

Teachers' Knowledge in Implementing Multiple Intelligences theory for Learners with Special Educational Needs: A Literature Review

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Abstract

This article is a literature review discussing the application of the Theory of Multiple Intelligences in teaching strategies by special education teachers for students with special educational needs (SEN). The review analyzes various past studies from 2016 to 2025 sourced from databases such as Scopus, ERIC, and Google Scholar. The main focus is on the way teachers integrate different types of intelligences linguistic, logical-mathematical, visual-spatial, bodily-kinesthetics, musical, interpersonal, intrapersonal, and naturalistic into their teaching to holistically meet the needs of SEN students. The reviewed studies suggest that Multiple Intelligences (MI)-informed teaching approaches may support student engagement, participation, conceptual understanding, and selected academic and social outcomes when teachers use diverse strategies such as visual aids, hands-on activities, music, games, and collaborative learning. However, the evidence also indicates that implementation is inconsistent and is influenced by teachers' knowledge, professional training, availability of instructional resources, planning time, and the diverse learning characteristics of SEN students. These findings emphasize on the need for stronger professional development and more systematic empirical research examining the implementation and outcomes of MI-informed teaching specifically within special education settings.

Keywords: Multiple Intelligences Theory, Special Education, Inclusive Education, Teaching Strategies, Students with Special Educational Needs

Introduction

Teachers are individuals who are directly involved in the field of education. They are required to possess high-level teaching skills, mastery of the subjects they teach, expertise in managing teaching and learning processes, and the ability to manage students' emotions, among other competencies. According to Siti Rubiyani et al. (2020), teachers must demonstrate a high level of competence in terms of skills, knowledge, and attitudes. Special education teachers are no exception; they must also possess specific knowledge in their field, especially in the use of appropriate teaching aids (instructional materials) for students with special educational needs (SEN). Siti Rubiyani et al. (2020) emphasized that teachers must master content

knowledge and continuously update their skills. This clearly shows that teachers must enhance their knowledge in line with current educational developments. Relying solely on outdated knowledge may cause teachers to fall behind, particularly in terms of teaching methods. Consequently, failure to update knowledge can lead to unengaging and unsuitable teaching practices.

However, a common issue observed in schools is the limited use of instructional materials (IM) during lessons (Norhiza et al., 2016). A lack of knowledge in using these materials results in teachers being unable to effectively apply them in their lessons. Some teachers even regard instructional materials as unimportant. Although traditional materials can still be useful, they must be adapted to the suitability and capabilities of SEN students. The limited knowledge of special education teachers regarding instructional materials results in infrequent use and inappropriate selection of resources, particularly for SEN students (Norhiza et al., 2016).

Students with special educational needs require individualized, flexible teaching approaches that focus on their strengths and potential. To improve the quality of teaching and learning (T&L), special education teachers must have sufficient knowledge and skills, including a sound understanding of relevant learning theories. One such theory suitable for application in the context of special education is the Theory of Multiple Intelligences introduced by Howard Gardner. This theory broadens the understanding of human intelligence, encompassing various domains such as linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligences.

The application of this theory in teaching and learning (T&L) enables teachers to design more comprehensive and appropriate instructional strategies tailored to the uniqueness of students with special educational needs (SEN). This approach not only increases student engagement but also supports their cognitive, social, and emotional development more effectively.

However, the effectiveness of implementing this theory in the classroom depends heavily on teachers' level of knowledge and understanding. Without sufficient knowledge, teachers may find it challenging to plan and conduct activities that align with the various types of intelligences among students. Furthermore, constraints such as lack of professional training, limited time, and high workload also pose challenges to the full integration of this theory. Therefore, this article aims to examine the level of knowledge among special education teachers regarding the Theory of Multiple Intelligences, as well as how this knowledge is applied during teaching and learning sessions for SEN students. It is hoped that this article will provide a clearer picture of teachers' readiness in implementing multiple intelligences-based approaches and propose improvement measures to strengthen instructional practices in the field.

Problem Statement

Special education requires teaching approaches that are flexible, comprehensive, and responsive to the unique needs of students with special educational needs (SEN). In meeting these needs, the Theory of Multiple Intelligences introduced by Howard Gardner has become an important foundation in designing student-centered instructional strategies. This theory suggests that every individual possesses different types of intelligences such as linguistic,

logical-mathematical, visual-spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic that can be utilized to enhance the effectiveness of teaching.

However, an issue that arises concerns the level of teachers' knowledge in effectively applying this theory during teaching and learning sessions in special education classrooms. Studies have found that although teachers are exposed to various learning theories during their initial teacher training, the practical application of the Multiple Intelligences Theory remains limited (Zuraidah et al., 2020). Teachers tend to rely on traditional or general approaches that do not adequately consider the individual intelligence strengths of students with special educational needs (SEN), thus hindering them from reaching their full potential.

The individual intelligences of SEN students are often overlooked, making it more difficult for them to reach their full potential. According to Nor Musliza and Mokmin (2016), kinesthetic intelligence, for example, refers to a learning style that involves practical activities such as movement and physical actions. Teaching methods supported by kinesthetic instructional materials are especially suitable for students who are active, hyperactive, or have attention difficulties. However, not all teachers are aware of the importance of aligning teaching strategies with the dominant intelligences of their students.

Instructional materials (IM) are tools or resources that help teachers convey understanding more effectively to students (Siti Sapizah & Wan Muna, 2018). The use of visual, auditory, and kinesthetic IM can stimulate student interest, enhance engagement, and improve learning outcomes. Instructional materials are not limited to a single type; various resources can be used to support classroom teaching. However, not all IM are suitable for students with special needs, as their use must consider the individual capabilities and abilities of these students. Thus, visual, auditory, and kinesthetic IM are among the most helpful in enabling SEN students to understand and master specific learning topics.

In this context, a study by Yusof et al. (2023) also highlighted that the lack of ongoing training and professional guidance is a major barrier for teachers in fully understanding and consistently applying the Multiple Intelligences approach. This situation makes it difficult for teachers to plan teaching and learning (T&L) activities that genuinely meet the diverse learning needs of their students.

Therefore, the issue of teachers' knowledge in applying this theory requires serious attention to ensure that teaching and learning strategies are more inclusive, enjoyable, and effective. This article seeks to examine the level of knowledge among special education teachers regarding the Theory of Multiple Intelligences and how it is applied in teaching and learning (T&L) sessions, particularly for SEN students in special education schools.

Literature Review

The Theory of Multiple Intelligences introduced by Howard Gardner has brought a new paradigm to the field of education, particularly in understanding the uniqueness and strengths of each student. In the context of special education, this theory offers a more inclusive and individualized approach that aligns with the needs of students with special educational needs (SEN). Several studies have been conducted to assess teachers' knowledge and the application of this theory in teaching and learning sessions involving SEN students.

According to Nor Musliza and Mokmin (2016), one of the intelligences commonly observed among SEN students is kinesthetic intelligence. Their study revealed that the use of kinesthetic instructional materials such as physical movement, manipulative activities, and hands-on tasks can enhance attention and engagement among hyperactive students during teaching and learning. This suggests that teachers who understand this type of intelligence are better able to plan more effective and student-friendly activities.

Zuraidah, Hamid, and Fauziah (2020) found that while many special education teachers acknowledge the importance of the Theory of Multiple Intelligences, they often face difficulties in fully integrating all types of intelligences into their lessons due to time constraints, limited materials, and a lack of training. Although teachers demonstrate strong awareness of the theory, consistent and structured implementation remains lacking.

A study by Yusof, Abdullah, and Ismail (2023) emphasized that special education teachers' knowledge of learning theories, including the Theory of Multiple Intelligences, is at a moderate level. They recommended that ongoing professional development be provided to teachers to ensure the systematic application of this theory, especially in designing lessons tailored to the individual strengths of SEN students.

Furthermore, a study by Amira and Noraini (2021) indicated that the application of visual and interpersonal intelligences in special education classrooms can help enhance students' social skills and conceptual understanding. Teachers with a deep understanding of these intelligences are more likely to employ strategies such as collaborative learning, mind mapping, and engaging visual activities.

Lastly, the study by Eyo and Nkanga (2020) found that the educational level of special education teachers influences their commitment to planning high-quality instruction that meets students' needs. However, this largely depends on the level of experience possessed by special education teachers in facing such instructional challenges. Therefore, strengthening teachers' knowledge through training, workshops, and professional collaboration is highly necessary.

In brief previous studies have examined various aspects of teachers' knowledge and instructional practices related to Multiple Intelligences (MI) Theory. Existing evidence suggests that teachers generally recognise the importance of addressing learners' diverse abilities and intelligence profiles; their ability to translate this theoretical understanding into classroom practice may be influenced by several factors, including professional training, teaching experience, availability of instructional resources, time constraints, and institutional support. Studies have also highlighted the potential of visual, auditory, kinesthetics, interpersonal, and other differentiated instructional approaches to support students with diverse learning needs.

Nevertheless, the existing evidence remains fragmented. Some studies focus primarily on teachers' general pedagogical competence or knowledge of instructional materials, while others examine particular teaching strategies or individual types of intelligence. Comparatively less attention has been given to synthesising the way special education teachers understand MI Theory, the way this knowledge is translated into instructional

practices for learners with special educational needs (SEN), and the factors facilitate or hinder its classroom implementation. This distinction is important because SEN learners illustrate highly diverse cognitive, communication, behavioural, sensory, and learning characteristics, requiring teachers to adapt instructional strategies beyond those typically used in mainstream classrooms.

Therefore, a focused synthesis of the literature is needed to connect evidence concerning teachers' knowledge, readiness, professional training, instructional practices, and implementation challenges within the specific context of special education. Accordingly, this literature review examines existing studies published between 2016 and 2025 to identify what is currently known about special education teachers' knowledge and implementation of MI-based teaching for SEN learners. By integrating these strands of evidence, the review aims to clarify existing patterns, identify gaps in current research, and emphasize on implications for teacher professional development and future research in special education.

Teaching Strategies Based on Multiple Intelligences Theory in Teaching And Learning Sessions For Students With Special Needs

Teaching and learning (T&L) for students with special educational needs (SEN) requires strategies that are flexible, student-centered, and responsive to the unique learning styles of each individual. The Theory of Multiple Intelligences introduced by Gardner (1983) emphasizes that every individual possesses different types of intelligences that can be developed through appropriate learning environments. Therefore, teachers need to design instructional strategies that integrate various types of intelligences to ensure that teaching and learning (T&L) becomes more meaningful, engaging, and inclusive for SEN students.

Use of Teaching Aids Based on Intelligences

The use of visual, auditory, and kinesthetic teaching aids is highly encouraged for students with special educational needs (SEN). For instance, visual aids and images help students with memory retention and are among the most effective tools for memorization (Murihah et al., 2015). Auditory teaching aids, on the other hand, incorporate elements such as music, rhythm, and voice. Meanwhile, kinesthetic aids focus on physical movement and are particularly suitable for students who exhibit hyperactive characteristics (Nor Aqilah et al., 2022).

Differentiated Instruction

Special education teachers need to apply differentiated instructional strategies by adjusting the content, process, and product of learning according to students' dominant intelligences. According to Mohd Zuri et al. (2018), hearing impairments can affect students' ability to speak, as they struggle to hear sounds accurately. Students with hearing impairments may not be able to perceive musical audio effectively. However, not all students with hearing loss are completely unable to benefit from auditory teaching aids. As noted by Mohd Zuri et al. (2019), the degree of hearing loss varies among individuals. Therefore, if students have mild to moderate hearing loss, teachers may still use audio materials or louder voice inputs compared to those used for students with more severe impairments.

The Effectiveness of Instructional Materials for Students with Special Educational Needs

The use of instructional materials (IM) has proven effective in improving student behavior, attention, understanding, and more. Findings show that the use of IM with students with

special educational needs (SEN) positively impacts their behavior and interest in learning. Indirectly, students are also able to concentrate better during lessons. Charles and Ying (2020) stated that IM is an effective and essential approach to capturing students' interest and attention in the classroom. Additionally, the use of IM has enhanced students' comprehension of lesson content. As a result, students have demonstrated progress in various activities and worksheets assigned by the teacher.

Sharul Azim et al. (2020) explained that the use of visual materials in education provides better conceptual understanding and helps students grasp concepts more easily and quickly. Nor Musliza and Mokmin (2016) noted that auditory learning involves the use of sound, music, tone, rhythm, voice, verbal instructions, or explanations. Therefore, the use of engaging sounds, modern music, and cheerful rhythms can have a positive emotional impact on SEN students.

Conclusion

Overall, the implementation of the Theory of Multiple Intelligences (MI) in teaching and learning (T&L) sessions for students with special educational needs (SEN) shows great potential in enhancing learning effectiveness, student motivation, as well as academic achievement and character development. However, teachers' levels of knowledge in applying this theory in practice vary, depending on the training, experience, and professional support they receive.

Special education teachers play a critical role in planning and implementing instructional strategies that align with the unique learning styles of SEN students. Therefore, in-depth knowledge and understanding of the MI theory must be cultivated through continuous professional development programs, pedagogical workshops, and the sharing of best practices within schools and the wider special education community (Noraini et al., 2018). Teachers must be knowledgeable and skilled in employing a variety of teaching strategies across all areas of the curriculum to ensure that all SEN students are able to learn and actively participate in classroom activities.

References

- Amira, N. A., & Noraini, M. Y. (2021). Strategi pengajaran berasaskan kecerdasan visual dan interpersonal dalam kalangan guru pendidikan khas. *Jurnal Kurikulum & Pengajaran Asia Pasifik*, 9(3), 112–123.
- Charles, M. L., & Ying-Leh, L. (2020). Peranan bahan bantu mengajar dan persekitaran maklum balas dalam meningkatkan kualiti pembelajaran pelajar. In *National Research Innovation Conference (NRIcon 2020)*, Kuching, Sarawak.
- Eyo, M., & Nkanga, E. (2020). Teachers' competence in identifying pupils with learning disabilities: A study in Nigerian primary schools. *Issues in Educational Research*, 30(3), 883–896.
- Ghani, M. Z., & Che Ahmad, A. (2018). Masalah pembelajaran (Cet. ke-3). Universiti Pendidikan Sultan Idris.
- Abdullah, M., Abdullah, A. H., & Rosman, A. S. (2015). Identifikasi peranan ibu bapa dalam kelangsungan pendidikan tahfiz anak. In *Seminar Antarabangsa Isu-Isu Pendidikan 2015 (IsPEN2015)* (hlm. 151–162). Auditorium Dr. Zainuddin Jaafar, KUIS.
- Aqilah, N., & Alias, A. (2022). Pengetahuan guru pendidikan khas terhadap bahan bantu mengajar visual, auditori dan kinestetik yang sesuai terhadap murid berkeperluan khas. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(10), 1–10.
- Fadila, N., Mahamod, Z., & Wan Mohamad, W. M. R. (2016). Kompetensi, sikap dan penggunaan aplikasi web 2.0 sebagai bahan bantu mengajar dalam kalangan guru Bahasa Melayu sekolah rendah. *Jurnal Pendidikan Bahasa Melayu – JPBM (Malay Language Education Journal – MyLEJ)*, 6(2), 52–58.
- Noraini, M., Jamaludin, S., & Halim, N. (2018). Amalan pengajaran guru pendidikan khas berdasarkan Teori Kecerdasan Pelbagai. *Jurnal Pendidikan Malaysia*, 43(2), 67–74.
- Mustafa, N. M., & Basri, M. (2016). Pembelajaran al-Quran berasaskan teknik dan gaya pembelajaran VAK (visual, auditori dan kinestetik). *Jurnal Pendidikan Islam*, 31(2), 155–170.
- Sharul Azim Sharudin, Normah Mustaffa, & Shahrul Nazmi Sannusi. (2020). Peranan visual Instagram dalam meningkatkan kesedaran kesihatan masyarakat. *Journal of Social Sciences and Humanities*, 17(2), 91–103.
- Siti Rubiyani Bt Omar, Noradilah Binti Abdul Wahab, Mohd Shahril bin Othman, Abdullah Bin Yusof, & Raihan Binti Arifin. (2020). Kompetensi guru pendidikan khas terhadap murid bermasalah pembelajaran: Kajian literatur. *Jurnal Pendidikan Khas Malaysia*, 10(1), 55–62.
- Yusof, N. S., Abdullah, M. H., & Ismail, S. (2023). Tahap pengetahuan guru pendidikan khas terhadap penerapan teori pembelajaran dalam pengajaran murid bermasalah pembelajaran. *Jurnal Penyelidikan Pendidikan*, 45(2), 56–67.
- Zuraidah, M. Z., Hamid, J., & Fauziah, R. (2020). Pelaksanaan pendekatan Kecerdasan Pelbagai dalam kalangan guru pendidikan khas: Satu kajian kes. *Jurnal Pendidikan Malaysia*, 45(1), 78–89.