

DUAL EXCEPTIONALITY: GIFTEDNESS AND DEAFNESS

DUPLA EXCEPCIONALIDADE: ALTAS HABILIDADES E SURDEZ

DOBLE EXCEPCIONALIDAD: ALTAS CAPACIDADES Y SORDERA



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ABSTRACT: Dual exceptionality (2E) manifests itself through giftedness and other associated typicities, which can be disabilities or disorders. The purpose of this paper is to present the results of a research study whose aim was to investigate and analyze the production of articles on dual exceptionality - high abilities or giftedness and deafblindness - in the Brazilian and international context over the last ten years by means of an integrative review. The databases listed were: Institut of Education Sciences (ERIC); Journals Oxford Academic; Oasisbr; Portal de Periódicos Capes (MEC); Science Direct (ELSEVIER); Scientific Electronic Library Online (SCIELO). The results showed a scarcity of articles on the subject, with only one (01) being found, according to the inclusion and exclusion criteria established in the research.

KEYWORDS: Special Education. Giftedness. Deafness.

RESUMO: *A dupla excepcionalidade (2E) se manifesta por meio de altas habilidades ou superdotação (AHSD) e outras tipicidades associadas, podendo ser deficiências ou transtorno. O presente artigo consiste em apresentar resultados de uma pesquisa, cujo objetivo foi averiguar e analisar as produções de artigos sobre dupla excepcionalidade - altas habilidades ou superdotação e surdez - no contexto brasileiro e internacional nos últimos dez anos, por meio de revisão integrativa. Os bancos de dados elencados foram: Institut of Education Sciences (ERIC); Journals Oxford Academic; Oasisbr; Portal de Periódicos Capes (MEC); Science Direct– ELSEVIER; Scientific Electronic Library Online (SCIELO). Os resultados apontaram escassez de artigos sobre o tema em tela, sendo encontrado somente um (01), de acordo com os critérios de inclusão e exclusão estabelecidos na pesquisa.*

PALAVRAS-CHAVE: *Educação Especial. Superdotação. Surdez.*

RESUMEN: *La doble excepcionalidad (2E) se manifiesta a través de las altas capacidades o superdotación (AHSD) y otras tipicidades asociadas, que pueden ser discapacidades o trastornos. El objetivo de este artículo es presentar los resultados de una investigación, cuyo propósito fue investigar y analizar la producción de artículos sobre la doble excepcionalidad - altas capacidades o superdotación y sordera - en el contexto brasileño e internacional en los últimos diez años, por medio de una revisión integradora. Las bases de datos listadas fueron: Institut of Education Sciences (ERIC); Journals Oxford Academic; Oasisbr; Portal de Periódicos Capes (MEC); Science Direct (ELSEVIER); Scientific Electronic Library Online (SCIELO). Los resultados mostraron escasez de artículos sobre el tema, encontrándose sólo uno (01), de acuerdo con los criterios de inclusión y exclusión establecidos en la investigación.*

PALABRAS CLAVE: *Enseñanza Especial. Superdotación. Sordera.*

Introduction

At various stages and levels of the educational system, we encounter students with diverse profiles, characterized by different age groups, gender, ethnicity, disciplinary knowledge, and plural cultures. Beyond these factors, the way education professionals interact with these individuals will be crucial in influencing their academic success, motivation, and whether they stay in school or drop out.

A significant portion of students who leave the educational system are those who fall under the target audience of Special Education (PAEE), including students with disabilities, global developmental disorders, and those with High Abilities or Giftedness⁴ (AHSD). According to Meletti and Ribeiro (2014), this dropout is mainly due to a lack of identification, inadequate support, and the absence of specialized professionals to address their educational needs. In the case of students with AHSD, their frustration with not being able to develop their potential also contributes to this issue.

Meletti and Ribeiro (2014), in their analysis of age-grade discrepancies in the enrollment of students within the Special Education target group, highlight the precariousness of retention due to the lack of access for this population in Brazilian basic education.

To ensure the inclusion of this group, it is often necessary to have a legal document (diagnosis) certifying their condition, so that they can receive support from a specialized professional. However, when it comes to students with AHSD, enrollment rates are very low, primarily due to the lack of identification of these students (FAPESP, 2023).

In Brazil, there is a noticeable lack of tools for identifying students with AHSD, which is detrimental because the failure to identify these individuals leads to problems such as low academic performance, posing not only academic risks but also social and emotional ones (Barbosa; Schelini; Almeida, 2012, p. 33, our translation).

The 2022 School Census, published by the Brazilian Institute of Geography and Statistics (IBGE, 2022), indicated a significant increase in the enrollment of these students compared to previous years. However, only 26,815 enrollments were recorded, which can be attributed to the lack of identification of this group, considering that Renzulli (2021) suggests that 10 to 15% of any population exhibits characteristics of AHSD.

⁴ A term used in the Law of Guidelines and Bases of National Education (Brasil, 1996).

In general terms, the identification of students with High Abilities and Giftedness (AHSD) remains very limited within the educational system, primarily focusing on academic disciplines while neglecting other areas, such as those mentioned in the Theory of Multiple Intelligences: spatial, bodily-kinesthetic, musical, linguistic, logical-mathematical, interpersonal, intrapersonal, and naturalist (Gardner, 1994; 1999). This weakness hinders educators' ability to provide the attention guaranteed to Special Education students (Martins; Chacon, 2022).

Gallagher (1994) brings an important reflection to our educational context. He argues that we cannot measure the extent of a sonata that has not been composed, a life-saving drug that has not been discovered, or the absence of political leadership. Students with AHSD are a substantial part of the difference between what we are and what we could be as a society. When discussing academic failure, Gallagher describes it as a tragedy not to develop these students' potential—a tragedy for the students themselves and for their families, who have expectations for their development. However, as Gallagher notes, the magnitude of this failure is difficult to quantify.

Renzulli (2014a) offers a perspective on conceptualizing the phenomenon of AHSD, introducing the concept of "gifted behavior" in his Three-Ring Model:

Gifted behavior consists of thoughts and actions resulting from an interaction between three basic clusters of human traits: above-average general and/or specific abilities, high levels of task commitment, and high levels of creativity (Renzulli, 2014a, p. 246, our translation).

Under this conception, Renzulli challenges the notion of the unidimensionality of human intelligence, which can be measured solely by Intelligence Quotient (IQ) tests. He asserts that there is no single definition or way to measure a person's capacity or level of intelligence (Renzulli, 2004; 2005; 2014b).

According to Renzulli (2014b), children who manifest or are capable of developing interaction between these three clusters (rings) require a wide range of educational opportunities, resources, and encouragement beyond those typically provided through regular instructional programs. He emphasizes that children's ability to develop their skills is closely related to the opportunities and approaches available to them.

Regarding twice-exceptionality (2E)⁵, Silva (2021) notes that this concept began to be studied in the 1960s, when researchers initiated discussions about at-risk youth, particularly those who were ethnically and economically disadvantaged, and the possibility that students with disabilities could also have AHSD and require specialized educational services tailored to their needs.

Coleman, Harradine, and King (2005, p. 5, our translation) note that: “The term twice-exceptional was coined by James J. Gallagher to denote students who are gifted and simultaneously present with a disability or disorder”.

According to Baldwin *et al.* (2015), 2E students possess:

[...] high ability in one or more areas and, at the same time, a disability, disorder, or syndrome, resulting in a unique set of characteristics. The high ability may stand out, masking a disability or disorder, or conversely, the disability, disorder, or syndrome may mask the high potential. It is also possible that each of the exceptionalities may mask the other, so neither is recognized or addressed. Twice-exceptional students may perform below, at, or above the average of their grade level [...] (Baldwin *et al.*, 2015, p. 212, our translation).

The aforementioned authors indicate that individuals with 2E possess exceptional abilities alongside some type of disability, resulting in a unique set of characteristics. Their abilities may predominate and conceal their disability or disorder, or vice versa, where the disability or disorder may overshadow their exceptional abilities. Additionally, each specificity may obscure the other, preventing either from being recognized or classified.

Regarding 2E, high abilities or giftedness and deafness⁶, the focus of the present study, few national-level studies on this topic have been conducted, as observed and investigated by Rangni (2012). Rangni's study aimed to identify students with talent⁷ and hearing loss⁸ included in regular schools, highlighting the more challenging inclusion process for those with disabilities, as it involves other professionals such as sign language interpreters, interlocutor teachers, and specialists in Resource Rooms.

⁵ *Twice exceptional* (2E) is an acronym used internationally (Baldwin *et al.*, 2015).

⁶ We use the term deafness to refer to people with hearing loss, regardless of whether they are deaf or non-deaf, or who use some assistive technology for sound amplification.

⁷ Rangni used the terms gifted and talented in her research, based on the theoretical perspective of Gagné (1985, 2008).

⁸ The study by Rangni (2012) uses the terms ‘hearing loss’ or ‘people’ or ‘students’, with hearing loss and/or difficulties based on Freeman; Carbin; Boese (1999), Afonso (2008) who consider people with mild to profound degrees of hearing loss and/or difficulties.

According to Rangni, during the study, the question arose about how many gifted students might exist among those with hearing loss in Brazilian schools. Rangni (2012) argues that the number of gifted individuals who have not had previous opportunities is high, and many educational environments still do not support them. The author raises concerns about how many potentially gifted students with hearing loss have not been recognized for identification through classroom observation, as this remains an ongoing issue.

The author further highlights, in her research, certain entrenched ideas held by teachers, as reflected in statements such as: “I don’t have any talented students”; “All my students have some talent”; “It’s difficult for a deaf student to be talented”; “My deaf students are weak, they can’t keep up” (Rangni, 2012, p. 121, our translation).

The research reveals that, despite the intent to ensure the recognition of signs of talent, several challenges were encountered during the process. These included low participation from subject teachers, difficulties in scheduling with the school, absence of nominated students, lack of knowledge on the subject, students not proficient in Brazilian Sign Language (Libras), teachers without knowledge of Libras, and, most notably, a *scarcity of literature* on 2E students, high abilities or giftedness, and hearing loss (Rangni, 2012, p. 118).

Fernandes (2014, p. 116, our translation) adds that “people with and without disabilities are capable of making their contributions to history, provided their potential is duly recognized. One of the ways to identify their potential is through a diagnostic evaluation tool.” However, Winstanley (2003) notes that students with hearing impairments are often excluded from programs that would recognize and support them. These concerns prompted the undertaking of this research project, which poses the following problem: What is the incidence of scientific publications in the form of articles on the topic of 2E (high abilities or giftedness and deafness) over the last ten years (2013-2023), considering both the Brazilian and international contexts?

Thus, the research questions are:

- In which context, national or international, do the majority of studies on 2E occur?
- What are the predominant theoretical approaches in the identified studies?
- Has there been an increase or stagnation in scientific production on the topic in question?

Accordingly, the objective was defined as follows: To investigate and analyze the production of articles on twice-exceptionality—high abilities or giftedness and deafness—in the Brazilian and international contexts over the last 10 years, through an integrative review.

Method

The research is characterized as an Integrative Literature Review. This method is commonly used in the field of Health but has gradually gained traction in Education. Unlike a systematic review, an integrative review is broader, as it allows for the combination of data from both theoretical and empirical literature. It can be conducted for various purposes, especially because it can be aimed at defining concepts, reviewing theories, or analyzing the methodologies of studies. It consists of “a synthesis of knowledge and the incorporation of the applicability of significant study results into practice” (Souza; Silva; Carvalho, 2010, p. 102, our translation). To achieve the objectives, searches were conducted in online academic databases, both national and international, in September 2023.

The databases selected were: Institute of Education Sciences (ERIC); Journals Oxford Academic; Oasisbr; Capes Journals Portal (MEC); Science Direct – ELSEVIER; and Scientific Electronic Library Online (SCIELO). For this purpose, keywords in both Portuguese and English were used in a combinatory and permutative manner, together with the boolean operator AND. The keywords in Portuguese were: *Altas habilidades; Superdotação; Surdez; Duplicidade de Necessidades Educacionais Especiais; Dupla Excepcionalidade; Dupla Condição*. The keywords in English were: *Giftedness; Gifted students; Deafness; Dual exceptionalality; Twice exceptionalality*.

The search was limited to the period from 2013 to 2023. The rationale for this timeframe was based on the existence of a 2012 study regarding the Brazilian context of 2E students—high abilities or giftedness and deafness. Consequently, the search for articles published on the topic began in 2013, initially within national portals and later expanded to the international scope.

The inclusion and exclusion criteria for selecting the articles were as follows: **Inclusion:** Articles discussing 2E (high abilities or giftedness and deafness); Appearance of the keywords in both Portuguese and English; Articles published within the timeframe of 2013 to 2023; and Works with free access available in Portuguese and English. **Exclusion:** Articles that do not meet the inclusion criteria and duplicated studies.

Six steps were followed to collect the articles for an integrative review, according to Souza, Silva, and Carvalho (2010). These steps are:

1. Formulation of the guiding question;
2. Literature search or sampling;
3. Data collection;
4. Critical analysis of the included studies;

5. Discussion of the results; and
6. Presentation of the integrative review.

Regarding the selection of abstracts and full texts of the articles, the following criteria were applied: a) Search for the articles in the selected databases; b) Reading of titles; c) Verification of the presence of the searched keywords; d) Reading of abstracts; e) Arrangement of the found studies in chronological order; and f) Presentation of the research content according to the study's objective.

After these procedures, the selected studies were thoroughly read, and the contents were recorded according to their relevance to the established objectives by categorizing them as follows: characterization of the works (title, authors, year), type of research (national or international context), objectives, study participants (age group, gender), theoretical approach, and results found.

Regarding data analysis, the findings were categorized and documented. They were then organized and compared across all selected studies for discussion, using specialized scientific literature in the field.

Results and Discussion

A total of 895 works were found on ERIC, with 610 of these being freely accessible. Out of these, 460 studies were published between 2014 and 2019, 117 were published in 2022, and only 33 were published in 2023.

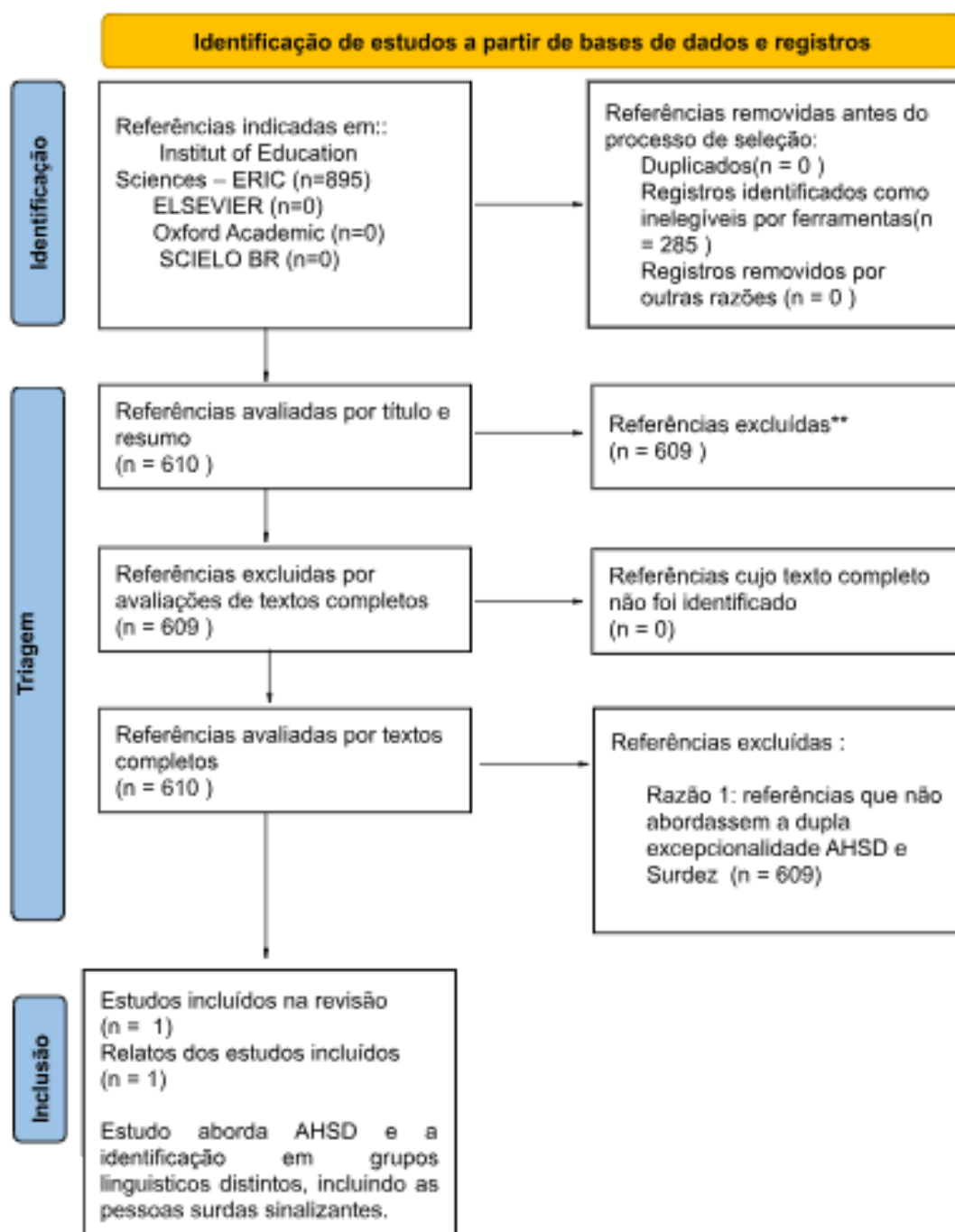
Of all the studies found, 189 were published in Turkey, focusing on a comparative analysis of mathematical tests between students with high abilities or giftedness (HA/G) and those without HA/G. These studies primarily concentrated on 2E involving Autism and/or Asperger's Syndrome, with a significant portion focusing on the socio-emotional aspect of students with 2E. Therefore, they were not included in the scope of studies analyzed.

Among the studies found, 12 addressed deafness, but none directly related 2E to deafness. These either focused on HA/G in isolation, 2E involving Autism and Asperger's Syndrome, or on the socio-emotional skills of students with HA/G, also in isolation, or on the inclusion of deaf and/or hearing-impaired students in inclusive schools.

The searches resulted in only one study that addressed the identification of HA/G in individuals with disabilities and bilingualism, including deafness, involving the identification of this population and the linguistic barrier. However, there is a significant lack of studies on

2E - HA/G and deafness - in both national and international contexts. Figure 1 presents the selection process and the results of the review conducted.

Figure 1 - Selection Process and Systematic Review Results



Source: Prepared by the authors, adapted, and translated from PRISMA (2020).

The study included in the review was: *Using Funds of Knowledge to Identify Bilingual Students' Gifts and Talents: The Role of Home Visits* by authors Fatmana Kara Deniz and Tracy Spies.

The study that met the established criteria was published in *The Catesol Journal* by Deniz and Spies (2021) at the University of Nevada, Las Vegas. The article highlights that students are culturally and linguistically diverse (CLD), particularly bilingual children. In gifted education programs, there has been a long-standing concern, as these bilingual students exhibit characteristics of high abilities or giftedness (HA/G) in ways different from their peers, as their knowledge reflects patterns of learning, knowing, and doing shaped by their unique cultural and linguistic experiences.

The authors note that in the U.S. context, gifted education programs do not reflect the current cultural and linguistic diversity of the student population. The study shows that bilingual students categorized as English Learners (ELs) or students whose first language is not English have not reached specified levels of English language proficiency, representing more than 11% of the total school-aged population, yet less than 3% are represented in gifted education, according to data from the U.S. Department of Education published in 2014.

Deniz and Spies (2021) emphasize that the representation of bilingual students in gifted education has been a long-standing and historical concern, particularly because it imposes a sense of urgency as students from culturally and linguistically diverse (CLD) backgrounds are projected to represent 55% of the U.S. school population by 2027, according to the *National Center for Education Statistics* (NCES) in 2019.

The aforementioned research indicates that bilingual students often do not have sufficient opportunities to demonstrate their knowledge and academic abilities in general education settings due to language barriers, cultural biases, socioeconomic levels, or disabilities, as they depend on English language proficiency.

These challenges make it difficult for bilingual students to be identified through traditional methods such as intelligence tests, non-verbal cognitive ability tests, performance tests, and/or assessment scales, according to Deniz and Spies (2021). They emphasize the importance of educators employing culturally and linguistically sensitive approaches to identify the talents of bilingual students, as these approaches would minimize reliance on measures heavily dependent on language proficiency.

Unfortunately, many of the factors contributing to the underrepresentation of students with and without disabilities can add to their narrative, provided their

potential is properly considered. One way to identify their abilities is through a diagnostic assessment tool based on a multidimensional conception of intelligence, which can contribute to their growth and autonomy. The underrepresentation of bilingual students in gifted education is a result of teachers' lack of knowledge and understanding of giftedness and how it can manifest differently across cultures and languages. The authors argue that the representation of bilingual students in gifted programs is primarily rooted in teacher referrals. It is crucial to recognize that teachers are the gatekeepers who determine whether students will be referred for gifted identification and receive appropriate services (Deniz; Spies, 2021, p. 106, our translation).

The authors pose several key questions:

- What are the perceptions of giftedness in different cultures? Do these characteristics manifest in other ways?
- What are the cultural and linguistic effects on interactions with others? Does language proficiency or lack of native language proficiency impact opportunities?
- How does students' English proficiency affect their communication? Do students exhibit these characteristics in their native language? And collectively, across both languages?

Thus, it is understood that bilingual students need opportunities to express their knowledge, skills, and unique characteristics of giftedness without relying exclusively on a majority language, whether it be English or any other language that is not the student's native language, as in the case of deaf individuals (Deniz; Spies, 2021).

Therefore, Deniz and Spies (2021) argue that it is essential to develop a comprehensive and in-depth understanding of students' knowledge both inside and outside the classroom during the identification process involving bilingual students. One of the most critical steps that educational leaders can take is to establish productive connections between home and school with these students and their families so that identification is not solely the responsibility of the school professional.

These authors further emphasize that home visit programs have enormous potential as a relevant cultural and linguistic communication tool in the identification of bilingual students, as the partnership between teachers and bilingual parents can provide a perspective beyond their existing knowledge. Moreover, this approach has the potential to shift the perspective of both the teacher and their students since home visits offer various advantages over traditional identification tools.

Unlike other forms of identification, home visits serve as primary sources of insight into students' lives, drawing from their cultural, linguistic, and cognitive experiences. Additionally, these non-academic environments allow educators to transition from teachers to learners as they gain more direct contact with students' cultures. Furthermore, home visits positively impact the attitudes of both parents and teachers towards the school and its educators by fostering a partnership between them, according to the authors.

Moreover, they consider home visits an opportunity to discover different types of intelligence (musical, bodily-kinesthetic, spatial, linguistic, and leadership) and to uncover potential that may not be demonstrated or recognized in the school setting. This approach connects the two worlds of bilingual students, thus enhancing bilingual parents' understanding of giftedness and awareness of educational services for this population.

Based on the findings, it was observed that deafness and accessibility in sign language remain emerging topics outside of Brazil as well. It is assumed that the scarcity of studies involving twice-exceptionality (2E) – giftedness and deafness – is due to challenges in the field of deafness or hearing impairment, as linguistic barriers and access to this population remain limited.

Final considerations

The research indicates that the recognition of twice-exceptionality (2E) – involving both giftedness and deafness – remains challenging due to the process of including these students. This process involves various professionals, such as teachers, sign language interpreters, and support teachers, but primarily consists of another language that is not the dominant language in the classroom.

It was observed that there is a scarcity of literature addressing this topic, from identification to the methods of accommodating this population, both nationally and internationally. However, the research points towards a new direction for identification that is commonly overlooked: home visits. This approach emphasizes that identifying potential in deaf students requires a cultural and linguistic perspective. As long as linguistic barriers exist in the educational environment, deaf students will not be identified as having twice-exceptionality.

The results highlight the urgent need for future research with practical implementation for identifying 2E in bilingual students, including home visits for screening purposes. It is

important to note that families play a crucial role, as effective recognition of the abilities of this student group relies on collaboration between families and schools.

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