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**RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCE AND
CRITICAL THINKING OF B.Ed STUDENTS.**

Education subject

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Abstract

The Aim Of The Study Was To Find Out The Relationship Between Multiple Intelligence And Critical Thinking Of B.Ed., Students In Tuticorin. The Sample Consists Of 250 B.Ed., Students . The Findings Showed That (I) There Is No Significant Difference Between Male And Female B.Ed., Trainees In Their Verbal- Linguistic, Logical-Mathematical, Visual-Spatial, Bodily-Kinesthetic, Musical-Rhythmic, Interpersonal, Intrapersonal And Naturalistic Intelligence (Ii) There Is No Significant Difference Between Male And Female B.Ed., Trainees In Their Critical Thinking (Iii) There Is No Significant Difference Among Boys, Girls And Co-Education B.Ed., Trainees And Their Verbal-Linguistic, Logical-Mathematics, Visual-Spatial, Bodily-Kinesthetic, Musical-Rhythmic, Interpersonal, Intrapersonal And Naturalistic Intelligence (Iv) There Is No Significant Difference Among Boys, Girls And Co-Education B.Ed., Trainees And Their Critical Thinking (V) There Is Significant Relationship Between Multiple Intelligence And Critical Thinking Of B.Ed., Trainees.

Introduction

Education Is The Creation Of Sound Mind In A Sound Body. Education Brings All Round Harmonious Development Of The Personality Of An Individual Such As Physical, Intellectual, Aesthetic, Social, Economic, Religious, Cultural, Spiritual And Through Such Development Of Individual Social Needs Can Be Realized.

Multiple Intelligence

Howard Gardner it is a set of skills allowing individuals to find and resolve genuine problems they face. Multiple intelligence included verbal- linguistic, logical, kinesthetic, spatial, musical, interpersonal, intrapersonal and naturalistic intelligence.

Critical Thinking

A mental process of analyzing or evaluating information. The information can be gathered from observation, experience, reasoning, or communication.



Significance Of The Study

Multiple intelligence its greatest contribution to education by suggesting that teachers need to expand their repertoire of techniques, tools and strategies beyond the typical linguistic and logical method. The theory of multiple intelligence functions not only as a remedy to one sidedness in teaching but also as a met model for organizing and synthesizing all the educational innovations that have sought to break out of the narrowly confines approach to learning.

Student teacher's ability to exercise and promote higher order thinking will impact student's ability to develop these thinking skills and abilities themselves. Given this premise, assessing the multiple intelligence of student teacher is most important. Therefore by providing baseline data pertaining to pre-service teachers, multiple intelligence would be beneficial to understand and dynamics in teaching-learning process.

Critical thinking is ideally an objective process used to determine the value of an argument, set of beliefs, claim or issue. Critical thinking usually employs logical reasoning and empirical evidence to reach a conclusion, and ultimately seeks to move away from personal biases, intuitions. Critical thinking is about being both willing and to think. Critical thinking is important for young people to develop and utilize good critical thinking, not just for their education but also life.

To improve student teacher performance on thinking skills, schools of education must improve training of student teacher with the help of both critical thinking and multiple intelligence. Both of these two things teach cognitive skills to pre-services teachers before training them to teach these skills in the class room. As student teacher learn to think more critically, they become more proficient at historical, scientific, and mathematical thinking. Finally, they develop skills, abilities, and values crucial to success in everyday life.

Objectives of the study

1. To find out the level of multiple intelligence of B.Ed., students.
2. To find out the level of critical thinking of B.Ed., students.
3. To find out whether any significant difference between male and female B.Ed., students in their multiple intelligence.
4. To find out whether any significant difference between male and female B.Ed., students in their critical thinking.
5. To find out whether there is any significant difference among men's, women's and co-education B.Ed., trainees and their multiple intelligence.
6. To find out whether there is any significant difference among men's, women's and co-



education B.Ed., trainees and their critical thinking.

7. To find out whether any significant relationship between multiple intelligence and critical thinking of the B.Ed., students.

Null Hypothesis

1. There is no significant difference between male and female B.Ed., students in their multiple intelligence.
2. There is no any significant difference between male and female B.Ed., students in their critical thinking.
3. To find out whether there is any significant difference among men's, women's and co-education B.Ed., trainees and their multiple intelligence.
4. To find out whether there is any significant difference among men's, women's and co-education B.Ed., trainees and their critical thinking.
5. There is no any significant relationship between multiple intelligence and critical thinking of the B.Ed., students.

Method Used For The Study

The investigator has adopted the survey method

Population For The Study

The population for the study was all the B.Ed., trainees in Tuticorin District.

Sample For The Study

The investigator has used random sampling technique for selecting the sample from the population. The sample consists of 250 students randomly selected from ten colleges of education in Tuticorin District, Tamil Nadu.

Tools Used

The following tools were used for data collection.

1. Adopted and validated Multiple intelligence inventory developed by Terry Armstrong
2. Adopted and validated Critical thinking inventory developed by Sylvan Barnat.



**TABLE 1
LEVEL OF MULTIPLE INTELLIGENCE AND CRITICAL THINKING
OF B.Ed., TRAINEES**

| Variables | Level | | | | | |
|-----------------------|-------|----|---------|------|------|------|
| | Low | | Average | | High | |
| | No. | % | No. | % | No. | % |
| Multiple intelligence | 25 | 24 | 53 | 51 | 26 | 25 |
| Critical thinking | 38 | 26 | 68 | 46.6 | 40 | 27.4 |

From the above table it is found that 25% of B.Ed trainees have low and 51% of B.Ed trainees have average and 25% of B.Ed trainees have high level of multiple intelligence and 26% of B.Ed trainees have low and 46% of B.Ed trainees have average and 27% of B.Ed trainees have high level of critical thinking.

NULL HYPOTHESIS 1.1

There is no significant difference between male and female B.Ed., trainees in their multiple intelligence.

**TABLE 4.07
THE ‘t’ VALUE BETWEEN MALE AND FEMALE B.Ed., TRAINEES IN THEIR
MULTIPLE INTELLIGENCE**

| S.No. | Dimensions | Male | | Female | | Calculated ‘t’ value | Remarks |
|-------|-------------------------|--------|--------|--------|--------|----------------------|---------|
| | | Mean | S.D | Mean | S.D | | |
| 1. | Linguistic intelligence | 19.009 | 3.9866 | 18.472 | 3.8635 | 1.069 | NS |



| | | | | | | | |
|----|----------------------------|---------|--------|--------|--------|-------|----|
| 2. | Logical intelligence | 16.951 | 4.8679 | 16.753 | 4.8630 | 0.312 | NS |
| 3. | Spatial intelligence | 21.221 | 4.9481 | 21.458 | 4.4305 | 0.391 | NS |
| 4. | Kinesthetic intelligence | 18.250 | 4.3550 | 19.465 | 4.1757 | 0.027 | NS |
| 5. | Musical intelligence | 19.009 | 5.3652 | 18.732 | 4.8838 | 0.424 | NS |
| 6. | Interpersonal intelligence | 24.692 | 4.7807 | 23.869 | 5.1263 | 1.286 | NS |
| 7. | Intrapersonal intelligence | 34.596 | 6.7787 | 35.137 | 6.6970 | 0.626 | NS |
| 8. | Naturalistic intelligence | 24.519 | 5.8025 | 24.643 | 5.6711 | 0.170 | NS |
| | Total | 178.250 | 26.881 | 178.53 | 27.067 | 0.082 | NS |

(At 5% level of significance the table value of 't' value is 1.96)

From the above table it is inferred that there is no significant difference between male and female B.Ed., trainees in the dimensions of verbal-linguistic, logical- mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, interpersonal, intrapersonal and naturalistic intelligence.

Null Hypothesis

There is no significant difference between male and female B.Ed., trainees in their critical thinking.

**TABLE-4.15
THE 't' VALUE BETWEEN MALE AND FEMALE B.Ed., TRAINEES
IN THEIR CRITICAL THINKING**

| Critical thinking | Male | | Female | | Calculate d 't' value | Remarks |
|-------------------|------|---------|---------|---------|-----------------------|---------|
| | Mean | S.D | Mean | S.D | | |
| | | 66.7788 | 9.74924 | 66.5205 | 10.74483 | 0.195 |

(At 5% level of significance the table value of 't' value is 1.96)

It is referred from the table that there is no significant difference between male and female B.Ed., trainees in their critical thinking.



**TABLE 4
THE 'F' VALUE BETWEEN MEN'S, WOMEN'S AND CO-EDUCATION B.Ed.,
TRAINEES AND THEIR MULTIPLE INTELLIGENCE**

| S.No. | Dimensions | Source of Variation | Sum of Squares | Mean Square Variance | 'F' value | Remarks |
|-------|----------------------------|---------------------|----------------|----------------------|-----------|---------|
| 1. | Linguistic intelligence | Between | 81.489 | 40.744 | 2.693 | NS |
| | | Within | 3737.407 | 15.131 | | |
| 2. | Logical intelligence | Between | 16.872 | 8.436 | 0.356 | NS |
| | | Within | 5855.404 | 23.706 | | |
| 3. | Spatial intelligence | Between | 126.479 | 63.239 | 0.053 | NS |
| | | Within | 5245.121 | 21.235 | | |
| 4. | Kinesthetic intelligence | Between | 0.469 | 0.235 | 0.373 | NS |
| | | Within | 155.375 | 0.629 | | |
| 5. | Musical intelligence | Between | 25.053 | 12.526 | 0.483 | NS |
| | | Within | 6403.171 | 25.924 | | |
| 6. | Interpersonal intelligence | Between | 181.325 | 90.662 | 3.717 | S |
| | | Within | 6024.439 | 24.390 | | |
| 7. | Intrapersonal intelligence | Between | 272.268 | 136.134 | 2.992 | NS |
| | | Within | 10981.796 | 44.461 | | |
| 8. | Naturalistic intelligence | Between | 106.445 | 53.222 | 1.638 | NS |
| | | Within | 8025.939 | 32.494 | | |
| | Total | Between | 4275.454 | 2137.727 | 2.993 | NS |
| | | Within | 176391.282 | 714.135 | | |

(At 5% level of significance the table value of 'F' value is 3.04)

It is referred from the table that there is no significant difference among men's, women's and co-education B.Ed., trainees and their verbal-linguistic, logical-mathematics, visual-spatial, bodily-kinesthetic, musical-rhythmic, intrapersonal and naturalistic intelligence, but there is significant difference among type of college of B.Ed., trainees and their interpersonal intelligence.



**TABLE 5
THE 'F' VALUE BETWEEN MEN'S, WOMEN'S AND CO-EDUCATION B.Ed.,
TRAINEES AND THEIR CRITICAL THINKING**

| Critical thinking | Source of Variation | Sum of Squares | Mean Square Variance | 'F' value | Remarks |
|-------------------|---------------------|----------------|----------------------|-----------|---------|
| | Between | 2719.411 | 1359.706 | | |
| | Within | 23814.993 | 96.417 | 14.102 | S |

(At 5% level of significance the table value of 'F' value is 3.04)

From the above table it is inferred that there is significant difference among men's, women's and co-education B.Ed., trainees and their critical thinking.

**TABLE 6
RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCE AND CRITICAL
THINKING OF B.Ed., TRAINEES**

| Multiple intelligence | | Critical thinking | | ΣXY | Table value | Calculated 'r' value | Remarks |
|-----------------------|--------------|-------------------|--------------|-------------|-------------|----------------------|---------|
| ΣX | ΣX^2 | ΣY | ΣY^2 | 1070899 | 0.139 | 0.350 | S |
| 15942 | 1039848 | 16657 | 1136357 | | | | |

(At 5% level of significance the table value is 0.139)

From the above table it is inferred that there is significant relationship between multiple intelligence and critical thinking of B.Ed., trainees.

FINDINGS

1. 45.2% of rural and 51.6% of urban B.Ed., trainees have average level of multiple intelligence, 47.6% of rural and 47.6% of urban B.Ed., trainees have average level of critical thinking.
2. There is no significant difference between male and female B.Ed., trainees in their verbal- linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, interpersonal, intrapersonal and naturalistic intelligence.
3. There is no significant difference between male and female B.Ed., trainees in their critical thinking.
4. There is no significant difference among men's, women's and co-education B.Ed.,



trainees and their verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, intrapersonal and naturalistic intelligence, but there is significant difference between men's, women's and co-education B.Ed., trainees and their interpersonal intelligence.

5. There is significant difference among men's, women's and co-education B.Ed., trainees and their critical thinking.
6. There is significant relationship between multiple intelligence and critical thinking of B.Ed., trainees.

RECOMMENDATIONS

1. Teaching strategies should be developed for the development of different dimension of multiple intelligence.
2. Problem based teaching method can be adopted.
3. Group study methods should be encouraged in class rooms.
4. Intrapersonal abilities of future felicitators should be encouraged through counseling programmers.
5. Workshops and seminars may be conducted to student teachers to make them to understand the multiple intelligence of the learners.
6. Web-based teaching can be introduced to enhance the multiple intelligence.
7. Information and communication technology must be incorporated in teaching-learning process.
8. By playing brainstorming games which is used to develop critical thinking among the learners.

CONCLUSION

The purpose of the present investigation was to study the level of multiple intelligence and critical thinking with reference to some selected variables. This study indicated significant relationship among the variables. The study is found to be useful in the field of education.

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