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# MULTIPLE INTELLIGENCE OF SECONDARY TEACHER EDUCATION STUDENTS OF DAVANAGERE DISTRICT

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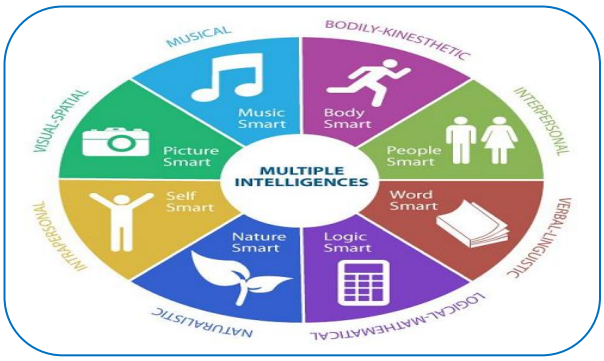
## INTRODUCTION:




Dictionary of education (Good, 1959) defines teacher education as "All formal and informal activities and experiences that help to qualify a person to assume the responsibility as a member of the educational profession or to discharge his responsibility most effectively".

### 1. Multiple Intelligence:

Howard Gardner's theory of multiple intelligence makes people think about "IQ", about being "smart". The theory is changing the way some teachers teach. When Howard Gardner's Theory of Multiple Intelligence (Basic Books, 1983) burst on the scene, it seemed to answer many questions, for experienced teachers, pertaining to various aspects of intelligence such as:

**a) Verbal-Linguistic Intelligence:** The capacity to use words effectively: whether orally (e.g., as a story teller, orator) or in writing. This intelligence includes the ability to manipulate the syntax or structure of language, phonology or sounds of language, the semantics or meanings of language and the pragmatic dimensions or practical uses of language.

**b) Logical-Mathematical Intelligence:** The capacity to use numbers effectively and to reason well. This intelligence includes sensitivity to logical patterns and relationships, statements and propositions, functions and other related abstractions. The kinds of processes used in the service of logical mathematical intelligence include categorization, inference, generalization, calculation and hypothesis,

**c) Visual-Spatial Intelligence:** The ability to perceive the visual spatial world accurately and to perform transformations on those perceptions. This intelligence involves sensitivity to colour, line, shape, form, space and the relationships that exist between these elements. It includes the capacity to visualize, to graphically represent visual spatial ideas, and to orient oneself to an opportunity in a spatial matrix.

**d) Bodily-Kinesthetic Intelligence:** Expertise in using one's whole body to express ideas and feelings and facility in using one's hands to produce to transform thing (e.g., sculptor mechanic). The intelligence includes specific physical skills such as coordination, balance, strength, flexibility and speed capacities.

**e) Musical-Rhythmic Intelligence:** The capacity to perceive, discriminate, transform and express musical forms. This intelligence includes sensitivity to the rhythm, pitch or melody of a musical piece. One can have lingual or "top down" understanding of music, a formal or "bottom-up" understanding or both.

**f) Interpersonal Intelligence**: The ability to perceive and make distinctions in the moods, intentions, motivations and feelings of other people. This can include sensitivity to facial expressions, voice and

gestures: the capacity for discriminating among many different kinds of interpersonal cues; and the ability to respond effectively to those cues in some pragmatic way.

**g) Intrapersonal Intelligence:** Self-knowledge and ability to act adaptively on the basis of that knowledge. This intelligence includes having an accurate picture of oneself, awareness of inner moods, intentions, temperaments, desires and the capacity for self-discipline, self-understanding and self-esteem.

**h) Naturalistic Intelligence:** Expertise in the organization and classification of the numerous species—the flora and fauna of an individual's environment. This also includes sensitivity to other natural phenomena and in the case of those growing up in an urban environment, the capacity to discriminate among non-living forms such as cars and music CD covers.

## 2. SIGNIFICANCE OF MULTIPLE INTELLIGENCE:

The theory of multiple intelligence functions not only as a specific remedy to one-sidedness in teaching but also as a "model" for organizing and synthesizing all the educational innovations that have sought to break out of the narrowly confined approach to learning.

Multiple intelligence theory essentially encompasses what good teachers have always done in their teaching, reaching beyond the text and the blackboard, to awaken students' minds.

A teacher in a multiple intelligence classroom contrasts sharply with a teacher in a traditional linguistic classroom. In the traditional classroom, the teacher lectures while standing at the front of the classroom, writes on the blackboard, asks students questions about the assigned reading and waits while students finish their written work. In the multiple intelligence classroom, the teacher continually shifts his/her method of presentation from linguistic to spatial to musical and so on, often combining intelligence in creative ways.

Multiple intelligence theory opens the door to a wide variety of teaching strategies that can be easily implemented in the classroom. The theory of multiple intelligence and innovative teaching strategies are relatively new to the educational scene.

Teacher needs to be well-versed in different intelligences possessed by students and how these may be used to assist each student to optimize instruction in many fields of knowledge and skills. To develop this range of intelligences, instructional methods need to be varied so that students may use their intellectual strengths to better understand a topic.

In order to develop different skills of teaching the prospective teachers have to develop multiple intelligence.

## 3. OBJECTIVES OF THE STUDY:

The investigator took up this study on multiple intelligence of secondary teacher education student of M.M. College of Education situated in Davanaagere district, with the following objectives:

- To find out whether there is any significant difference between male and female secondary teacher education students in their multiple intelligence, that is, verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal and naturalistic intelligence.
- To find out whether there is any significant difference between aided and unaided college secondary teacher education students in their multiple intelligence, that is, verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal, interpersonal and naturalistic intelligence.
- To find out whether there is any significant difference between graduate and post graduate secondary teacher education students in their multiple intelligence, that is, verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal and naturalistic intelligence.
- To find out whether there is any significant association between birth order and multiple intelligence, that is, verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, intrapersonal and naturalistic intelligence of secondary teacher education students.

➢ The objectives were rendered into relevant Null Hypotheses for the purpose of the study, conducted through survey and analysed in terms of statistical techniques of Arithmetic Mean, Standard Deviation, 't' Test, and Chi-square.

## 4. HYPOTHESES:

1. There is a significant difference between male and female secondary teacher education students in their Multiple Intelligence
2. There is a significant difference between aided and unaided college secondary teacher education students in their Multiple Intelligence
3. There is a significant difference between graduate and post-graduate secondary teacher education students in their Multiple Intelligence

## 5. DESIGN OF THE STUDY:

This was a survey study and having main objective to analyse the multiple intelligence of secondary teacher education students

**Sample:** 200 Students studying in M.M. College of Education situated in Davanagere district were selected as samples. The Simple Random sample selection method was used for selecting samples.

**Tool:** Multiple intelligence Test (MIT) used to measure the Multiple intelligence of student teachers. This tool contains nine dimensions viz, Verbal linguistic intelligence, Logical mathematical intelligence, Visual spatial intelligence, Bodily kinesthetic intelligence, Musical rhythmic intelligence, Interpersonal intelligence, Intrapersonal intelligence and Naturalistic intelligence.

**Statistical techniques used:**

The mean, standard deviation and t- test were used for data analysis. SPSS version-22 software was used in data analysis.

## 6. ANALYSIS OF THE DATA:

Analysis of Data was done along Null hypotheses, as follows, in terms of findings.

## HYPOTHESIS-WISE FINDINGS OF THE STUDY:

**1. $H_0$1:There is a significant difference between male and female secondary teacher education students in their Multiple Intelligence**

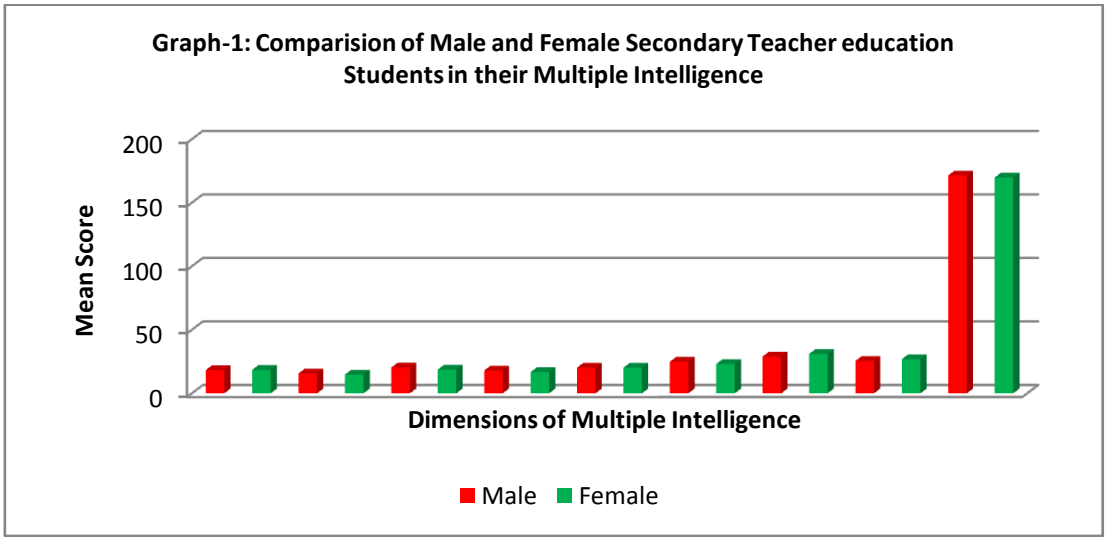
**Table-1: Difference between Male and Female Secondary Teacher education Students in their Multiple Intelligence**

| Sl. No. | Dimensions of Multiple Intelligence | Sex | Mean | S.D. | Calculated Value of "t" | Remarks at 5% level |
|---|---|---|---|---|---|---|
| 1 | Verbal linguistic intelligence | Male | 18.33 | 3.39 | 0.28 | NS |
| | | Female | 18.50 | 4.27 | | |
| 2 | Logical mathematical intelligence | Male | 15.7 | 6.30 | 0.40 | NS |
| | | Female | 14.76 | 4.66 | | |
| 3 | Visual spatial intelligence | Male | 20.36 | 4.66 | 2 | S |
| | | Female | 18.75 | 5.28 | | |
| 4 | Bodily kinesthetic intelligence | Male | 17.95 | 4.81 | 1.51 | NS |
| | | Female | 16.72 | 4.91 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Musical rhythmic intelligence | Male | 20.24 | 6.37 | 0.09 | NS |
| | | Female | 20.14 | 5.84 | | |
| 6 | Interpersonal intelligence | Male | 24.88 | 5.61 | 1.87 | NS |
| | | Female | 23.08 | 6 | | |
| 7 | Intrapersonal intelligence | Male | 29.02 | 6.62 | 1.70 | NS |
| | | Female | 30.98 | 7.62 | | |
| 8 | Naturalistic intelligence | Male | 25.55 | 7.12 | 1.9 | NS |
| | | Female | 26.93 | 5.54 | | |
| 9 | Multiple intelligence | Male | 171.50 | 20.80 | 0.45 | NS |
| | | Female | 169.85 | 24.61 | | |

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

There is a significant difference between male and female secondary teacher education students only in their visual spatial intelligence. That is, male secondary teacher education students are better than female secondary teacher education students in their visual spatial intelligence. But there is no significant difference between male and female secondary teacher education students in their verbal linguistic, logical mathematical, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal, naturalistic and multiple intelligence.



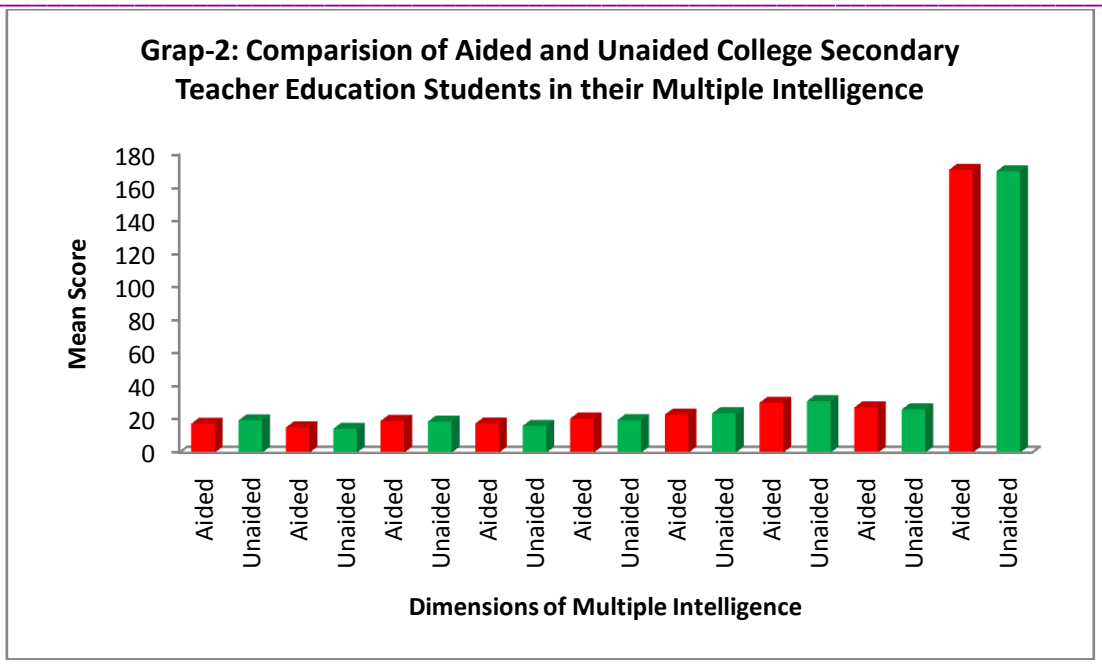
**2. $H_0$2:There is a significant difference between aided and unaided college secondary teacher education students in their Multiple Intelligence**

**Table – 2: Difference between Aided and Unaided College Secondary Teacher Education Students in their Multiple Intelligence**

| Sl. No. | Dimensions of Multiple Intelligence | Sex | Mean | S.D. | Calculated Value of "t" | Remarks at 5% level |
|---|---|---|---|---|---|---|
| 1 | Verbal linguistic intelligence | Aided | 17.46 | 3.73 | 3.97 | S |
| | | Unaided | 19.48 | 4.28 | | |
| 2 | Logical mathematical intelligence | Aided | 15.22 | 5.27 | 1.26 | NS |
| | | Unaided | 14.43 | 4.63 | | |
| 3 | Visual spatial intelligence | Aided | 19.20 | 5.17 | 0.56 | NS |
| | | Unaided | 18.83 | 5.25 | | |
| 4 | Bodily kinesthetic intelligence | Aided | 17.64 | 4.90 | 2.33 | S |
| | | Unaided | 16.21 | 4.82 | | |
| 5 | Musical rhythmic intelligence | Aided | 20.61 | 6.15 | 1.21 | NS |
| | | Unaided | 19.70 | 5.68 | | |
| 6 | Interpersonal intelligence | Aided | 22.98 | 6.24 | 1.06 | NS |
| | | Unaided | 23.78 | 5.67 | | |
| 7 | Intrapersonal intelligence | Aided | 30.14 | 8.33 | 1.06 | NS |
| | | Unaided | 31.15 | 6.54 | | |
| 8 | Naturalistic intelligence | Aided | 27.29 | 6.02 | 1.60 | NS |
| | | Unaided | 26.11 | 5.62 | | |
| 9 | Multiple intelligence | Aided | 170.55 | 25.46 | 0.28 | NS |
| | | Unaided | 169.70 | 22.48 | | |

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

There is a significant difference between aided and unaided college secondary teacher education students only in their verbal linguistic and bodily kinesthetic intelligence. That is, unaided college secondary teacher education students are better than aided college secondary teacher education students in their verbal linguistic intelligence and aided college secondary teacher education students are better than unaided college secondary teacher education students in their bodily kinesthetic intelligence. But there is no significant difference between aided and unaided college secondary teacher education students in their logical mathematical, visual spatial, musical rhythmic, interpersonal, intrapersonal, naturalistic and multiple intelligence.




**3. $H_0$3: There is a significant difference between graduate and post-graduate secondary teacher education students in their Multiple Intelligence**

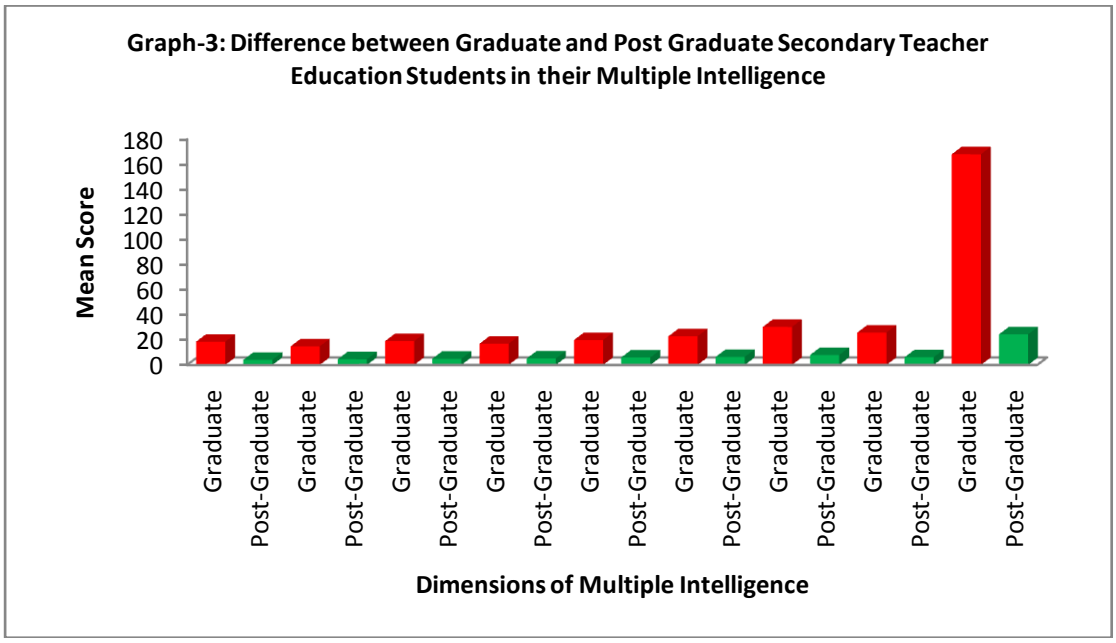
**Table-3: Difference between Graduate and Post Graduate Secondary Teacher Education Students in their Multiple Intelligence**

| Sl. No. | Dimensions of Multiple Intelligence | Sex | Mean | S.D. | Calculated Value of "t" | Remarks at 5% level |
|---|---|---|---|---|---|---|
| 1 | Verbal linguistic intelligence | Graduate | 18.55 | 4.05 | 0.31 | NS |
| | | Post-Graduate | 4.05 | 4.24 | | |
| 2 | Logical mathematical intelligence | Graduate | 14.79 | 4.55 | 0.13 | NS |
| | | Post-Graduate | 4.55 | 5.42 | | |
| 3 | Visual spatial intelligence | Graduate | 19 | 4.91 | 0.05 | NS |
| | | Post-Graduate | 4.91 | 5.53 | | |
| 4 | Bodily kinesthetic intelligence | Graduate | 16.93 | 5.16 | 0.03 | NS |
| | | Post-Graduate | 5.16 | 4.62 | | |
| 5 | Musical rhythmic intelligence | Graduate | 19.84 | 5.94 | 0.89 | NS |
| | | Post-Graduate | 5.94 | 5.92 | | |
| 6 | Interpersonal intelligence | Graduate | 22.86 | 6.39 | 1.51 | NS |
| | | Post-Graduate | 6.39 | 5.41 | | |
| 7 | Intrapersonal intelligence | Graduate | 30.35 | 7.94 | 0.67 | NS |
| | | Post-Graduate | 7.94 | 6.96 | | |
| 8 | Naturalistic | Graduate | 25.85 | 6.11 | 2.50 | S |

| | | | | | | |
|---|---|---|---|---|---|---|
| | intelligence | Post-Graduate | 6.11 | 5.39 | | |
| 9 | Multiple intelligence | Graduate | 168.17 | 24.43 | 1.38 | NS |
| | | Post-Graduate | 24.43 | 23.35 | | |

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

There is a significant difference between graduate and post-graduate secondary teacher education students only in their naturalistic intelligence. That is, post-graduate secondary teacher education students are better than graduate secondary teacher education students in their naturalistic intelligence. But there is no significant difference between graduate and postgraduate secondary teacher education students in their verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal and multiple intelligence.




## 4. FINDINGS:

1. There is a significant difference between male and female secondary teacher education students only in their visual spatial intelligence.
2. there is no significant difference between male and female secondary teacher education students in their verbal linguistic, logical mathematical, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal, naturalistic and multiple intelligence
3. There is a significant difference between aided and unaided college secondary teacher education students only in their verbal linguistic and bodily kinesthetic intelligence
4. There is no significant difference between aided and unaided college secondary teacher education students in their logical mathematical, visual spatial, musical rhythmic, interpersonal, intrapersonal, naturalistic and multiple intelligence
5. There is a significant difference between graduate and post-graduate secondary teacher education students only in their naturalistic intelligence
6. There is no significant difference between graduate and postgraduate secondary teacher education students in their verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal and multiple intelligence

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