporting twice-exceptional students. Only through such initiatives can professionals be better equipped to identify and appropriately address the needs of these students, contributing to a more equitable and inclusive educational environment for all learners.

#### 5 Conclusion

Recognition of twice-exceptional students and their characteristics is crucial for providing appropriate support and intervention. It is important to highlight that in Slovenia, twice-exceptional students are not mentioned in any official state documents (Ozbič & Kogovšek, 2012), which hinders the awareness of educational professionals and impacts the quality of work with gifted students with special educational needs. Although this gap was partially addressed with the Guidelines for Revising the Approach to Identifying and Educating Gifted Children and Students (2019), it remains evident that further awareness-raising and integration of the concept into daily pedagogical practice are essential to effectively support twice-exceptional students.

The contribution of our research lies in identifying the level of awareness among educational professionals regarding twice-exceptional students and emphasizing the importance of their recognition and adaptation of teaching approaches for this group of learners. Our findings underline the need to incorporate the topic of twiceexceptionality more extensively into educational programmes and professional development programmes. By doing so, we aim to encourage the development of more inclusive and tailored pedagogical practices that will enable the optimal development of the potential of twice-exceptional students.

Based on the findings, we can conclude that fostering equal opportunities and success for twice-exceptional students demands a systematic effort to raise awareness, deliver appropriate training and tailor pedagogical practices that reflect a comprehensive understanding of their unique needs.

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