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A STUDY ON ACADEMIC ACHIEVEMENT OF ELEMENTARY TEACHER TRAINEESIN RELATION TO THEIR MULTIPLE INTELLIGENCE

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ABSTRACT
The study aimed at finding out the relationship between multiple intelligence and academic achievement of elementary teacher trainees. The study followed the normative survey method. Multiple intelligence scale and academic achievement test were administered to 150 elementary teacher trainees from various teacher training institutes in Ramanathapuram district. The data obtained were subjected to descriptive, differential and relational analysis. The study found that there significant relationship between multiple intelligence and academic achievement of elementary teacher trainees. Significant difference is also found between male and female teacher trainees in respect their multiple intelligence. The outcome of the study may have valuable implications for the elementary teacher education students.
KEY WORDS: Multiple Intelligence, elementary teacher trainees, academic achievement

INTRODUCTION
Intelligence is the word,where students keep hearing too often. Rarely do they get an opportunity to understand the theory of multiple intelligence as proposed by Howard Gardner. Elementaryteacher trainees should evaluate their own intelligence and the intelligenceof others. In that context,an understanding of the theory helps in accurately defining the concept of intelligence and determining the scientific basis of the methods of measuring intelligence. Human beings have got an insight into the components ofmultiple intelligence: linguistic, logic mathematical, musical, spatial, bodily kinaesthetic, naturalistic, interpersonal and intrapersonal intelligence. For instance linguistic intelligence helps one to shape career, logic-mathematical in accounting, computer engineering, musical intelligence in composing instrument making and so on. This can excel the teacher aspirants to assess every student's intelligence and to provide adequate academic resource support for their students.

No one can be labelled as unintelligent if we believe in the theory of multiple intelligence. Howard Gardner says that individuals can be taught to achieve by manipulating the type of intelligence that is strong in them. We come across people who stand out with their ability to respond to the environment in such a way that they contribute to the development of humankind. We call them as intelligent people. Gardner's multiple intelligence theory also holds the view that

intelligence consists of a number of factors. The students should be given opportunities to learn through creative and reflective thinking.The purpose of learning and remembering these aspects were to make them understand the interactions between different types of intelligence in an academic activity.

REVIEW OF RELATED LITERATURE

Howard Gardner (1993) the effects of musical keyboarding instruction on the self-efficacy scores of middle school students as measured on the multiple intelligence developmental assessment scales. The purpose of this study was to measure the effects of musical keyboarding and related instruction on self-efficacy scores of middle school students as measured by a self-assessment instrument reflecting the multiple intelligences theory.Shearer's (1996) Multiple intelligence development assessment scale (MIDAS) was used to provide an objective measures and comparison of the multiple intelligences self-perception of middle school students in a quasi-experimental model. Kimberly De Vries. (2002). "Teaching to their strengths multiple intelligence theory in the college writing classroom," over the years many composition scholars have proposed theories about the cognitive process that support writing, and have suggested pedagogies base in these theories. Selam Baum (1998) multiple intelligence theory of spatial intelligence and its relationship to third grades' written expression. The treatment group used art illustration and think-aloud strategies communicated to an adult participant. The control group use standard writing process skills as brainstorming mapping and webbing to prepare for the writing assignment. Karthikeyan.k (2010) studied multiple intelligence and learning styles of student teachers. The result of the study reveals that there is a positive significant relationship between multiple intelligence and learning styles of student- teachers. Karpagavalli (2017) did a study on multiple intelligence of B.Ed teacher trainees and foundthat male and female trainees differ in their linguistic intelligence, bodily kinaesthetic intelligence and intrapersonal intelligence.

SIGNIFICANCE OF THE STUDY

In reality many who gained less educational knowledge yet they could shine in life. Due to various other intelligences with which they are gifted. So this study will help the students to find out the other intelligences, which operating in them. Multiple intelligence has to be recognized as an essential element of the education process. To discover the academic achievement of the students in order to help them in learning process, and to find the association between Multiple Intelligence and academic achievement of elementary teacher trainees.

Multiple intelligence plays a very important role in the field of Education. Education mostly stresses upon the Academic achievement, and the intelligence of the students was assessed. Gardner gives more importance to multiple intelligence, as it was discovered by him. There are seven intelligences. Today education must give way for developing any of the multiple intelligence. This can foster the teaching and learning process. Students gifted with different types of intelligences, in all the aspects of education such as teaching, learning and training.

The Multiple intelligences have to be identified and developed in the students. For example, if a person is teaching or learning about the law of insights or input, process, output in education he might read about it (linguistic), study mathematical formulas that express it (logical-mathematical), examine a graphic chart that illustrates the principle (spatial), observe the law in the human world of commerce (interpersonal); examine the law interims of his/her own body (e.g. When he supplies his body with lots of food, the hunger demand goes down; when there is very little supply, his stomach's demand for food goes way up and he gets hungry) (bodily-kinaesthetic and inter-personal) and/or write a song (or find an existing song) that demonstrates the law (musical intelligence). One may not have to teach or learn something in all seven ways, first see what possibilities are, and then decide which particular pathways interest him the most or seem to be the most effective teaching or learning tools. The theory of multiple intelligence is so intriguing because it expands our horizon of available teaching learning tools beyond the conventional linguistic and logical methods used in most schools.so, there is a urgent need for improving multiple intelligence and the study assures greater significance.

OBJECTIVES OF THE STUDY

The objectives of the study are stated as follows.

1. To study the relationship between multiple intelligence and academic achievement of elementary teacher trainees.
2. To find out the significant difference if any, in multiple intelligence of elementary teacher trainees on the basis of gender.
3. To find out the significant difference if any, in multiple intelligence of elementary teacher trainees on the basis of socio-economic status.
4. To find out the significant difference if any, in academic achievement of elementary teacher trainees on the basis of gender.

HYPOTHESES OF THE STUDY

In the light of the above objectives, the following hypotheses were formulated for testing,

1. There is no significant relationship between multiple intelligence and academic achievement of elementary teacher trainees.
2. There is no significant difference in multiple intelligence between male and female elementary teacher trainees.
3. There is no significant difference in multiple intelligence among the elementary teacher trainees of high, average and low socio-economic status.
4. There is no significant difference in academic achievement mean scores between male and female elementary teacher trainees.

METHODOLOGY IN BRIEF

The investigator followed the normative survey method for the present study. Academic Achievement test and multiple intelligence scale were used. The study was conducted on the sample of 150 elementary teacher trainees from select teacher training institutes in Ramanathapuramdistrict.On the basis of random sampling technique,due representation to factors like gender, and socio-economic status were consdered while selecting the sample. The collected data were analysed by adapting appropriate statistical measures.

TOOLS USED

The following research tools have been used for the study,

1. Multiple intelligence scale used by the research investigator.
2. Academic Achievement Test developed by the investigator.

DESCRIPTION OF THE TOOLS

MULTIPLE INTELLIGENCE SCALE

Multiple intelligence Scale has been constructed with 30 statements. The statements are drawn from Multiple Intelligence devised based on Howard Gardner's MI Model. The scale composed of seven dimensions, they are linguistic, logical-mathematical, spatial, interpersonal, bodily-kinaesthetic, intra-personal and musical intelligence.

ACADEMIC ACHIEVEMENT TEST

Academic Achievement Test was used to measure the achievement of the students. The following factors were accepted for providing, the basis to prepare the items in the test viz; Academic factors of general field of interest, in their subjects were asked. The test items are of the self-rating type and can be administered to a group of Elementary Teacher Trainees with 25 objective type questions. The scoring for the items having a numerical weight age. i.e the score '0' for wrong answer and the score '1' for the right answer against the items. The total scores were taken in to account for analysing the data.

STATISTICAL TECHNIQUES ADOPTED

" t-test and ANOVA" were employed to study the significant difference between the means of scores of male and female of Elementary Teacher Trainees on Academic Achievement and Multiple Intelligence and their socio-economic status. Correlation co-efficient is used to find the relationship between Multiple Intelligence and Academic Achievement of Elementary Teacher Trainees.

DATA ANALYSIS

TABLE-1

Relationship between Multiple Intelligence and Academic Achievement of Elementary Teacher Trainees.

S.No	Variable	Df	'r'	Significance level

				(0.01)
1.	Multiple Intelligence	**148**	**0.21**	Significant
2.	Academic Achievement			

From the above table, it is found that there is a positive significant relationship between Multiple Intelligence and Academic Achievement of elementary Teacher trainees at 0.01 level of significance."Hence the null hypothesis that there is no significant relationship between Multiple Intelligence and Academic achievement of Elementary Teacher Trainees" is rejected.

TABLE-2

Analysis of variance of the mean difference scores among Elementary Teacher Trainees belonging different Socio-Economic status.

Source of Variance	**Degreesof freedom**	**Sum of square**	**Mean square**	**F-value**
Among means of condition	2	163.01	561.3	0.104 (Not Significant)
Within condition	148	8659.6	62.8	

From the above table, the critical F-value with degrees of freedom 2 for the numerator and degrees of freedom 248for the denominator at 0.01 level of significance is 4.71 the calculated F-value 0.104 is less than the table value 4.71 this implies that the difference in multiple intelligence mean scores of elementary teacher trainees, belonging different socio-economic status under consideration is not significant. Hence the null hypothesis is accepted.

TABLE-3

Significance of difference between male and female Elementary Teacher Trainees with respect to Multiple Intelligence.

Gender	**N**	**Mean**	**StandardDeviation**	**t-value**
Male	28	54.91	6.31	2.15 Significant
Female	122	65.09	8.28	

The calculated t-value 2.15 is greater than the critical value 1.98 corresponding at 0.05 level of significance. This implies that difference in multiple intelligence mean scores under consideration is statistically significant. Hence, the null hypothesis is rejected.

Therefore it can be concluded that the male and female elementary teacher trainees differ significantly in respect of their multiple intelligence mean scores. Further, it is revealed the female elementary teacher trainees have better in their multiple intelligence level than the male elementary teacher trainees as their multiple intelligence mean score is higher than the male teacher trainees.

TABLE-4

Significance of difference in academic achievement mean scores between male and female teacher trainees.

Gender	**N**	**Mean**	**Standard Deviation**	**t-value**
Male	28	18.3	5.71	0.78 Not Significant
Female	122	19.6	5.99	

The calculated t-value 0.78 is less than critical value 1.98 corresponding at 0.05 level of significance.This implies that the difference in academic achievement mean scores under consideration is not significant. Hence the null hypothesis is accepted.

Therefore it is calculated that the male and female elementary teacher trainees do not differ significantly in respect of their Academic Achievement mean scores. Both of them have similar in terms of their academic achievement at the elementary teacher education level.

FINDINGS OF THE STUDY

The findings of the present study are given below.

1. It has been found that there was a significant positive relationship between multiple intelligence and academic achievement of elementary teacher trainees.
2. The study found that the female elementary teacher trainees were better in multiple intelligence mean scores than male elementary teacher trainees. This is happened may be due to their academic consciousness and hidden talents than male students.
3. The study also found that the elementary teacher trainees belonging different socio-economic status have similar in their multiple intelligence level and in academic achievement among elementary teacher trainees.

4. No significant difference is found in academic achievement mean scores between male and female elementary teacher trainees. Both of them have similar in terms of their achievement scores.

IMPLICATIONS OF THE STUDY

The finding of the study implied that multiple intelligence is positively correlated with their academic achievement. Hence teaching and learning should focus on the particular intelligence of each student.

The lessons should be presented in a wide variety of ways using music, co-operative learning, art activities, role play, multimedia, field trips, inner reflection and much more. Seven kinds of intelligences would allow seven ways to teach, rather than one as students think and learn in many different ways. All seven intelligences are needed to live life well. Teachers therefore, need to attend to all intelligence, not just the linguistic intelligence and the logical-mathematical intelligence, that have been their traditional concern. Children with different kinds of intellectual abilities learn in many different ways. Individuals should be encouraged to use their preferred in learning. Instructional activities should appeal to different forms of intelligence. The students should be exposed to opportunities of narrating, imagining, observing, doing independent work, manipulating. The important activities for the development of multiple intelligence that promote story making, playing musical instruments, assembling of parts of some dismantled objects arranging colours cubes do form new design and problem solving. In order to foster the development of multiple intelligence among the elementary teacher trainees, it determines their academic achievement.

CONCLUSION

The purpose of the present investigation was to study multiple intelligence and academic achievement with reference to some selected variables and the study indicated significant differences among the variables. This study may also give awareness to the teacher educators about the importance of discovering the multiple intelligences among the elementary teacher trainees .Multiple intelligence certainly influenced by the institutions and also all categories of elementary teacher trainees for better understanding the subject as well as achievement in various subjects at elementary teacher education level.

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