

The Role of Teachers' Knowledge of Speech and Language Disorders in Developing Inclusive Classroom Practices in Secondary Education

¹EHIEDE, Clara; ²ONYEKPE, Stephen Jacob

¹Department of Curriculum and Instructional Technology, University of Benin, Benin City.

²Department of Social Science Education, Faculty of Education, Delta State University, Abraka, Delta State, Nigeria.

DOI: <https://doi.org/10.47772/IJRISS.2026.100800584>

Received: 27 August 2026; Accepted: 01 September 2026; Published: 12 September 2026

ABSTRACT

The study focuses on teacher knowledge of speech and language disorders and their implications for inclusive teaching practices in secondary school. The literature acknowledges the presence of students with communicative and interactive needs, who may find difficulty fully taking part in, participating with their classmates, interacting with their peers, expressing understanding and knowledge to the teacher and as result may find themselves on the periphery of a truly inclusive practice. This investigation explores the importance of teacher knowledge as an initial point upon which to not only identify but appropriately address communication and language impairments in the classroom to the diverse learning needs of the children and young people in secondary schools. This acknowledges that should teachers have sufficient knowledge how will this equip them to modify instruction, utilise precise and uncomplicated terminology with appropriate processing time, visual supports and checks for understanding along with developing the participation that leads to learning? What are the ways in which teacher knowledge can impact upon differentiation classroom participation the collaborative, supportive, encouraging inclusion classroom environment. In light of the investigation into previous research it became clear that that teacher knowledge is the enabling vehicle by which inclusion practices may actually become inclusive realities, despite knowledge itself may not always provide the panacea; self-efficacy, personal attributes, attitudes, the provision of opportunities for, in service training, resources and appropriate support will play an integral part, along with the close work between teacher and a visiting speech and language therapist for the benefit of the child and young person. In conclusion this investigation supports the idea that teacher training in understanding the impact of speech and language disorders and in enabling and in the construction of learning opportunities for students' will empower the teacher. Along with this effective ongoing provision of resources, collaborative support networks with speech and language therapists will enhance the learning experiences for children and young people, in a supported inclusive inclusive classroom.

Keywords: teachers' knowledge; speech and language disorders; inclusive education; classroom practices; secondary education.

INTRODUCTION

Inclusive education is a growing area of policy within educational systems, emphasizing students' participation, regardless of whether they are able or not to communicate and/or learn by the use of specific means of interaction, or disability, learning difficulties or need for special language support. This has shifted from the idea of only placing learners in mainstream classroom toward ensuring that learners can experience school based on its learning environments. In this paradigm, teachers become more knowledgeable and competent in relation to identifying learner differences and translating inclusive education principles into actual classroom practice (Kamran et al., 2023).

Regarding inclusive education, particular attention is attributed to students who communicate with disorders and need special language support as language impairments can influence classroom participation, interaction,

social relationships, and the demonstration of knowledge. Speech and language disorders include impairment in speech, understanding and language expression, and communication effective integration. The particular presentation of language disorders can sometimes be hidden, in cases like Development Language Disorder (DLD), for instance, where it may go unnoticed by teachers at the mainstream level of teaching. A study conducted by Glasby et al. (2022) demonstrated that the perceived knowledge about DLD did not necessarily match the demonstrated knowledge of its characteristics and educational implications among teachers.

Recent literature increasingly acknowledges teachers' knowledge about the nature of speech and language disorders as crucial for successful inclusive practices. Communication difficulties require adjustments in teaching, such as clear and structured instruction, processing time extension, use of visual supports, checking for understanding, and allowing adequate student response opportunities. Yadav and Huddar (2025) stressed the importance of appropriate teacher preparation, resources and support in fostering inclusiveness for students who communicate in diverse ways.

Despite growing efforts to empower teachers with knowledge, practical implementation can be challenging. Teachers might misinterpret the learners' communication difficulties as issues of behaviour, effort or motivation. Furthermore, inclusive education requires adequate cooperation between classroom teachers and speech language therapists, the collaboration factors are found to vary depending on relational support, school condition, and policies (Gonzalez-Fernandez & Iturra, 2024). These issues are even more critical at the secondary school level where learners face increasing academic and linguistic complexity, particularly those at secondary school who have specialized vocabulary knowledge and require detailed instructions in order to successfully and holistically participate. Alegre de la Rosa and Villar Angulo (2024) also highlight the need for professional development, self-efficacy, inclusive leadership, use of Assistive Technology and accessibility as key aspects of sustainable inclusive education.

While literature on inclusive education, communication disorders and teachers' practices has generally expanded, the links between teachers' knowledge of speech and language disorders and inclusive practices at the secondary level have been less extensively examined. Existing research has indeed focused on teachers' knowledge of DLD, intervention strategies for language-disordered students, and collaboration with SLTs (Glasby et al., 2022; Gonzalez-Fernandez & Iturra, 2024; Yadav & Huddar, 2025) but empirical support on how the learning that is needed has translated into effective classroom inclusive practice is still limited.

This study intends to contribute to the growing literature by investigating the role of teachers' knowledge of speech and language disorders in relation to the implementation of inclusive practices in secondary school. It is assumed that teachers' knowledge related to the features and educational implications, and to the support strategies applicable to students presenting these types of difficulties has the potential to inform how inclusive pedagogy be put into practice.

Teachers' Knowledge of Speech and Language Disorders and Inclusive Classroom Practices

Speech and language disorders, impacting communication at various levels, are widely documented as profoundly affecting students' school participation, learning and social relations at any level of education. Special attention to teachers' knowledge about these difficulties is imperative especially in secondary inclusive education where learners face increasing complexities in communication and learning demands. Teachers' ability to identify such disorders is key to meeting students' communicative and learning needs because the symptoms do not always manifest as directly identifiable and can be confounded with inattentiveness, poor behavioral conduct, and lack of motivation. For instance, research has already highlighted the prevalence of Developmental Language Disorder (DLD) as an overlooked language disorder that makes differentiating it from other learning impairments a challenge at the mainstream level. Glasby et al. (2022) provided evidence that showed that the perceived knowledge of DLD among teachers didn't necessarily correlate with their tested knowledge on the disorder features and impact on the education for 262 teachers.

This suggests that knowledge on the nature of speech and language disorders can enable teachers to be more observant of the various forms these difficulties can take and make the appropriate adjustment in teaching which makes learning possible to a learner at the secondary level. Adequate teachers' knowledge about speech,

language and communication disorder implies being aware of its characteristics, consequences and how appropriate responses should be carried out. Glasby et al. (2022) emphasized teachers' understanding of the differentiation between speech, language and communication disorders as paramount for the inclusion of students with DLD since these difficulties can lead to diverse learning experiences. Knowledge helps educators to go beyond simple observation of deficits and think about adaptations in instruction and the immediate social interaction which enhance the possibilities for participation.

Additional studies have investigated special education teachers' understanding on communication disorders and practices; Tugay and Balama (2023), in a sample of 106 special education teachers, analyzed teachers' knowledge and attitudes toward speech and language disorders, concluding that "teachers' knowledge is important for the evaluation of students with speech and language disorders, determining their educational goals and development". These authors also underlined the need for continue professionalization in order to improve teachers' competence to identify, understand, teach and guide students with communication disorders.

Inclusive educational practice goes beyond merely including students with special needs in a standard classroom and consists of structuring learning environments which allow students to participate fully. How teachers conceived of and translated inclusion into practice is studied by Woodcock and Anderson (2025). Based on a sample of 140 teachers they found that teachers' perceptions about inclusion influenced their practices though still revealing variance within their articulation of inclusive education, suggesting the need of developing teachers' knowledge and conceptual frameworks to guide their enactment of such practices effectively when serving students who need to address diverse educational and social needs.

For students with speech and language impairments, appropriate inclusive practices could include more time for oral participation, simple and accessible vocabulary, ample time for thinking and responding, the use of the combined visual and oral modes of communication, and group-based peer interaction that could mitigate the negative impact of broken down communication and lead to a smoother interaction. Students who were working in groups could benefit, to the extent that group work to some extent "buffers" the effects of communication breaking down (Yadav and Huddar, 2025). Yadav and Huddar (2025) also identified the teachers' own competencies with respect to knowledge of speech and language disorder for effective inclusive practices. The speech and language disorders knowledge, when implemented in the context of the teachers and with reference to the student the outcomes could not be ignored Yadav and Huddar (2025).

Teachers' knowledge to be better teachers and to promote inclusive practices can be augmented. Collaboration is essential for inclusivity to be more useful. Teachers know more about their students and the curriculum within the classroom whereas the speech and language pathologist can provide help with the diagnostic tools with reference to the communication related skill which could be beneficial both the student, teachers, speech and language pathologists for the benefit of inclusive Education, as it can strengthen the collaborative teaching for meeting the students' speech and language communication requirements (González-Fernández and Iturralde, 2024).

Conclusion: As per The speech and language disorder knowledge possessed by the teacher form an important base for inclusive classroom practise, since a knowledge on speech and language disorder the students present, the education consequences of it (s) makes possible the students to be assisted appropriately and their difficulties would have been minimized the educational impact or what would have made them the successful students for the reason is they could have been noticed by the teachers and will support for inclusive class participation with their associated expert's.

However, teachers may hold inaccurate or inflated beliefs about their own knowledge, or may experience difficulties in translating their broad understanding of inclusive practices into consistent and effective practice with students with speech and language needs(Glasby, et al., 2022). This suggests that to promote inclusive practice, it is important to understand whether actual teachers' speech and language disorder knowledge is predictive of such practices at school. The implications of inclusive practice are particularly relevant to secondary school, where communication demands increase.

Teachers' Knowledge, Differentiated Instruction, and Classroom Participation

Teacher knowledge represents a fundamental pillar of practice in the classroom, especially in classrooms characterized by differences in student readiness, interests, learning styles and skills. When students differ in these areas, differentiated instruction (DI) offers a pedagogical approach through which teachers can vary content, process, learning activities, and products to respond to learner variation. Unlike a "one-size-fits-all" approach, DI emphasizes teacher response to individual differences in learning and seeks to involve all students in the learning process. In this sense, teachers need to have sufficient knowledge about differentiated instruction and be able to translate that knowledge into practice. Recently, teacher knowledge, beliefs, self-efficacy, and instructional practices have been increasingly linked to how effectively they support learner diversity and participation.

Teacher knowledge of differentiated instruction is more than just knowing about the concept of differentiated instruction; it means knowing how students learn differently and using that knowledge to tailor instruction. Nketsia et al. (2024) emphasized teacher knowledge as an important condition for the successful implementation of differentiated instruction among teacher educators and pre-service teachers in Ghana. The sample in this study consisted of 1,002 participants: 199 teacher educators and 883 pre-service teachers from four teacher training institutions. The results indicated significant variations between teacher educators' and pre-service teachers' perceptions of how frequently differentiated instruction was implemented by teacher educators. Teacher educators were rated more highly for the extent that they implement differentiated instruction than were pre-service teachers. Consequently, authors underscored that strengthening teachers educators' preparation and capacity to model an appropriate variety of differentiated teaching practices is critical. This finding is significant as when teacher knowledge of DI is lacking, the importance of differentiation could be understood, yet remain inaccessible and difficult to translate into an adequate learning experience for students.

Similar to the preceding study, Unal et al. (2022) investigated how teacher knowledge of differentiated instruction influence their ability to implement it in the classroom. In this study, 31 kindergarten through grade 5 teacher participants, acknowledged DI as a fundamental strategy. Teachers cited lack of knowledge and practice as two of the primary reasons for low implementation of DI along with a need for increased resources and professional development. The findings of this study suggest that positive attitudes toward differentiation will not guarantee it occurs in the classroom, and that teachers need adequate knowledge. For example, differentiated instruction is rooted in a need for teacher understanding in recognizing learners' differences and then incorporating instructional processes and activities along with alternative assessment methods designed to accommodate those differences. Thus, one might conclude that teacher knowledge is a basic prerequisite when planning differentiated instruction from an abstract principle to a classroom-based practice.

The link between knowledge and differentiated instruction practice is also evident through the creation and validation of both teachers' and students' perceptions of DI in chemistry with heterogeneous classes: Easa and Blonder (2023). The study began with the assumption that teacher need sufficient knowledge and skills to meet student diversity is inherent in today's classrooms. Researchers developed two instruments, a measure of self-efficacy and the attitude toward DI Scale, and reported that both of the instruments for teachers and students had high reliability. This study is notable since it further clarifies that multidimensionality is at the center of teacher readiness for differentiated instruction. Thus teacher knowledge of DI is not separate from teachers' confidence and belief in their abilities to differentiate: Teacher practice is a result of their possession of both relevant knowledge and the assurance that they can manage instruction when accommodating heterogeneity.

Teachers' knowledge also becomes especially critical when planning and executing differentiated instruction. Hasanah et al. (2022) developed a conceptual framework model of differentiated instruction from teacher experiences in Indonesia and emphasized that both teachers' knowledge and experiences are vital in developing the student-centered instructional practices that is differentiated instruction. Unlike teachers simply giving one assignment to one student and a different task to another, the authors explain that differentiated instruction is informed by teachers' understanding of their students and use of that information in planning learning activities. This knowledge enables teachers to provide appropriate choices about content, processes and

learning outcomes. For example, teachers' stronger differentiated instructional knowledge could allow them to create classroom environments that allow students to work at individual learning levels and according to their own preferences.

The link between teacher knowledge and actual use of differentiated instruction is also characterized by what drives teachers to actually use it. Pozas et al. (2022) explored the predictive influence of teachers' interest in differentiated instruction in German in-service teachers and discovered that teacher interest was a significant predictor of classroom differentiated practice after controlling for teacher self-efficacy and attitude in their study of 168 teachers. Researchers cited a number of reasons why teachers would have difficulties differentiate instruction including their lack of training and knowledge of DI, little preparation time and insufficient resources. Thus teacher knowledge might play an influential, yet separable factor in the implementation process and that the application of differentiated instruction requires both relevant teacher knowledge as well as motivation from teachers. A motivated teacher with strong knowledge of differentiation will likely use it.

Differentiated instruction is especially important with regards to student participation because it promotes opportunity for students of varying backgrounds and achievement levels to join actively in the learning process. Participation is conceptualized as both behavioral and psychological student involvement in academic activities, such as responding to questions, adding comments, engaging with assigned tasks, and taking charge of learning activities. When instruction centers on a uniform process, pace, and or product, students' ability to access learning is diminished. The use of differentiated instruction allows for a wider range of opportunities that students can use to access curriculum and demonstrate learning. As Moallemi (2024) highlighted when investigating differentiated instruction and student engagement among university-level students, assessing students' readiness levels, interests and learning preferences is how appropriate learning activities can be constructed; use of flexibly assigned groups and opportunities for students to choose content, process and product has led to positive student engagement.

This connection between DI and student participation is also fueled by students' personal interests. When teachers have a strong sense of their students, they can integrate content from their lessons that match each student's interests and experiences. In Solari et al.'s (2023) work, allowing students to voice their interests is what made it possible to design differentiate tasks based on topics that were of concern to students, thus leading to a higher interest in learning and participation in classroom activities. So, participation means that a student is not only responding to questions but that the student can enter into the learning activity.

The correlation between teacher knowledge and participation in differentiated instruction is also strengthened by Gaitas et al.'s (2024) study of differentiated instruction in mixed-ability classrooms; the authors address that differentiating in classrooms is not as simple as teachers adopting individual techniques. Knowledgeable teachers make thoughtful decisions concerning students' content, processes, and learning outcomes when differentiating; thus differentiation could become problematic if teachers have little knowledge of DI. Such limitations may reduce the extent to which differentiated instruction can provide meaningful opportunities for all students to participate in classroom learning.

Additionally, collaborative practice among teachers can also serve to deepen the knowledge-practice relationship regarding DI. The concept of teacher collaboration was analyzed in relation to DI by Pozas and Letzel-Alt (2023). The authors described teacher collaboration using the constructs of “exchange, synchrony, and co-construction” (p.1210). The researchers showed that teacher collaboration is a “critical factor for differentiating practice” and that implementation of DI is not only depended on “certain characteristic of teachers but also on the socio-professional context in which practice occurs” (p.1211). Through interaction, teachers may exchange professional knowledge, identify appropriate planning strategies, and adapt classroom responses to cater to learners' needs and support the growth of teachers practical.

In sum, the existing empirical and theoretical literature supports an understanding of the intertwined and interwoven links between teachers' knowledge, DI and classroom interaction. Teachers' knowledge constitutes the basis from which a decision can be made regarding differences among learners and which differentiation approaches might be relevant, DI provides the avenue through which that knowledge becomes translated into

the learning environments that teachers enact, whereas the fostering of inclusive classroom opportunities gives those with teachers 'differential instruction to participate authentically. Although this is the case it would seem that knowledge in and of its own may be neither sufficient nor enough. In other words for teachers to take their knowledge with their understanding of what differentiation in practice actually entail, their own beliefs about the effectiveness of this instructional approach, how their own perceived capabilities to engage in its effective use affect whether these are translated into their practice, their beliefs about learners, their levels of enjoyment, interest, their involvement in professional development and the extent of availability of resources.

As the amount of scholarly writings pertaining to differentiated education expands, so too have papers focusing on teachers' attitudes and/or perceptions towards DI. But most of these researches focused mostly on teachers' attitudes, self-efficiency, general and specific approach to implementing DI but less researches looked into how teachers' knowledge about DI relates to their students 'class participations. Moreover, Most of the current research related to topic is carried out in European countries and the use of American, and Asian and some Ghanaian contexts, with only a limited attention focused on the interrelationship between DI knowledge of Nigerian second grade learners and Nigerian secondary school settings' classroom interactions. The study will examine the nexus between teachers 'knowledge and students 'class interaction at various Nigerian secondary schools in view of knowing whether teachers 'knowledge can foster greater class participation by learners as students in their classrooms participate. The research' focus becomes important since active learning on part of students in the classroom is considered as practical means of measurement as one can use to measure of how DI is successful at offering diverse range of students opportunities for participating more appropriately in the lesson.

Teachers' Knowledge and Supportive Inclusive Classroom Environments

Inclusive education has increasingly come to be understood as the construction of classroom environments where all learners, regardless of ability, background, or need, are able to participate meaningfully in teaching and learning. Within this framework, teacher knowledge stands out as a significant condition contributing to supportive inclusive classroom environments. Teachers need more than generic knowledge of pedagogy; they require a deeper understanding of learner diversity, principles of inclusion, appropriate teaching techniques, and the kind of support that children with varying educational needs require. Effective teacher knowledge of inclusion helps teachers to identify barriers to participation and to construct appropriate conditions within their classrooms which foster acceptance, participation and learning for all.

The part that teachers play in building inclusive classroom environments is closely connected with teachers' conceptions and understanding of inclusion and to what extent this understanding is being effectively translated in classroom practice. The work of Irshad et al. (2024) focused on understanding teachers' roles in developing inclusive classrooms and concluded that constructing 'open, welcoming and supportive learning environments' constitutes a key feature of inclusive teaching and learning practices, where teachers can play significant roles by providing the required support and by promoting positive interaction. This implies that teachers' knowledge of learner differences directly affects teachers' organization of social relations within the classroom and consequently affects the extent of students' success.

The role of teacher knowledge in inclusive environments is further clarified through how teacher conceptions of inclusion influence how they operationalize inclusion. In a study conducted by Woodcock and Anderson (2025), the researcher investigated the influence of teacher knowledge upon inclusive practice, and found that teacher understandings about inclusion shapes conceptions of appropriate practices in the classroom. Inclusion may therefore be framed in different ways and these understandings are critical in shaping inclusive practices that address the needs of all learners. Teachers who understand inclusive education through focusing on removing barriers to learning, for instance by paying attention to the physical classroom environment, teaching methods and types of support required by the learners, are more likely to conceptualize classroom practice as needing to holistically accommodate the learners who attend it.

The relevance of teacher knowledge on inclusive classrooms can also be illustrated in the studies exploring how learners with specific needs are being addressed in inclusive settings. The research by Alassaf (2025), for

instance, explored teachers' knowledge of and attitudes towards the inclusion of children with autism in mainstream schools and concluded that teachers have positive attitudes towards inclusion but also revealed a general difference in both teachers' knowledge and their attitude towards inclusion, highlighting the fact that there is a significant gap between accepting the principle of inclusion and holding the sufficient knowledge to implement inclusion effectively. It is suggested that while teachers may readily agree to inclusion, they may lack confidence or knowledge of how to deal with certain individual needs that they might have, and how they deal with such, in turn impacts on how classrooms are organized and how they communicate with the children as well as provide appropriate teaching assistance.

Another essential factor in achieving a supportive inclusive classroom environment is the use of supportive structures within the school structure. Chow et al. (2024), in a scoping review of teachers' perceived need for support while enacting inclusion, found an important need for enhancement of teachers' knowledge of appropriate pedagogy together with resources needed to promote inclusive practice. These researchers highlight that teachers cannot be expected to create inclusive classrooms on their own and have to be equipped with appropriate training and institutional support. Furthermore, professional development, resources for teachers, and collaboration between teachers as well as other kinds of support at school level will improve teacher knowledge and capability to teach learners in an inclusive way.

The role of teacher knowledge in inclusive classrooms further manifests through exploring classroom practices in diverse and inclusive settings. In their study, Altes et al. (2024) through a systematic literature review on teacher conceptions and practices of and challenges to inclusive classroom environments conducted an investigation based on a sample that included higher education learning environments. Teachers' varied understandings of inclusion and inclusive environments suggests that a lack of clarity in concepts of inclusion can in turn contribute to difficulties in inclusive practice. While the research presented a focus on a higher education context, some aspects could potentially be generalized to classroom settings, as teacher conceptions of inclusion are intrinsically related to what the teacher might be seeking as the goal regarding learners' needs, learners' participation and learners' accessibility. A higher conception of inclusion implies a conscious effort on part of the teacher to consider not only learning, but the social context within the learning environment.

A caring inclusive learning environment is also the result of the teacher's efforts to notice and respond to barriers that might prevent some learners from fully engaging with and accessing teaching and learning in the classroom. McGoldrick et al. (2026) in their work on Autistic SPACE and inclusive education highlighted the impacts of irrelevant teacher knowledge and inappropriate learning environments on children with neurodivergent needs, and underlined that the relevance of such impacts is found in how this issue contributes to the achievement of inclusive learning environments. The research has shed the light on the need to further explore to what extent teacher knowledge contributes to building a desirable inclusive learning environment for all children.

Another important aspect for understanding how supportive learning environments in inclusive settings are being promoted is the teacher's capacity to develop respectful relationships, foster acceptance and belonging on the part of the children attending their classes. Nel and Bornman (2025) stressed the importance of comprehending the processes which enable inclusive classrooms to be implemented and developed within special education; highlighting that creating inclusive classrooms involves constructing environments in which learners are acknowledged as part of the community of learning. Thus, teachers need to develop trusting relationships, as well as promote collaboration and respond appropriately and equitably to learner differences through utilizing their teaching expertise and classroom management skills.

Also relevant is the practical dimension on the importance of teacher knowledge in creating supportive inclusive environments that have been identified through the narratives of teachers that have experience in inclusive classrooms. Pablo (2026) drew attention to the crucial role of differentiated approaches among other factors that help in creating supportive classroom environments for inclusive classes by focusing on teachers' accounts on conducive learning environments within a primary context. This implicitly shows that teacher knowledge should translate into useful practice and should not necessarily stand alone. Awareness of

individual differences can lead teachers to change teaching techniques, offer individual support, encourage active participation, and create welcoming environments where pupils feel safe in their inclusion.

The importance of teacher knowledge has also been supported by the research review as it indicates that teachers' knowledge play a significant role as a primary condition for establishing appropriate and supportive inclusive learning environments; enabling them to understanding learners' diversity, barriers to inclusion, selection of strategies and provision of individual support as well as enabling positive relationships within the classroom. The literature further shows that for successful inclusion, a favorable environment is not enough but there are factors such as professional support from institutions, practical expertise, appropriate teacher training and professional networks that help in consolidating inclusive practices (Altes et al., 2024; Chow et al., 2024)..

SUMMARY

Teachers' knowledge of speech and language disorders is vital to facilitate efficient identification, understanding and educational responding to the needs of learners experiencing difficulties in communicating. Teacher awareness of the symptoms of developmental language disorders, of speech impairment and of communication needs ensures a basis for the identification of barriers to learning for students, the recognition of the challenges they face, and for the implementation of a more responsive inclusive teaching practice in their classrooms. As Quigley and Smith (2023) acknowledge, there is need for teachers' knowledge to increase in the area of identifying developmental language disorders and working with speech and language therapists for the identification and ongoing educational needs of students throughout their time in school, whilst Heilmann et al. (2024) argue that "a framework that enhances the relevance of support to the educational purposes of inclusive education" may arise through effective inclusive teaching practices.

Consequently, teachers' knowledge can become an important element in effective inclusion as it may impact on identification and selection of learner's difficulties, the adaptation and response to instruction, the provision of supportive assistance in classroom, as demonstrated by Concannon (2022) who emphasise the cooperation needed in order to successfully identify the needs of learners with difficulties in speech, language and communication among teachers, speech and language therapists, and special education teachers, "with general education teachers retaining an important responsibility in the children's daily education," (p. 3) and also by Gonzlez-Fernandez and Iturra (2024) for collaborative practices of speech and language therapists and teachers especially as far as students with Developmental Language Disorders are concerned (p. 3). Teacher knowledge, expertise and experience correlate strongly with their capability to engage in practices of inclusive education (Al-Zboon and Al-Dababneh, 2022; Kamran et al., 2023); specifically, Diken et al (2025) find teachers' perspectives about communication difficulties to be relevant to inclusive classroom environments, implying the need of more profound knowledge from teachers to better identify such difficulties and react appropriately within their classrooms. Therefore, for learners with difficulties in communication there would be the need of increased opportunities and professional support, but also for the preparation of teachers' knowledge on communication differences to improve inclusion in everyday educational and class environments. To sum up, teacher knowledge regarding speech and language disorders plays an important role towards the development of an inclusive classroom by facilitating the identification of their learners' needs, enhancing responsiveness and facilitating meaningful participation in classroom activities.

Nonetheless, relevant research gaps are present in this paper. While research has broadly focused on teacher knowledge, attitudes, the collaborative practice and inclusion, there is scant evidence available specifically focusing on how teachers' knowledge of speech and language disorders enables the development of inclusive practices. Much of the reviewed literature focuses on early years, General Disability or inclusion more holistically and does not specifically investigate this within the secondary school setting.

Future research would do well to explore further how this teacher knowledge translates to inclusive practices at secondary level in order to enhance practices in teacher preparation programmes, continuing professional development, and educational settings with inclusive approaches.

REFERENCES

1. AlAssaf, R. A., & Khan, I. R. (2026). Machine learning-based short-term electricity forecasting within an operational and governance framework. *Journal of Information & Knowledge Management*, 2650043.
2. Alegre de la Rosa, O. M., & Villar Angulo, L. M. (2024). Teachers' and hearing and speech specialists' attitudes towards and knowledge of sustainable inclusive education for students using hearing devices. *International Journal of Inclusive Education*, 28(4), 344– 359.
3. Altes, A., Levy, F., Hanet, V., De Azevedo, D., Krug, P., Iacuzio, L., ... & Gerber, B. L. (2024). Impact of sex on severity assessment and cardiac remodeling in primary mitral regurgitation. *JACC: Advances*, 3(7_Part_1), 101023.
4. Al-Zboon, E., & Al-Dababneh, K. (2022). COVID-19 and the status of remote learning for students with disabilities in Jordan: The learned lessons. *International Journal of Special Education*, 37(1), 154–165.
5. Chow, R., Hasan, S., Zheng, A., Gao, C., Valdes, G., Yu, F., ... & Simone II, C. B. (2024). The accuracy of artificial intelligence ChatGPT in oncology examination questions. *Journal of the American College of Radiology*, 21(11), 1800–1804.
6. Concannon, L. (2022). Empowering LGBT People with Intellectual Disabilities to Live Socially Inclusive Lives: Debating Rights, Responsibility, and Risk. *Responsibility, and Risk* (August 12, 2022).
7. Diken, I. H., Tomris, G., Demirtaş, S. Ç., & Diken, Ö. (2025). Inclusive early childhood education in Turkey: Historical roots, current challenges, and future pathways. *Infants & Young Children*, 38(4), 334–349.
8. Easa, E., & Blonder, R. (2023). The development of an instrument for measuring teachers' and students' beliefs about differentiated instruction and teaching in heterogeneous chemistry classrooms. *Chemistry Teacher International*, 5(2), 125–141.
9. Gaitas, S., Carêto, C., Peixoto, F., & Castro Silva, J. (2024). Differentiated instruction: 'To be, or not to be, that is the question'. *International Journal of Inclusive Education*, 28(11), 2607–2623.
10. Glasby, J., Graham, L. J., White, S. L. J., & Tancredi, H. (2022). Do teachers know enough about the characteristics and educational impacts of developmental language disorder (DLD) to successfully include students with DLD? *Teaching and Teacher Education*, 119, 103868.
<https://doi.org/10.1016/j.tate.2022.103868>
11. González-Fernández, D., & Iturra, C. (2024). Exploring collaborative practices between teachers and speech and language therapists in inclusive education in Chile and the conditions that influence their development. *Journal of Research in Special Educational Needs*, 24(4), 999–1013.
<https://doi.org/10.1111/1471-3802.12689>
12. Hasanah, E., Suyatno, S., Maryani, I., Badar, M. I. A., Fitria, Y., & Patmasari, L. (2022). Conceptual model of differentiated-instruction (DI) based on teachers' experiences in Indonesia. *Education Sciences*, 12(10), 650.
13. Heilmann, F., Knöbel, S., & Lautenbach, F. (2024). Improvements in executive functions by domain-specific cognitive training in youth elite soccer players. *BMC Psychology*, 12(1), 528.
14. Irshad, M. K., Ansari, J. R., Noman, A., Javed, W., Lee, J. C., Aqeel, M., ... & Lee, S. S. (2024). Seed priming with Fe₃O₄-SiO₂ nanocomposites simultaneously mitigate Cd and Cr stress in spinach (*Spinacia oleracea* L.): A way forward for sustainable environmental management. *Ecotoxicology and Environmental Safety*, 286, 117195.
15. Kamran, M., Siddiqui, S., & Adil, M. S. (2023). Breaking barriers: The influence of teachers' attitudes on inclusive education for students with mild learning disabilities (MLDs). *Education Sciences*, 13(6), 606. <https://doi.org/10.3390/educsci13060606>
16. McGoldrick, P., Becker, W. C., Wesolowicz, D., & Black, A. C. (2026). Associations between medical cannabis use and prescription pain reliever use in US adults, 2022–2023. *Substance Use & Misuse*, 1–10.
17. Moallemi, E. A., Miller, M., Szetey, K., Chakori, S., Conti, C., Hammond, P., ... & Reed, P. M. (2025). Entry points for driving systemic change toward a more sustainable future. *One Earth*, 8(6).
18. Nel, M., & Bornman, J. (2025). Cultivating inclusive classroom practices in special education. *Education Sciences*, 15(8), 970.

19. Nketsia, W., & Opoku, M. P. (2024, June). Transforming teacher education in Sub-Saharan African countries towards the achievement of Sustainable Development Goal 4 by 2030: New opportunities, challenges, problems and prospects. In *Frontiers in Education* (Vol. 9, p. 1426730). Frontiers Media SA.
20. Pablo, J. K. (2026). Teachers' insights about conducive learning environment for inclusive classroom and strategies shaping inclusive classroom: A phenomenological approach. *Divine Word International Journal of Management and Humanities*, 5(1), 2919–2935.
21. Pozas, M., & Letzel-Alt, V. (2023). Determinants of Mexican lower secondary school students' attitudes toward inclusive education. *European Journal of Inclusive Education*, 2(1), 30–45.
22. Pozas, M., Letzel-Alt, V., & Schneider, C. (2022, November). "The whole is greater than the sum of its parts"—Exploring teachers' technology readiness profiles and its relation to their emotional state during COVID-19 emergency remote teaching. In *Frontiers in Education* (Vol. 7, p. 1045067). Frontiers Media SA.
23. Quigley, K., & Mee, J. F. (2025). Bovine congenital defects recorded in a national survey of dairy and beef herds over ten years (2014–2023). *Reproduction in Domestic Animals*, 60(5), e70067.
24. Solari, M., Vizquerra, M. I., & Engel, A. (2023). Students' interests for personalized learning: An analysis guide. *European Journal of Psychology of Education*, 38(3), 1073–1109.
25. Tugay, İ., & Bağlama, B. (2023). Attitudes and knowledge of special education teachers on language and speech disorders in children. *Turkish Special Education Journal: International*, 5(1), 32–41.
26. Ünal, Ç., Tunçer, G., Çopur, B., Pilanci, K. N., Okutur, K. S., Yazarbaş, K., ... & Ordu, Ç. (2023). Clinical and inflammation marker features of cancer patients with COVID-19: Data of Istanbul, Turkey multicenter cancer patients (2020–2022). *Current Medical Research and Opinion*, 39(7), 987–996.
27. Woodcock, S., & Anderson, J. (2025). Conceptions to classrooms: The influence of teacher knowledge on inclusive classroom practice. *International Journal of Educational Research Open*, 8, 100412.
<https://doi.org/10.1016/j.ijedro.2024.100412>
28. Yadav, S., & Huddar, A. (2025). Strategies for fostering inclusive early childhood education for children with communication disorders. *Disability, CBR & Inclusive Development*, 36(2), 70–84.
<https://doi.org/10.20372/dcidj.785>