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A Comparative Study on Multiple Intelligence and Academic Achievement of Grade V Students of Private Schools in Srikakulam Town

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ABSTRACT

The present study explores the relationship between multiple intelligences and academic achievement among grade five students in selected private schools in Srikakulam Town, Andhra Pradesh. Keeping in view of Howard Gardner's Theory of Multiple Intelligences, the researcher examines the profile of 400 respondents, including age, gender, parents' educational attainment and occupation. The study describes the students' multiple intelligences across eight dimensions: naturalistic, linguistic, spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal and logical mathematical. Additionally, it assesses the academic performance of the students as reflected in their general point average grades. A descriptive survey method is employed by the researcher which utilizes a questionnaire composed of demographic information and McKenzie's (1999) Multiple Intelligences Survey. Data analysis involves various statistical tools, including frequency, percentages, mean, t-tests, Analysis of Variance (ANOVA), and Pearson Product Moment Correlation Coefficient. Results indicate that respondents predominantly possess Naturalistic, Musical, Verbal, and Interpersonal intelligences. Surprisingly, no significant difference was observed in the perception of multiple intelligences when grouped according to profile variables such as age, gender, parents' educational attainment and occupation. A slight negative correlation ($r = -0.193$, $p < 0.01$) was found between

academic performance and multiple intelligence, suggesting that as multiple intelligence scores increase, there is a slight decrease in academic performance. The study concludes with recommendations for educators and schools to incorporate multiple intelligence theory into teaching strategies and curriculum development. These include improvement of course syllabi, providing required facilities and equipment, encouraging teacher professional development, and creating special programs for children with unique intelligences

Introduction

This study explores the relationship between multiple intelligences and academic achievement among grade five students in selected private schools in Srikakulam town, Andhra Pradesh. The research is based on Howard Gardner's Theory of Multiple Intelligences, which says that intelligence is not a single entity; rather it is fixed entity which comprises of several distinct types of intelligence that individuals possess in varying levels. The study aims to examine the profile of the respondents, which includes age, gender, parents' educational attainment and occupation. It will describe the multiple intelligences of the students across eight dimensions: naturalistic, linguistic, spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal and logical-mathematical. The research will also assess the academic performance of the students as reflected in their general point average grades. Additionally, the study will investigate whether there are significant differences in multiple intelligences when students are grouped according to profile variables, and whether there is a significant relationship between academic performance and multiple intelligences. A review of related literature and studies reveals a growing interest in the application of multiple intelligences theory in education. Earlier researches have shown mixed results regarding the relationship between multiple intelligences and academic achievement. Some studies have found positive correlations between certain types of intelligence and academic performance, while others have found no significant relationship. The current study aims to contribute to this body of knowledge by examining the specific context of grade five students in Srikakulam town, AndhraPradesh. The study involves 400 grade five students from selected private schools Srikakulam town, AndhraPradesh, chosen through stratified random sampling. Data gathering will be supplemented by observation, interviews, and analysis of school documents. This study is significant as it may provide valuable insights for students, parents, teachers, and administrators. By understanding the relationship between multiple intelligences and academic achievement, educators can develop more effective teaching

strategies and learning environments that cater to diverse intelligence profiles. The findings may also help students recognize their strengths and potential areas for growth, guiding them towards more suitable career paths in the future. The research is limited to the selected grade five students in Srikakulam town, AndhraPradesh during the 2025-2026 academic year. While the findings may not be generalized to all contexts as it can serve as a basis for similar studies in other settings or grade levels. Through this investigation, the researcher hopes to contribute about the role of multiple intelligences in education and its potential impact on academic achievement.

Methodology

The research adopts a descriptive survey method, which is appropriate for investigating and interpreting the conditions of the present study. This approach allows the researcher to gather data on present conditions and analyse the relationships between variables. The study involves 400 grade five students from seven selected private schools in Srikakulam town, AndhraPradesh, chosen through stratified random sampling using Sloven's formula. The respondents are distributed across the schools as follows: New Central School (42 students), Samskar International School (26 Students), Vikas Concept School (56 students), Gurajada Gayatri School (126 students), Tagore School (33 students), Meridean School (48 students) and Global School (69 students). The primary instrument used for data collection is a questionnaire composed of two parts. The first part gathers demographic information about the respondents and their general average grades. The second part utilizes the Multiple Intelligences Survey authored by McKenzie (1999), which consists of nine sets of statements designed to assess the respondents' skills and interests across different intelligence domains. To ensure the validity and reliability of the instrument, the researcher sought feedback from her guide. Prior to data collection, the researcher obtained necessary permissions from the School Principals of the participating schools. The researcher personally administered the questionnaires to explain the concept of multiple intelligences and address any questions or clarifications. Data collection took place during the 2025-2026 academic year, with the researcher providing examples to help students understand and complete the questionnaire accurately. For data analysis, the researcher employs various statistical tools. These include frequency and percentages to describe the demographic profile of the respondents, means to analyse the multiple intelligence scores, t-tests and Analysis of Variance (ANOVA) to examine significant differences between variables, and Pearson Product Moment Correlation Coefficient to determine relationships between multiple intelligences and academic achievement. The statistical treatments are carefully selected to address the research questions and test the hypotheses. The use of these diverse analytical tools allows for a comprehensive examination of the data, providing insights into the multiple

intelligences of the grade five students and their relationship to academic achievement in the context of Srikakulam Town private schools.

Results and Discussion

Profile of the respondents Age: Out of Four Hundred (400) student-respondents, there were 183 or 45.75% who were 10 years old; 151 or 37.75%, 11 years old; 57 or 14.25%, 12 years old; 9 or 2.25%, 13 years old. The computed weighted mean age of the student-respondents was 10 years old.

Gender: Out of Four Hundred (400) student-respondents, there were 126 or 39.30% were males; 195 or 60.70%, females.

Educational Attainment of Father: Out of Four Hundred (400) student-respondents, there were 3 or 0.75% whose father have attained elementary level of schooling; 277 or 67.25%, graduate; 105 or 26.25%,Masters; 18 or 04.50%, doctoral graduate.

Occupation of Father: Out of Four Hundred (400) student-respondents, there were 41 or 10.25% whose fathers were government employees; 238, 59.50%, private employees; 104 or 26%, entrepreneurs and 17 or 4.25% who were others like farmers, LIC agents and politicians.

Educational Attainment of Mother: Out of Four Hundred (400) student-respondents, there were 46 or 11.50% whose mother have attained elementary level of schooling; 317 or 79.25%, graduate; 268 or 67%, Masters; 3 or 0.75%, doctoral graduate.

Occupation of Mother: Out of Four Hundred (400) student-respondents, there were 26 or 6.5% whose mothers were government employees; 91, 22.75%, private employees; 23 or 5.75%, entrepreneurs and 260 or 65% who were others like home makers.

Academic Performance: Four Hundred (400) student-respondents, there were 26 or 6.5% who have obtained excellent grade of 91-100; 284 or 71%, 81-90, Very Good ; 70 or 17.50%, 71-80, Good; 17 or 4.25%, 61-70, Can do better; 3 or 0.75%, 51-60 Need to improve. The computed weighted mean of the academic performance was (71) interpreted to be Very Good.

Perceptions towards Multiple Intelligence

Section 1 – Naturalistic Intelligence: For indicator 1, In enjoy categorizing by common traits, obtained a total scores of (210) and ranked 7th; indicator 2, Ecological issues are important to me, (390), ranked 5th; indicator 3, Classification helps me make sense of new data (430), ranked 4th; indicator 4, I enjoy

working in a garden (480) ranked 2nd; indicator 5, I believe preserving our National Parks is important (600) ranked 1st; indicator 6, Putting things in hierarchies makes sense to me (440) ranked 3rd; indicator 7, Animals are important in my life (300) ranked 6th; indicator 8, My home has a recycling system in place (120) ranked 8.5th; indicator 9, I enjoy studying biology, botany and/or zoology (30) ranked 10th an in indicator 10, I pick up on subtle differences in meaning (120) ranked 8.5th.

Section 2 – Musical Intelligence: For indicator 1, I easily pick up on patterns (150) and ranked 8th; indicator 2, I focus in on noise and sounds (290), ranked 6th; indicator 3, Moving to a beat is easy for me (360), ranked 5th; indicator 4, I enjoy making music (480) ranked 3rd; indicator 5, I respond to the cadence of poetry (130) ranked 10th; indicator 6, I remember things by putting them in a rhyme (490) ranked 2nd; indicator 7, Concentration is difficult for me if there is background noise (400) ranked 4th; indicator 8, Listening to sounds in nature can be very relaxing (250) ranked 7th; indicator 9, Musical are more engaging to me than dramatic plays (110) ranked 9th and in indicator 10, Remembering song lyrics is easy for me (600) ranked 1st.

Section 3 – Logical Intelligence: For indicator 1, I am known for being neat and orderly (260) and ranked 6th; indicator 2, Step-by step directions are a big help (390), ranked 5th; indicator 3, Problem solving comes easily to me (530), ranked 2nd; indicator 4, I get easily frustrated with disorganized people (350) ranked 4th; indicator 5, I get easily frustrated with disorganized people (440) ranked 3rd; indicator 6, Logical puzzles are fun (580) ranked 1st; indicator 7, I can't begin an assignment until I have all my "ducks in a row (250) ranked 8th; indicator 8, Structure is a good thing (290) ranked 7th; indicator 9, I enjoy troubleshooting something that isn't working properly (120) ranked 9th; and in indicator 10, Things have to make sense to me or I am dissatisfied (90) ranked 10th.

Section 4-Interpersonal Intelligence: For indicator 1, I learn best interacting with others (240) ranked 8th; indicator 2, I enjoy informal chat and serious discussion (280) ranked 7th; indicator 3, the more the merrier (410) ranked 2.5th; indicator 4, I often serve as a leader among peers and colleagues. (380) ranked 5th; indicator 5, I value relationships more than ideas or accomplishments. (410) ranked 2.5th; indicator 6, Study groups are very productive for me (590) ranked 1st; indicator 7, I am a "team player". (390) ranked 4th; indicator 8, Friends are important to me. (340) ranked 6th; indicator 9, I belong to three clubs or organizations. (120) ranked 10th; indicator 10, I dislike working alone (130) ranked 9th.

Section 5-Kinesthetic Intelligence: For indicator 1, I learn by doing (170) ranked 10th; indicator 2, I enjoy making things with my hands. (240) ranked 7th; indicator 3, Sports are a part of my life. (310) ranked 6th; indicator 4, I use gesture and non- verbal cues when I communicate (380) ranked 3rd;

indicator 5, Demonstrating is better than explaining.(530) ranked 1.5th; indicator 6, I love to dance (510) ranked 4th; indicator 7, I like working with tools. (380) ranked 4th; indicator 8, Inactivity can make me more tired than being very busy. (320) ranked 5th; indicator 9, Hands- on activities are fun (230) ranked 8th; indicator 10, I live an active lifestyle (180) ranked 9th.

Section 6 – Verbal Intelligence: For indicator 1, Foreign languages interest me (230) ranked 8th; indicator 2, I enjoy reading books, magazines and web sites (210) ranked 9th; indicator 3, I keep a journal (360) ranked 3rd; indicator 4, Words puzzle like crosswords or jumbles are enjoyable (490) ranked 2nd; indicator 5, Taking notes helps me remember and understand (340) ranked 4th; indicator 6, I faithfully contact friends through letters and or/ e-mail (580) ranked 1st; indicator 7, It is easy for me to explain my ideas to others (250) ranked 6th; indicator 8, I write for pleasure (290) ranked 5th; indicator 9, Puns, anagrams and spoonerism are fun (240) ranked 7th; and in indicator 10, I enjoy public speaking (120) ranked 10th.

Section 7-Visual Intelligence: For indicator 1, My attitudes effects how I learn (350) ranked 5th; indicator 2, I like to be involved in causes that help others (290) ranked 7th; indicator 3, I am keenly aware of my moral beliefs (370) ranked 4th; indicator 4, I learn best when I have an emotional attachment to the subject (380) ranked 3rd; indicator 5, Fairness is important to me (470) ranked 1st; indicator 6, Social justice issues interest me (420) ranked 2nd; indicator 7, Working alone can be just productive as working in a group (300) ranked 6th; indicator 8, I need to know why I should do something before I agree to do it (190) ranked 9th; indicator 9, When I believe in something I give more effort towards it (210) ranked 8th; and in indicator 10, I am willing to protest or sign a petition to right or wrong (130) ranked 10th.

Section 8-Spatial Intelligence: For indicator 1, Rearranging a room and redecorating are fun for me (200) ranked 9th; indicator 2, I enjoy creating my own works of art (280) ranked 6th; indicator 3, I remember better using graphic organizers (300) ranked 4.5th; indicator 4, I enjoy all kinds of entertainment media (420) ranked 3rd; indicator 5, Charts, graph and tables help me interpret data (460) ranked 2nd; indicator 6, A music video can make me more interested in a song (500) ranked 1st; indicator 7, I can recall things as mental pictures (300) ranked 4.5th; indicator 8, I am good at reading maps and blueprints (240) ranked 7.5th; indicator 9, Three dimensional puzzles are fun (240) ranked 7.5th; and in indicator 10, I can visualize ideas in my mind (170) ranked 10th.

Test of Significant Difference

Section 1-Naturalistic Intelligence: For age profile variable, obtained Sig. Value of (.226); gender boys (.11) girls(.21); highest educational attainment of father (.22); occupation of father (.18); highest educational attainment of mother (.25); and occupation of mother (.12) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 2 – Musical Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 3 Logical Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 4-Interpersosnal Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 5-Kinesthetic Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 6-Verbal Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 7-Visual Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Section 8-Spatial Intelligence: For age profile variable, obtained Sig. Value of (.03); gender boys (.10) girls(.20); highest educational attainment of father (.21); occupation of father (.18); highest educational attainment of mother (.24); and occupation of mother (.11) all of which are higher than 0.05 Alpha Level of Significance, therefore the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to age, gender, educational attainment of father, occupation of father, educational attainment of mother and occupation of mother.

Relationship of Academic Performance and MIs

Pearson (r) was employed as shown in Table 1, to test the significant relationship between academic performance and the intelligence of the student-respondents. The computer generated Pearson (r) value of -.407** using SPSS denotes slight correlation. A t-test for significance was used to conclude if the value of (r) = -.407** is significant at 0.05 Alpha Level of significance. The significant t-test value of (.000) is lower than 0.05 Alpha Level of Significance, Thus the Null Hypothesis of no significant difference was rejected, hence there is significant difference. The findings show that at 0.05 % significance level, the data provide sufficient evidence to conclude that academic performance and multiple intelligence are slightly linearly correlated. Findings revealed that academic performance of the pupils slightly increases with slightly increasing multiple intelligence. These findings supports to the study of Cabrera (2007) found to have significant relationship between logical, linguistics and visual intelligence and the academic performance of the respondents.

Table 1. Pearson (r) to test the Significant Relationship Between Academic Performance And the Perceived Intelligences

Sources Of Correlations	Intelligence	Academic Performance
Intelligence	Pearson Correlation	1
	Sig. (2-Tailed)	400
	N	-.0407**
Academic Performance	Pearson Correlation	.000
	Sig. (2-Tailed)	400
	N	-.0407**

Conclusions

Based on the findings, the researcher concluded that the typical student-respondent is a female, nearly ten years old, with graduation level educated parents. The father is typically a private employee, while the mother is often a home maker. Academically, the student respondents were rated as Very Good (VG) in their performance. The study revealed that the respondents predominantly possess Naturalistic, Musical, Verbal, and Interpersonal intelligences. Interestingly, no significant differences were observed in the perception of multiple intelligences when grouped according to profile variables such as age, gender, parents' educational attainment and occupation. In light of these conclusions, the researcher offers several recommendations. Teachers should have awareness and sound knowledge of their students' particular intelligences for redefining and preparing target objectives based on needs and demands of the student. The methodologies and strategies based on multiple intelligence have to be introduced in to classroom teaching. Schools must be always ready to provide the necessary facilities and equipment to enhance these multiple intelligences and skills based on it. Teachers are encouraged to attend seminars and workshops to improve their teaching skills and strategies and to update themselves. Parents also should be encouraged and given knowledge to fully encourage their children with noted special skills and talents. Most importantly, schools should plan and organize programs for children with unique and particular intelligences. Teachers should work towards improving their students to be able to visualize, create and imagine in structuring teaching materials, classroom activities that maintain and improve students' interest in learning. To enhance student's lives, the multiple intelligence strategies should be

applied and integrated into classroom activities. Finally, to validate the results and findings of this study, it is recommended that simultaneous studies be conducted with in depth and wide range.

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