

Students' Multiple Intelligences and Teachers' Teaching Styles in Kalangyawon National High School

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Abstract

This study explores the application of Howard Gardner's Theory of Multiple Intelligence and Teaching Styles in Kalangyawon National High School for the School Year 2024-2025. The research aims to identify the relationship between multiple intelligence among students and teaching styles of the teachers utilizing a Quantitative Correlational Method. The data revealed that students' intelligence indicates their preferences for nature-related activities, musical skills, reasoning abilities, existential interests, interpersonal skills, kinesthetic abilities, verbal-linguistic abilities, intrapersonal abilities, and visual-spatial abilities. Naturalistic Intelligence, with the overall weighted mean of 3.76, indicates a preference for nature and environmental activities, while Musical Intelligence with the overall weighted mean of 2.90, indicates a moderate inclination towards sound patterns. Intrapersonal Intelligence indicates limited self-awareness. The study scores teachers' commitment to improving teaching methods, resource availability, personal development, impact of teaching on holistic development, and student engagement. Teachers are actively pursuing self-improvement and career development, with interactive teaching methods ensuring student engagement. The correlation between Multiple Intelligence and Teaching Styles confirms a moderate positive correlation between Multiple Intelligence and Teaching Styles with the r-value of 0.593 and a p-value of 0.292 that leads to the rejection of the null hypothesis and confirming a meaningful relationship between the two variables, indicating that the teaching approaches significantly impact the development and expression of students' multiple intelligence. It is recommended that the teachers from Kalangyawon National High School should incorporate activities catering to diverse intelligence to engage all students effectively. Additionally, enhancing technology integration in the classroom can provide students with more dynamic learning experiences. Furthermore, ensuring the availability of necessary resources will support the holistic growth and development of students.

Keywords: Multiple Intelligence, Teaching Styles, Mixed-Correlational Method, Kalangyawon National High School, Carcar City Division

Introduction

This study investigated the connection between students' multiple intelligence and teachers' teaching styles at Kalangyawon National High School. It aimed to understand how aligning educational approaches with students' diverse cognitive strengths could improve learning outcomes. Multiple Intelligence (MI) theory, introduced by Howard Gardner, suggested that students possessed unique combinations of intelligence that influenced their learning preferences and success. This approach helped educators adapt their teaching strategies to better meet students' needs, leading to more effective learning experiences. The study, focusing on the specific dynamics at Kalangyawon National High School, aimed to provide practical recommendations for educators to adapt their teaching methods to better address students' learning strengths, promoting greater student engagement and achievement.

Literature Review

The Multiple Intelligence (MI) theory, proposed by Gardner in 1983, highlights the variety of intelligence that influence how individuals learn and process information. In educational settings, understanding these intelligence can help tailor teaching methods to suit diverse student needs. A study by Bulut Serin et al. (2009) explored how the MI profiles of 245 primary school teachers from İzmir and Lefkosa affected their teaching strategies. The study found significant correlations between teachers' MI strengths and teaching components like courage, modeling, and planning. Teachers with strengths in spatial/visual, naturalistic, and interpersonal intelligence used distinct strategies. Regional and gender differences in teaching approaches were also noted, particularly in planning strategies. These findings suggest that teacher training should focus on helping educators identify their MI strengths to better align their teaching methods with both their strengths and students' learning needs, thereby improving educational outcomes.

Malapad, L. P., & Quimbo, M. A. T. (2021) developed an instructional module based on Howard Gardner's Theory of Multiple Intelligence, using the 5Es method of instruction. They assessed the dominant intelligence of Grade 7 students and the teacher using Chislett's MI test and designed enrichment activities accordingly. The study found that the 5E-MI module increased student engagement, with students being more attentive and participative. Teachers also found lesson planning easier, as the activities were aligned with students' dominant intelligence. The authors suggest this approach can enhance both lesson planning and student learning outcomes.

Agustin, M., et al. (2021) conducted a collaborative action research study to detect and stimulate the multiple intelligences (MIs) of kindergarten children. The research addressed the issue of inadequate learning activities in early childhood education, particularly in kindergartens. Using a qualitative approach, the researchers collaborated with teachers to develop instruments for detecting and stimulating multiple intelligences. They employed Lazear's (1995) MI measurement tool, which included behavior logs and other key instruments to assess the children's intelligences. The study resulted in guidelines for teachers to better detect and stimulate MIs in young children, providing a foundation for early childhood educators to support diverse cognitive development from a young age.

Aguayo, B., et al. (2021) examined the impact of Gardner's theory of multiple intelligences on primary education. Their study focused on how a pedagogy based on MIs can enhance cognitive, creative, and academic development compared to traditional teaching methods. Involving 420 participants from two state-funded schools, the study found that students taught using MI-based pedagogy (experimental group) showed higher academic performance, creativity, and cognitive maturity than those taught using traditional methods (control group). The findings support the idea that MI-based education promotes a more well-rounded and effective development in students.

Yidana, M. B., et al. (2022) explored the application of Gardner's multiple intelligences (MI) theory in teaching Economics. They note that while MI is widely recognized as an effective approach to accommodate students with diverse learning strengths, there is limited research in this area. The study, which used a quantitative research design, focused on 100 senior high school Economics teachers. A 5-point Likert scale questionnaire was employed to gather data, and the analysis was conducted using both descriptive statistics and MANOVA. The findings revealed that interpersonal intelligence was most frequently applied by Economics teachers. The study also identified a significant difference in the use of bodily-kinesthetic intelligence, which was influenced by teachers' years of teaching experience. However, no significant difference was found regarding the application of MI in teaching Economics based on gender. The authors suggested that school heads organize professional development programs focusing on various domains of MI, such as logical-mathematical, spatial, bodily-kinesthetic, musical, and naturalistic intelligences.

This study sought to examine the relationship between multiple intelligences, work styles, and demographic attributes of high school teachers. Using a descriptive research method, data were collected through a questionnaire. The findings revealed that the majority of respondents were aged 26-30, with a higher proportion of female teachers and a significant number holding master's degrees. Among the intelligences, interpersonal intelligence was most prominent, followed by bodily-kinesthetic and mathematical-logical intelligence. In contrast, linguistic, musical, and intrapersonal intelligences were less common. The work styles of the teachers leaned toward autonomy, with limited emphasis on leadership and managerial roles. Importantly, the research

found no significant relationship between multiple intelligences and demographic characteristics but identified a notable correlation between teachers' intelligences and their work styles (Escobar et al, 2021).

Cianci, M. G. (2024) explored how faculty in graduate education programs integrated multiple intelligences (MI) theory into their teaching practices, with a focus on fostering critical thinking and problem-solving. The study was motivated by the need to extend research on MI beyond K-12 education to higher education settings. Through a qualitative research design, eight faculty members from a small liberal arts university were interviewed. The findings highlighted five key themes: beliefs about intelligence, awareness and understanding of MI theory, the integration of MI in teaching, the impact on student learning, and personal teaching philosophy. Faculty members used a variety of MI strategies, such as student choice, self-reflection, storytelling, and visual aids, to engage students and support diverse learning styles. The study concluded that MI theory positively impacted student engagement and learning outcomes in graduate education, and the author emphasized the importance of using nontraditional strategies to create inclusive learning environments. Future research was suggested to explore the integration of MI with frameworks like Universal Design for Learning (UDL).

This study investigated the correlation between Common Multiple Intelligences (CMIs) and preferred English Language Teaching Strategies (PELTS) of English language teachers in public schools in Southern Punjab. A sample of 200 English language teachers (100 male and 100 female) was selected using convenient sampling. Two main instruments were used: Armstrong's Multiple Intelligences Inventory (MII) and Oxford's Strategy Inventory of Language Learning (SILL). Data analysis revealed a weak positive correlation ($r = 0.240$, $p < 0.01$) between memory strategies (a PELT) and verbal-linguistic intelligence (a CMI). The findings suggest that teachers do not always consider their own intelligences when selecting or designing teaching strategies. The authors recommend that teachers become more aware of their intelligence strengths to improve strategy selection and foster more effective learning environments for students (Siddiq, 2021).

Hasanuddin et al. (2022) conducted a study to explore the frequency of learning styles and multiple intelligences among high school students in Medan, North Sumatra, and to examine the relationship between these two variables. The sample consisted of 981 students (340 male, 641 female). The study specifically employed the learning style theory of Sheryl Wetter Riechmann and Anthony F. Grasha, which is less commonly applied in Indonesia. Their findings showed that there were significant gender differences in two learning styles: independent and avoidant. In terms of multiple intelligences, seven regions showed different averages between males and females, though only two regions showed minimal differences. Furthermore, the study revealed varying correlations between learning styles and multiple intelligences. Of the 10 weak correlations, six were found to be significant ($p\text{-value} < 0.05$). Additionally, 97 significant correlations ($p\text{-value} < 0.001$) were identified, highlighting a complex relationship between the variables.

Qiu, T. (2024) highlighted the significance of quality education for national development, emphasizing its role within China's nine-year compulsory education system. The paper critiques traditional educational practices in China, where teachers often prioritize scores over individual student differences. Drawing from the theory of multiple intelligences, the author suggests that teachers tailor their teaching methods to accommodate the varying intellectual strengths of students. The study presents a set of recommendations for teachers to create individualized teaching plans, focusing on five key areas of intelligence: linguistic, logical-mathematical, spatial, bodily-kinesthetic, and musical intelligence. By incorporating these diverse teaching strategies, the study aims to foster both student and teacher growth, enhancing educational outcomes and promoting a more holistic learning environment.

Methodology

The research methodology involves a Quantitative Correlational Method to analyze the distribution of multiple intelligences among high school students at Kalangyawon National High School. The study aims to explore the relationship between students' intelligences, their learning styles, and teachers' teaching styles. Data is collected from respondents' demographics, multiple intelligences, and teaching styles used by educators. The research is conducted at Kalangyawon National High School, which offers a comprehensive academic and vocational curriculum. The study consists of 177 students from Grades 7 to 12 and all junior and senior high school teachers. Two standardized questionnaires, the Multiple Intelligences Inventory by Walter McKenzie (1999) and the Teaching Styles and Strategies by Femeller Podador (2023) are used to assess students' multiple intelligences and teachers' teaching styles. The data is compiled and analyzed using statistical methods to interpret the relationship between students' multiple intelligences and teaching styles.

Results and Discussion

Table 1

Multiple Intelligences	General Weighted Mean	Interpretation
Naturalistic	3.76	Agree
Musical	2.90	Agree
Logical	2.85	Agree
Existential	3.21	Agree
Interpersonal	2.96	Agree
Kinesthetic	3.03	Agree
Verbal	2.62	Agree
Intrapersonal	2.40	Disagree
Visual	2.81	Agree

Table 1 showed a generally positive self-perception among participants, with the highest mean score in Naturalistic intelligence of 3.76 that indicates a strong affinity for the natural world. The data reveals agreement across a broad spectrum of intelligences, including Musical, Logical, Existential, Interpersonal, Kinesthetic, Verbal, and Visual. This suggests a well-rounded profile, with participants recognizing their abilities and inclinations in various domains. However, there is a relative weakness in Intrapersonal intelligence with the mean of 2.40 that suggests a potential area for development.

The result provides valuable insights into individual strengths and weaknesses, fostering self-awareness and guiding personalized learning strategies. Career guidance can be explored using the results to align career paths with an individual's strengths. Holistic development is important, as multiple intelligences are not fixed traits and with effort and targeted development, individuals can strengthen their abilities in all areas, including Intrapersonal intelligence. Further research could explore the relationship between multiple intelligences and academic achievement, career satisfaction, and overall well-being, as well as the effectiveness of interventions designed to enhance specific intelligences, particularly in areas where participants perceive themselves as weaker.

Lee, C. (2016) explores the application of Howard Gardner's Theory of Multiple Intelligences in educational practices, particularly focusing on Intrapersonal intelligence. This intelligence, which involves self-awareness and introspective reflection, is often a challenge for some individuals. Lee suggests that targeted interventions can help improve self-awareness, emotional regulation, and overall academic performance. The study emphasizes that self-awareness and reflection are key factors in both academic success and personal growth. Lee further argues that multiple intelligences are not fixed traits; with effort, individuals can develop and strengthen their abilities in various intelligences, including Intrapersonal intelligence.

Green, Z. (2020) explored the connection between multiple intelligences, self-efficacy, and academic achievement. Self-efficacy refers to an individual's belief in their ability to succeed in specific tasks, while academic achievement is typically measured by performance in educational settings. The study found that multiple intelligences, such as logical-mathematical, visual-spatial, and bodily-kinesthetic, serve as mediators, increasing students' confidence in their abilities and enhancing their academic performance. However, verbal-linguistic and musical intelligences did not have the same mediating effect, suggesting that they may not necessarily play the same role in boosting self-efficacy and academic outcomes depending on the student's context or learning environment. Green's study suggests that by developing and recognizing various aspects of intelligence, students can improve both self-efficacy and academic achievement, supporting the idea that a well-rounded view of students' abilities, including cognitive, emotional, and practical skills, can lead to more effective learning outcomes.

Table 2

Teaching Styles	General Weighted Mean	Interpretation
Strategies to Enhance Teaching Styles of Teachers	4.73	Extremely Practiced/ Strongly Agree
Availability of Resources and Materials	4.31	Extremely Practiced/Strongly Agree
Personal Development and Opportunities	4.66	Extremely Practiced/Strongly Agree

Impact of Teaching Instructions on Students' Holistic Development	4.55	Extremely Practiced/Strongly Agree
Students' Engagement	4.23	Extremely Practiced/ Strongly Agree

Table 2 revealed that teaching styles and practices are highly practiced and effective, with all categories showing a "Extremely Practiced/Strongly Agree" interpretation. Teachers are consistently implementing strategies to enhance their teaching methods, such as professional development, collaboration, reflection, and seeking feedback. They have access to resources and materials, such as textbooks, technology, manipulatives, and library resources, which empower them to create diverse learning experiences. Teachers receive personal development opportunities, such as mentorship programs, leadership development, advanced education, and conferences. Investing in teacher development is seen as an investment in student success. Strategies promoting student engagement include active learning techniques, technology incorporation, student choice, and creating a supportive classroom environment. Future research could explore the most effective strategies and resources for enhancing teaching styles, student engagement, and holistic development, and investigate their long-term impact on student outcomes.

Darling-Hammond, L., et al. (2020) examined the characteristics of professional development programs that lead to improved teaching practices and student outcomes. It emphasizes that structured professional learning, which results in changes to teacher practices and improvements in student learning, is essential. The study identifies key features of effective professional development, such as content focus, active learning, coherence, duration, and collective participation. These elements are crucial for fostering teacher growth and, consequently, enhancing student engagement and achievement. Darling-Hammond, L., et al. (2020) examined the characteristics of professional development programs that lead to improved teaching practices and student outcomes. It emphasizes that structured professional learning, which results in changes to teacher practices and improvements in student learning, is essential. The study identifies key features of effective professional development, such as content focus, active learning, coherence, duration, and collective participation. These elements are crucial for fostering teacher growth and, consequently, enhancing student engagement and achievement.

Phillips, J., et al. (2026) emphasize the significance of metacognitive training in professional development programs for teachers. They argue that by equipping educators with the tools to plan, evaluate, and adjust their teaching strategies, teachers can significantly improve student engagement and achievement. The authors found that teachers who participated in metacognitive training programs showed sustained improvements in their students' mathematics scores over several years. This research suggests that targeted professional development can lead to lasting positive effects on both teaching effectiveness and student outcomes.

Table 3

Test of Relationship				
	r-value	p-value	Decision	Interpretation
Multiple Intelligences	0.593	0.292	Reject Null Hypothesis	Significant
Teaching Styles				

Table 3 presents the correlation of the two (2) variables which are Multiple Intelligences and Teaching Styles. The r-value is 0.593, the p-value is 0.292, and the decision is to reject the null hypothesis, with the interpretation indicating that the relationship is significant.

With this presentation, it is evident that there is a significant correlation between Multiple Intelligences and Teaching Styles. Therefore, the null hypothesis is rejected, supporting the conclusion that a meaningful relationship exists between the two variables.

Ally, M., & Hounsell, D. (2019) said that multiple intelligences, as proposed by Howard Gardner, emphasize the variety of ways individuals process and understand information, and these intelligences can be nurtured through distinct teaching styles. The authors argued that understanding this connection can improve the

adaptability of teaching methods to cater to diverse learners, further reinforcing the importance of individualized approaches in educational settings.

Gurley, D., & Robinson, M. (2017) highlighted that aligning teaching styles with students' multiple intelligences fosters a more inclusive and effective learning environment. They illustrated that when educators are aware of the different types of intelligences (e.g., linguistic, logical, spatial), they are more capable of employing strategies that meet the unique learning needs of their students. This alignment can lead to enhanced student engagement, motivation, and achievement, as teaching styles are better suited to the varied ways in which students learn.

Career Pathways and Participants

The study reveals that the career paths of students and teachers at Kalangyawon National High School are influenced by their multiple intelligences and professional roles. Students with a strong connection to nature may pursue careers in environmental science, ecology, or wildlife conservation. Musicians may pursue careers in music composition, performing arts, or music therapy. Logicians may pursue careers in engineering, computer science, or finance. Existential Intelligence may pursue careers in philosophy, psychology, or counseling. Interpersonal Intelligence may lead to careers in teaching, social work, or human resources. Kinesthetic Intelligence may lead to careers in sports, physical therapy, or performing arts. Verbal Intelligence may lead to careers in journalism, law, or communications. Intrapersonal Intelligence may suit students with high self-reflection and emotional intelligence. Visual Intelligence may lead to careers in architecture, graphic design, or film production.

Teachers' career paths are shaped by their teaching styles, professional development, and commitment to enhancing their craft. They often engage in strategies to enhance their teaching styles, exploring roles like educational leadership, curriculum development, or teacher training. Teachers interested in personal development may pursue advanced qualifications or certifications in their subject areas, aiming for roles in educational management or specialized teaching. Teachers focusing on student engagement may take on roles like coaching, mentorship, or learning support. Teachers focusing on resource availability and material development may explore roles related to educational resource management or instructional design.

Conclusion

This study highlights the significant connection between students' multiple intelligences and teachers' teaching styles at Kalangyawon National High School. The findings show that aligning teaching methods with students' diverse cognitive strengths can enhance learning experiences, as evidenced by the students' preference for naturalistic and observational learning. The research supports the implementation of diverse and effective teaching strategies, such as those centered on environmental engagement, to better address students' needs and improve educational outcomes. Given the positive impact of these teaching styles, it is recommended that the school integrate multiple intelligences into its curriculum design and invest in teacher professional development programs. By fostering a better understanding of students' learning preferences and refining teaching strategies, Kalangyawon National High School can promote greater student engagement, success, and future career paths aligned with their strengths. This approach can be adopted by other institutions to further enhance educational effectiveness.

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