Relationship between Multiple Intelligences and Learning Styles for Promoting Inclusive Education

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Abstract

The present study investigates the connection between Multiple Intelligences (MI) and Learning Styles (LS) and its implications for effective and inclusive education. Recognizing the diverse intellectual strengths and preferred learning methods of students is essential for designing learner-centered instructional strategies. The study emphasizes the role of teachers, parents, and society in providing equitable learning opportunities and fostering holistic development. By exploring how dominant intelligences influence learning preferences, the research aims to offer insights for inclusive classroom practices, curriculum planning, and teacher training programs. The findings are expected to empower teachers to adapt their pedagogy according to students' cognitive profiles, enhance academic engagement, and promote the creation of an inclusive knowledge society. This study contributes to understanding learner diversity and supports evidence-based strategies for improving educational effectiveness in contemporary settings.

Keywords: Multiple intelligences, learning styles, inclusive education, learner diversity, instructional strategies.

Education aims at the holistic development of learners by recognizing and nurturing their individual differences. In modern educational research, understanding learners' cognitive abilities and preferred learning patterns is essential for enhancing instructional effectiveness. Two important constructs in this context are MI and LS.

Gardner argued that intelligence is composed of several distinct dimensions- linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalistic, and existential. The combination of these intelligences varies across learners, affecting their learning outcomes.

Learning Styles reflect how learners perceive, process, and retain information, including visual, auditory, reading/writing, and kinesthetic preferences. The relationship between MI and LS indicates that dominant intelligences may shape preferred learning methods. Understanding this relationship supports learner-centered pedagogy and inclusive education.

Review of Related Literature

The theoretical foundation of this research lies in Howard Gardner's (1983) model of MI, which proposes that human cognitive abilities are diverse and consist of several distinct domains such as linguistic, logical-mathematical, interpersonal, and bodily-kinesthetic intelligences. Gardner's framework challenged the traditional, unitary view of intelligence and provided a basis for instructional differentiation. Empirical research suggests that MI-aligned instruction enhances academic achievement, motivation, and classroom participation across diverse learner populations (Armstrong, 2009; Campbell, Campbell and Dickinson, 2004).

Research on Learning Styles (LS) suggests that learners vary in their preferred ways of obtaining and processing information. Dunn and Dunn (1993) argued that students achieve better learning outcomes when instructional approaches correspond to their individual learning preferences, including visual, auditory, and kinesthetic styles.

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Similarly, Reid (1987) identified multiple perceptual learning style preferences, such as visual, auditory, kinesthetic, tactile, group, and individual styles and developed the PLSPQ as a tool to evaluate them. In addition, Kolb (1984), through the theory of experiential learning, emphasized that learners vary in the ways they perceive and process learning experiences. Felder and Silverman (1988) also emphasized that recognizing learning style differences is essential in mixed-ability classrooms to support diverse cognitive processes.

A growing body of evidence has examined the relationship between MI and LS, recognizing that these constructs are interconnected and together influence learning outcomes. Bas (2010) identified a positive association between specific intelligences and preferred LS modalities, such as linguistic intelligence with verbal learning preferences. Kaya and Akdemir (2016) similarly reported that interpersonal intelligence predicts collaboration-oriented styles, while Sulaiman and Mohezar (2018) showed logical-mathematical intelligence aligns with analytical learning preferences.

Studies integrating both MI and LS found significant benefits in academic performance and learner engagement. Mohamad and Embi (2017) concluded that MI profiles combined with LS information significantly increased secondary students' engagement and performance. Rivera (2021) reported that MI-LS aligned instruction improved concept retention more than traditional approaches. Ozturk and Gurbuz (2019) found enhanced achievement in diverse groups when instruction was simultaneously tuned to MI and LS strengths.

In the context of inclusive education, differentiated pedagogy is critical to providing equitable learning opportunities. Hussein and Al-Azzawi (2020) demonstrated that MI-LS-based instructional models reduced participation challenges for learners with special needs. Al-Qahtani (2019) highlighted that incorporating MI and LS strategies increased learner autonomy and self-efficacy among students with different cognitive profiles.

Several studies focused specifically on inclusive classrooms. Darwish (2018) investigated how multiple intelligences and learning style preferences appear in learners with learning difficulties, concluding that individualized instruction can boost motivation and help lower anxiety levels. Rajput and Singh (2019) emphasized that MI-LS approaches benefited students with learning disabilities by creating multiple pathways for engagement.

Other research has explored contextual applications of MI and LS. Baraz, Shoorcheh and Varzande (2018) reported improved academic performance in science classrooms when teaching strategies matched both MI and LS. Pawar and Kulkarni (2020) found that MI-LS differentiated instruction enhanced conceptual understanding in mathematics among heterogeneous learners.

Meta-analytical studies further support the combined approach. Ozturk (2020) synthesized research on MI and LS correlations, concluding that integrating both frameworks positively influences learner outcomes in inclusive settings. Singh and Kaur (2021) reported that MI-LS alignment significantly predicts academic achievement irrespective of gender and socio-economic status.

Cross-cultural investigations, such as Tomlinson (2019), demonstrated that MI-based, LS-aware pedagogy improved educational access in culturally diverse classrooms. Zhang and Li (2020) found similar effects in technology-enhanced learning environments, suggesting that digital resources tailored to MI and LS promote inclusion.

Contemporary studies have focused on blended and digital learning contexts. Lee and Choi

(2021) demonstrated that digital instructional materials developed according to MI and LS principles can increase engagement among learners with varied educational needs. Sharma and Gupta (2022) found that interactive adaptive learning systems based on MI-LS alignment enhanced self-regulated learning.

Although these research indicate strong support for MI and LS frameworks in promoting inclusive education, research gaps remain regarding longitudinal effects and standardized measurement tools. Consequently, further empirical investigation is necessary to deepen understanding of how MI and LS jointly contribute to learner-centered pedagogies that foster meaningful inclusion for all learners.

Research Gap

Most studies examine MI and LS individually, with limited research investigating their integrated relationship. There is insufficient evidence on how dominant intelligences influence learning preferences and how this knowledge can be applied to foster equitable and inclusive education. Investigating MI-LS associations addresses this gap and provides insights for practical classroom strategies.

Objectives

1. To analyze the conceptual link between Multiple Intelligences and Learning Styles.
2. To examine how this connection can support teachers in developing learner-centered teaching strategies.
3. To investigate the association between MI and LS in ensuring equitable access to learning opportunities and promoting an inclusive knowledge society.

Need

Modern classrooms consist of learners with diverse intellectual abilities and learning preferences. Traditional teaching approaches frequently overlook these differences, which may lead to decreased student involvement and lower academic outcomes. Understanding students' cognitive strengths and learning patterns is essential to improve teaching effectiveness.

MI theory emphasizes multidimensional intelligence, while LS highlights variations in how students learn. Limited research exists on their interrelationship, especially regarding equitable learning opportunities and inclusive classroom practices. Investigating MI-LS relationships helps teachers design learner-centered strategies, ensure holistic development, and promote an inclusive knowledge society.

Definitions

Multiple Intelligences (MI)-In this study, Multiple Intelligences refer to the different intellectual abilities of learners proposed by Howard Gardner, such as linguistic, logical–mathematical, interpersonal, and bodily–kinesthetic, which influence how students understand and apply knowledge.

Learning Styles (LS)-Learning styles represent the unique ways in which learners prefer to perceive, understand, and interact with information. These preferences may include visual, auditory, kinesthetic, tactile, group-based, or independent approaches to learning.

Inclusive Education-An inclusive approach to education prioritizes fairness in learning opportunities while adapting teaching practices to meet the diverse needs of every student.

Relationship between MI and LS-The term describes how students' dominant types of intelligence are associated with the ways they naturally approach and engage in learning activities.

Teacher's Role-Teachers act as facilitators who guide and support the learning process. By recognizing students' dominant intelligences and individual learning preferences, they can develop meaningful and effective instructional strategies. They also ensure equitable learning opportunities, promote inclusive classroom

environments, and support learners' cognitive, emotional, and social development.

Role of Parents and Society-Parents and society provide the social, emotional, and cultural environment that shapes students' learning experiences. Parents can recognize their children's strengths and encourage activities aligned with their dominant intelligences. Society contributes by offering educational resources, extracurricular opportunities, and supportive learning environments. Collaboration among teachers, parents, and society ensures equitable learning, fosters holistic development, and promotes an inclusive knowledge society.

Teaching Strategies

- Teachers can adopt differentiated instruction by presenting the same concept through multiple methods such as visual aids, discussions, and hands-on activities so that learners with different intelligences and learning styles can understand the content effectively.
- The use of multimodal teaching strategies such as videos, diagrams, storytelling, and practical activities can support diverse learning needs and help to create an engaging and inclusive classroom environment.
- Collaborative learning activities like group discussions, peer learning, and cooperative tasks can enhance participation and support students with strong interpersonal abilities while encouraging interaction among diverse learners.
- Activity-based and project-based learning can help students implement knowledge through real-life tasks, which supports kinesthetic and logical learners and encourages deeper understanding.
- The use of digital tools and interactive learning resources can provide flexible learning opportunities and address varied learning styles within inclusive classrooms.
- Flexible assessment methods such as presentations, projects, and portfolios can allow students to demonstrate their understanding according to their strengths and abilities, thereby supporting inclusive learning practices.

Significance of the Study

Understanding MI-LS relationships helps teachers design learner-centered strategies, promote equitable learning opportunities, and create inclusive classrooms. It supports holistic development and guides curriculum planning, pedagogical approaches, and teacher training programs to enhance the effectiveness of education.

Conclusion

The study emphasizes that recognizing the relationship between MI and LS is essential for promoting effective and inclusive education. Such insights assist educators in formulating student-centered teaching methods, strengthening engagement and improving learning outcomes. Collaboration among teachers, parents, and society provides holistic support and equitable learning opportunities. Integrating MI and LS into classroom practices empowers teachers, fosters students' cognitive, emotional, and social development, and contributes to the creation of an inclusive and knowledge oriented society.

References

Al-Qahtani, M. (2019). The impact of multiple intelligences and learning styles strategies on students' autonomy and self-efficacy. *International Journal of Educational Research*, 14(2), 45–56.

Armstrong, T. (2009). *Multiple intelligences in the classroom* (3rd ed.). ASCD.

Baraz, S., Shoorcheh, S., & Varzande, M. (2018). The effect of multiple intelligences and learning styles on students' academic performance in science classrooms. *Journal of Educational Studies*, 12(3), 67–79.

Bas, G. (2010). The relationship between multiple intelligences and learning styles. *Educational Sciences: Theory & Practice*, 10(3), 1573–1581.

Campbell, L., Campbell, B., & Dickinson, D. (2004). *Teaching and learning through multiple intelligences* (3rd ed.). Pearson.

Darwish, A. (2018). Multiple intelligences and learning styles among students with learning difficulties. *Journal of Special Education Research*, 9(1), 22–35.

Dunn, R., & Dunn, K. (1993). *Teaching secondary students through their individual learning styles: Practical approaches for grades 7–12*. Allyn & Bacon.

Felder, R. M., & Silverman, L. K. (1988). Learning and teaching styles in engineering education. *Engineering Education*, 78(7), 674–681.

Hussein, A., & Al-Azzawi, M. (2020). Multiple intelligences and learning styles-based instructional models for inclusive education. *International Journal of Inclusive Education*, 24(5), 501–515.

Kaya, F., & Akdemir, O. (2016). The relationship between multiple intelligences and learning styles among secondary school students. *Educational Research and Reviews*, 11(4), 138–145.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.

Lee, J., & Choi, H. (2021). Digital learning environments and multiple intelligences-based learning styles. *Computers & Education*, 168, 104–120.

Mohamad, M., & Embi, M. (2017). Integrating multiple intelligences and learning styles in secondary education. *Journal of Educational Psychology Studies*, 9(2), 85–97.

Ozturk, N. (2020). A meta-analysis of the relationship between multiple intelligences and learning styles. *Educational Review*, 72(6), 789–804.

Ozturk, N., & Gurbuz, H. (2019). The effect of multiple intelligences and learning styles on academic achievement. *Journal of Educational Sciences*, 13(1), 56–70.

Pawar, S., & Kulkarni, V. (2020). Differentiated instruction based on multiple intelligences and learning styles in mathematics classrooms. *Indian Journal of Educational Research*, 8(2), 112–120.

Reid, J. M. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, 21(1), 87–111.

Rivera, M. (2021). The impact of multiple intelligences and learning styles-based instruction on students' concept retention. *Journal of Educational Development*, 15(3), 140–152.

Sharma, P., & Gupta, R. (2022). Adaptive learning systems based on multiple intelligences and learning styles. *International J of Educational Technology*, 19(2), 55–68.

Singh, R., & Kaur, H. (2021). Multiple intelligences and learning styles as predictors of academic achievement. *Indian Journal of Educational Psychology*, 45(2), 89–102.

Sulaiman, T., & Mohezar, S. (2018). Multiple intelligences and analytical learning styles among secondary students. *Asian Journal of Education*, 9(1), 34–46.

Tomlinson, C. A., et al. (2019). Differentiated instruction in culturally diverse classrooms. *Journal of Educational Research*, 112(5), 615–628.

Zhang, Y., & Li, X. (2020). Technology-enhanced learning environments and multiple intelligences. *Computers in Education Journal*, 66(4), 233–245.