

## RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCE AND ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS

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### **Abstract**

The present study aimed to find out the relationship between multiple intelligence and academic achievement of higher secondary students. Survey method with stratified random sampling technique has been followed for the present study. Multiple intelligence scale standardized by Surbhi Agarwal and Suraksha Pall (2016) has been adapted for the present study to measure the multiple intelligence of higher secondary students. The academic achievement of the students was measured through the marks obtained by the selected higher secondary students in their school examination. The total sample consists of 679 higher secondary students which includes 382 male and 297 female higher secondary students. The study revealed that the academic achievement of higher secondary students is high and they have average level of total multiple intelligence and also all the dimensions of multiple intelligence such as, linguistic intelligence, logical intelligence, bodily kinesthetic intelligence, spatial intelligence, musical intelligence, naturalistic intelligence, interpersonal intelligence, intrapersonal intelligence and existential intelligence. It further revealed that the total multiple intelligence and all the dimensions of multiple intelligence is significantly correlated with academic achievement of higher secondary students.

**KEYWORDS:** students - multiple intelligence – academic achievement

### **1. INTRODUCTION**

The school is concerned with the development of the whole child and all round development of the physical, social aesthetic and emotional qualities of the children. During the process of education of the child has to be continuously evaluated with regard to the level of intelligence, attainment, aptitudes and interest and educational objectives that are determined by the needs of these learners, the demands of the society and the psychology of learning. Therefore, the objectives of education and the development of the physical, social, aesthetic and emotional qualities in the child are assessed only through the academic achievement of a child, and they are very important in this process of education. According to Gardner (1999), all human beings possess all different intelligences in varying degrees and each individual manifests varying levels of these different intelligences and thus each person has a unique 'cognitive profile'; that is, all human beings possess all different intelligences in varying amounts; each individual has a different composition; different intelligences are located in different areas of the brain and can either work independently or together; by applying multiple intelligence we can improve education; and these intelligences may define human species. Investigation and studies on the correlates of achievement need to be thoroughly examined with a view to improved curricular

development, efficient teaching and better academic achievement.

## 2. NEED AND IMPORTANCE OF THE STUDY

The present study has great significance for students and teachers in providing the necessary impetus to actively improve the multiple intelligence in order to enhance the academic achievement of the students. In many researches, it was found that the implementation of multiple intelligence theory in their teaching and learning had a positive impact on academic achievement of the students and gained self-confidence and motivation throughout their learning process (Greenhawk, 1997; Haley, 2001; Kazu, 2009). According to Heikkinen et al. (1985), teachers themselves have a preferred method in perceiving and processing information and it is logical that teachers will communicate and teach their subject matter that is most compatible with their learning style. The multiple intelligence classrooms provides the environment for teachers to use varied teaching strategies, integrated curriculum and authentic assessment to provide creative and active learning that engages all students in the construction of their own meaning (Stanford, 2003). The study conducted by Koura and Hebaishi (2014) explored that there is a significant correlation found between multiple intelligences and achievement in specific language skills and language aspects. Raissi and Zainali (2016) found out that moderate inter-correlation exists between verbal-linguistic and visual-spatial intelligences and academic performance achievement. Multiple intelligences such as logical-mathematical, visual-spatial, verbal-linguistic, intrapersonal, bodily-kinaesthetic, interpersonal and naturalistic have a significant positive relationship with academic performance of students. It became clear that multiple intelligences like visual-spatial, verbal-linguistic and interpersonal statistically significant and were able to predict academic performance, whereas musical intelligence was a negative predictor for academic performance/achievement of the students. Eraslam and Ali (2016) explored that the multiple intelligence was found to affect success and permanence of 8th grade students. The various researches conducted both in India and other countries indicate that the multiple intelligence factors are significantly correlated with the students' academic achievement.

The present study will be useful for students as well as teachers, because the knowledge of the relationship of these factors under study will enable the teachers and policymakers to plan teaching and learning process keeping in view of these factors. The present study will provide an insight to the parents to deal effectively with their children, so that they will be able to develop an understanding of the importance of multiple intelligence to enhance academic achievement of the higher secondary students, and also proper training and guidance may be given to the children accordingly.

Based on the above discussion the investigator felt it necessary to find out the relationship between academic achievement and multiple intelligence of higher secondary students.

## 3. OBJECTIVES OF THE STUDY

1. To find out the level of academic achievement and multiple intelligence of higher secondary students.
2. To find out the relationship between academic achievement and multiple intelligence of higher secondary students.

#### 4. METHOD OF STUDY

Survey method is a method for collecting and analysing data, obtained from large number of respondents respecting specific population collected through highly structured and detailed tool. This method is useful for development studies where the current problems and described at present. Hence, survey method has been employed for the present study. Multiple Intelligence Scale standardized by Surbhi Agarwal Suraksha Pal, (2016) has been used to measure the multiple intelligence of higher secondary students. It includes the nine dimensions of multiple intelligence such as, existential intelligence, interpersonal intelligence, logical intelligence, intrapersonal intelligence, linguistic intelligence, bodily/kinesthetic intelligence, spatial intelligence, musical intelligence and naturalistic intelligence. The academic achievement of the students was measured through the marks obtained by the selected higher secondary students in their school examination. For the present study eleven schools in the Vellore District of Tamilnadu have been selected randomly by lottery method to collect data. For the selection of the sample from the selected schools, the stratified random sampling technique has been followed. The total sample consists of 679 students which includes 382 male and 297 female higher secondary students.

#### 5. RESULT AND DISCUSSION

##### Level of Multiple Intelligence and Academic Achievement

The mean and standard deviation has been calculated to find out the level of academic achievement and multiple intelligence of higher secondary students. The result of the analysis is presented in table-1.

Table- 1

##### Mean and Standard Deviation of Various Dimensions of Multiple Intelligence and Academic Achievement of Higher Secondary Students

S. No.	Variables	Number	Mean	StandardDeviation
1.	Linguistic	679	31.47	4.19
2.	Logical	679	33.63	4.29
3.	Bodily Kinesthetic	679	32.49	4.54
4.	Spatial	679	32.20	4.75
5.	Musical	679	31.60	5.87
6	Naturalistic	679	32.25	6.55
7	Interpersonal	679	36.30	4.49
8	Intrapersonal	679	36.17	4.00
9	Existential	679	34.01	5.09
10	Multiple intelligence	679	302.13	37.97
11	Academic achievement	679	64.05	10.74

Table-1 shows the mean and standard deviation for linguistic intelligence of higher secondary students and it is found to be 31.47 and 4.19 respectively. As per the norms of the

tool, the scores between 27.28 to 35.66 indicate that the linguistic intelligence is average. Hence, it can be inferred that the level of linguistic intelligence is average for the higher secondary students.

The mean and standard deviation for logical intelligence of higher secondary students is found to be 33.63 and 4.29 respectively. As per the norms of the tool, the scores between 29.34 to 37.92 indicate that the logical intelligence is average. Hence, it can be inferred that the level of logical intelligence is average for the higher secondary students.

The mean and standard deviation for bodily/kinesthetic intelligence of higher secondary students is found to be 32.49 and 4.54 respectively. As per the norms of the tool, the scores between 27.95 to 37.03 indicate that the bodily kinesthetic intelligence is average. Hence, it can be inferred that the level of bodily/kinesthetic intelligence is average for the higher secondary students.

The mean and standard deviation for spatial intelligence of higher secondary students is found to be 32.20 and 4.75 respectively. As per the norms of the tool, the scores between 27.45 to 36.95 indicate that the spatial intelligence is average. Hence, it can be inferred that the level of spatial intelligence is average for the higher secondary students.

The mean and standard deviation for musical intelligence of higher secondary students is found to be 31.60 and 5.87 respectively. As per the norms of the tool, the scores between 25.73 to 37.47 indicate that the musical intelligence is average. Hence, it can be inferred that the level of musical intelligence is average for the higher secondary students.

The mean and standard deviation for naturalistic intelligence of higher secondary students is found to be 32.25 and 6.55 respectively. As per the norms of the tool, the scores between 25.7 to 38.8 indicate that the naturalistic intelligence is average. Hence, it can be inferred that the level of naturalistic intelligence is average for the higher secondary students.

The mean and standard deviation for interpersonal intelligence of higher secondary students is found to be 36.30 and 4.49 respectively. As per the norms of the tool, the scores between 31.81 to 40.79 indicate that the interpersonal intelligence is average. Hence, it can be inferred that the level of interpersonal intelligence is average for the higher secondary students.

The mean and standard deviation for intrapersonal intelligence of higher secondary students is found to be 36.17 and 4.00 respectively. As per the norms of the tool, the scores between 32.17 to 40.17 indicate that the intrapersonal intelligence is average. Hence, it can be inferred that the level of intrapersonal intelligence is average for the higher secondary students.

The mean and standard deviation for existential intelligence of higher secondary students is found to be 34.01 and 5.09 respectively. As per the norms of the tool, the scores between 28.92 to 39.00 indicate that the existential intelligence is average. Hence, it can be inferred that the level of existential intelligence is average for the higher secondary students.

The mean and standard deviation for total multiple intelligence of higher secondary students is found to be 302.13 and 37.97 respectively. As per the norms of the tool, the scores

between 264 to 340 indicate that the total multiple intelligence is average. Hence, it can be inferred that the level of total multiple intelligence is average for the higher secondary students.

The mean and standard deviation for the academic achievement of higher secondary students is found to be 64.05 and 10.74 respectively. Hence, it can be inferred that the level of academic achievement of higher secondary students is high.

### Relationship Between Multiple Intelligence and Academic Achievement

The coefficient of correlation has been carried out to find out the relationship between the academic achievement and multiple intelligence of higher secondary students. The result of the analysis is given in table-2.

**Table-2**

#### Co-efficient of Correlation between Multiple Intelligence and Academic Achievement of Higher Secondary Students

S.No	Variables	Number (N)	Co-efficient of Correlation ('r' Value)
1	Linguistic Intelligence and Academic Achievement	679	.395**
2	logical Intelligence and Academic Achievement		.406**
3	Bodily/kinesthetic Intelligence and Academic Achievement		.405**
4	Spatial Intelligence and Academic Achievement		.475**
5	Musical Intelligence and Academic Achievement		.507**
6	Naturalistic Intelligence and Academic Achievement		.518**
7	Interpersonal Intelligence and Academic Achievement		.381**
8	Intrapersonal Intelligence and Academic Achievement		.376**
9	Existential Intelligence and Academic Achievement		.451**
10	Total Multiple Intelligence and Academic Achievement		.551**

Table-2 shows the coefficient of correlation between various dimensions of multiple intelligence and academic achievement of higher secondary students. It revealed that the total multiple intelligence and also all the dimensions of multiple intelligence such as, logical intelligence, bodily/kinesthetic intelligence, spatial intelligence, musical intelligence, naturalistic intelligence, interpersonal intelligence, intrapersonal intelligence and existential intelligence is significantly correlated with the academic achievement of higher secondary students.

## 6. CONCLUSION

The result of the study can provide opportunity to the teachers to become aware of the level of intelligence and its relationship with the academic achievement of the students. The study revealed that the academic achievement of higher secondary students is high and they have average level of total multiple intelligence and also all the dimensions of multiple intelligence such as, linguistic intelligence, logical intelligence, bodily kinesthetic intelligence, spatial intelligence, musical intelligence, naturalistic intelligence, interpersonal intelligence, intrapersonal intelligence and existential intelligence. It further revealed that the total multiple intelligence and all the dimensions of multiple intelligence is significantly correlated with academic achievement of higher secondary students. Hence, it is quite clear that all the dimensions of multiple intelligences should properly be inculcated or improved in the students to achieve more and more in the academic achievement and life success. Moreover, the relationship of multiple intelligence with academic achievement will help the educationalist to make the curriculum of students accordingly. An earnest effort should be made by the practitioners to change the curriculum to a certain level at least and be redesigned according to the multiple intelligence. Home environment, parental care and support can also play an important role in improving the academic achievement of the learners through polishing multiple intelligence.

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