

# COMPARING THE LINGUISTIC INTELLIGENCE, LOGICAL – MATHEMATICAL INTELLIGENCE, MUSICAL INTELLIGENCE AMONG MALE AND FEMALE GENDER

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**Abstract—** The educational world is anticipating the challenges of 21st century. Many alternatives and diversified interpretations of concepts are available in every field of knowledge. The creator of such knowledge is the desire of a great genius to add to the treasure of knowledge by making innovative and dynamic academic efforts. To compare the linguistic intelligence, logical – mathematical intelligence, musical intelligence among male and female gender. For pursuing the study simple two group research design was adopted and was considered quite appropriate for the study. The choice of research method is determined by the theory of the topic under study, objectives of the study, resources of the investigator etc. The nature of study is such that it requires descriptive analysis of learning styles in its relevant context, survey method of research has been suitable used. Survey provides a basis for theory construction or generalization in addition to it is implications for educational planning and reform. **Results and Conclusion:** In this study the analysis shows that the hypothesis was accepted and there was no significance difference found among the male and female gender.

**Keywords:** *Intelligence, learning style, linguistic intelligence, logical mathematical intelligence and musical intelligence.*

## I. INTRODUCTION

The educational world is anticipating the challenges of 21st century. Many alternatives and diversified interpretations of concepts are available in every field of knowledge. The creator of such knowledge is the desire of a great genius to add to the treasure of knowledge by making innovative and dynamic academic efforts. Traditionally if the context of education is analyzed, it then seems that the carrier of education is the child, which was long back realized by naturalists and pragmatists like Dewey.

The goal of, education can no longer be the transmission of the longer chunk of knowledge as such but to equip the student with the intellectual tools and resources which would enable him to involve in the process of gaining the existing knowledge and creating knowledge new.

Bruner, a psychologist and educationist has suggested instruction or teaching be regarded as a "temporary arrangement", intended to "enhance the learner's capacity to learn for himself. There is also a change in clientele for education today as compared to that of generation ago, which point clearly to the need for flexible and diversified system of education.

The magnitude of instructional effectiveness and the learning acquisition largely depends upon the teaching as well as on the way learner perceives about this whole process. Another dimension of the foregoing phenomenon which seems to be equally important is the class room climate. Classroom climate is crucial to learning process.

### Multiple Intelligence and Learning Style:

The theory of multiple intelligences was formulated by Dr. Howard Gardner, a psychologist and professor at Harvard University's Graduate School of Education and Co-Director of Harvard Project Zero, accepted widely by educational psychologists and applied in a variety of ways in classrooms, the theory emphasizes *nine* unique intelligences through which individuals learn and teach new information. Gardner defined the first seven intelligences in *Frames of Mind: The Theory of Multiple Intelligences* (1983) and the last two in *Intelligence Reframed: Multiple Intelligences in the 21<sup>st</sup> Century* (1999). Although the theory of multiple intelligences was initially applied to elementary and secondary school grades, both researchers and practitioners agree that applications to post-secondary education are appropriate. Over the past decade, community colleges and universities are taking seriously student learning and student differences in learning.

Intelligence is:

- The capacity to do something useful in the society in which we live ;
- The ability to respond successfully to new situations and the capacity to learn from one's past experiences."
- Dr. Howard Gardner, author, *Frames of Mind and Multiple Intelligences: The Theory in Practice* according to Gardner, intelligence is:
- The ability to create an effective product or offer a service that is valued in a culture.
- A set of skills that makes it possible for a person to solve problems in life.
- The potential for finding or creating solutions for problems, which involves gathering new knowledge.

Learning through a variety of unique experiences allows children to better understand themselves as lifelong learners, and to see how others acquire knowledge and apply their skills. The multiple intelligences can be enhanced with the use of technology. Following Howard Gardner's theory of Multiple Intelligence, teachers can encourage development by providing enrichment opportunities in each of the areas of the intellect. Multiple Intelligence theory was introduced in 1983. Multiple intelligence theory has evolved and been embraced widely. After the publication of *FRAMES OF MIND* in 1983, Howard Gardner became a celebrity among many teachers and school administrators. In addition to writing many more books and articles on multiple intelligences theory, Gardner has served as a consultant to a variety of school districts. The multiple intelligences movement now includes publishers, symposiums, Web sites, "how-to" manuals, educational consultants who consider themselves "M.I. specialists", as well as a number of critics.

There are major differences in learning styles from one student to another, and that these differences can have a noticeable effect on, classroom learning. *Learning styles* (also referred to as *cognitive styles*) are the different ways in which people process information in the course of learning. They include individual preferences in both perceptual organization and conceptual categorization that is, perceiving, thinking, remembering, and solving problems (Ausubel, 1968; De Cecco, 1974; Kagan, Moss, and Siegel, 1963; Messick, 1969). In addition, some investigators, such as Ausubel (1968), believe that learning styles are also a reflection of individual differences in personality and motivation.

The importance of paying attention to individual differences in learning has been emphasized ever since the advent of "progressive education." However, more often than not, recognition of individual differences has simply meant providing for different amounts of time to do the required work, depending on the person's ability. The result is that teachers have learned how to adapt their methods of instruction to differences in pace, but not to differences in style (Bernard, 1973). Reissman (1966) was one of the first educators to emphasize the importance of learning styles. He pointed out that each individual has a distinct style of learning, in much the same way that each individual has a distinct personality. The three basic types of learning style he identified are visual (reading), aural (listening), and physical (doing). According to Reissman, most people show a distinct preference for one of these methods as compared with the others.

Many socially disadvantaged children have learning styles that are characterized by hyperactivity, distractibility, and difficulty in settling down. Often these children have more difficulty performing tasks that require "reading" or "listening" than performing tasks that require "doing."

#### A. Objectives

- To see the effect of gender difference on **Linguistic intelligence** of Multiple Intelligence.
- To see the effect of gender difference on **Logical-Mathematical intelligence** of Multiple Intelligence.
- To see the effect of gender difference on **Musical intelligence** of Multiple Intelligence.

## II. METHODOLOGY

This Methodology is a process, which reveals all those methods and tools used by the researcher during the course of his research. The role of methodology is to carry out the research work in a scientific and valid manner. Adaptation of suitable methodology can raise the efficiency and dignity of research work. The success of any research mainly depends on the research tools, techniques and the use of proper methods in the research.

#### Universe and Selected Universe:

Universe in the present study involves the High School Male and Female students of 18 C.B.S.E. schools situated in Haldwani city of Nainital District. A list of ten schools was selected by **Stratified convenient sampling**. In the second step, sample of 100 students was taken.

#### Research Design:

For pursuing the study simple two group research design was adopted and was considered quite appropriate for the study.

#### Tools Used:

The selection of tools for a particular study depends upon various considerations such as – objectives of the study, the amount of time at the disposal of researcher, availability of suitable test, personal competence of the investigator, technique of scoring and interpretation etc.

The following tools have been used to measure variables in the study.

- (a) Multiple Intelligence Rating Scale by Mark R. Kaser.(25 items)
- (b) VAK Learning Style Self Assessment Questionnaire by Victoria Chislett (30 items)

These are most suitable tools for the study, scoring pattern is quite easy. These tools designed to give a broad indication of preferred learning styles and multiple intelligence.

#### Methodology:

The choice of research method is determined by the theory of the topic under study, objectives of the study, resources of the investigator etc. The nature of study is such that it requires descriptive analysis of learning styles in its relevant context, survey method of research has been suitable used.

Survey provides a basis for theory construction or generalization in addition to its implications for educational planning and reform. It also provides the clues which may be utilized for solving certain practical problems of educational and social nature or may help setting up of program on right lines. For this purpose survey has been selected as a most appropriate method in this study. In the present investigation all the steps and characteristics have been used which are essential for the survey method of research.

III. ANALYSIS AND INTERPRETATION OF DATA

Analysis means the categorizing, ordering, manipulating, and summarizing of data to obtain answers to research questions. It is a process, which involves breaking down existing complex factors into simple parts and putting the parts together in new arrangement for the purpose of interpretation of the result. The purpose of analysis is to reduce data to intelligible and interpretable form so that the relations of research problems can be studied and tested.

**TABLE- 1**

**Significance of Mean Difference among Male and Female Students In relation to Linguistic intelligence**

Group	N	Mean	S.D.	CR value	Sig. CR value	Verification of Ho
Male	50	13.40	2.13	0.369	Insignificant	Ho <sub>1</sub> Accepted
Female	50	13.58	2.72			

**Inference:-**

$CR_{cal.} (0.369) < CR_{stand.} (1.96)$  at 0.05 level of significance.

Therefore, CRcal. Value is insignificant. Ho is accepted.

**Analysis:-**

The above table-4.3 indicates the value of Linguistic intelligence scores of Male and Female students. The mean of Linguistic intelligence scores of male and female students are 13.40 and 13.58 and S. D. is 2.13 and 2.72 respectively.

To find out the significance of this difference 't'-test was used. The CR<sub>cal</sub> of male and female students is 0.369. This calculated value of CR<sub>cal</sub> is less than the CR<sub>stand.</sub> value 1.96.

Hence there is no evidence against the Ho<sub>1</sub>.

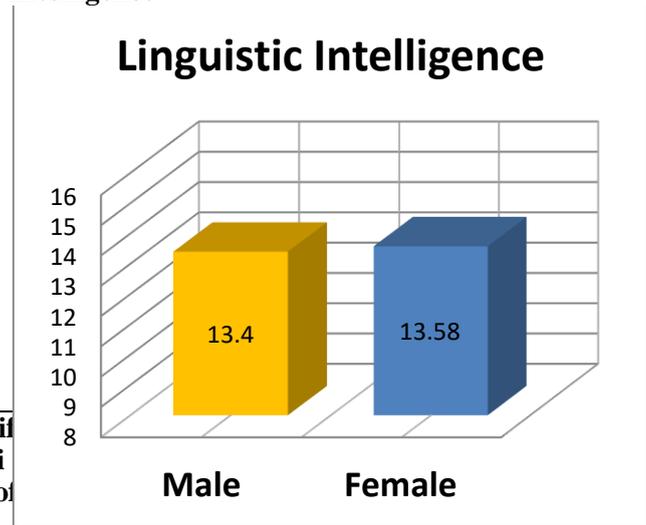
**Result:-** Ho<sub>1</sub> is accepted.

**Interpretation:-**

The above table-4.3 revealed insignificant difference between male & female students in relation to Linguistic intelligence as obtained CR<sub>cal</sub> (0.369) is lower than required CR<sub>stand.</sub> (1.96), Though there is no significant difference between the mean scores of male and female students. There is a little difference in mean value of Linguistic intelligence scores of male and female students but it is marginable as both the groups are successive close group.

Hence difference might not be significant. This is because in the present time both Male and Females are getting equal educational and job opportunities, so they are good enough to express themselves. Their command on language is not lesser than males. So there is no effect of gender difference on linguistic intelligence.

**Graphical Presentation of Mean Difference of Male & Female Students with regard to Linguistic Intelligence**



**Fig. 1**

**Graphical Analysis:-** Here, the graph of mean difference of male & female students regarding Linguistic Intelligence is showing very minor difference which came insignificant after checking the significance of this difference by using 't'-test.

**Conclusion:-** There is no significant effect of gender difference on linguistic intelligence.

**TABLE- 2**

**Significance of Mean Difference among Male and Female Students In relation to Logical - mathematical intelligence**

Group	N	Mean	S.D.	CR value	Sig. CR value	Verification of Ho
Male	50	14.20	2.76	0.654	Insignificant	Ho <sub>2</sub> Accepted
Female	50	13.84	2.75			

**Inference:-**

$CR_{cal.} (0.654) < CR_{stand.} (1.96)$  at 0.05 level.

Therefore CR<sub>cal</sub>. Value is insignificant. Ho is accepted.

**Analysis:-**

The above table-4.4 indicates the value of Logical-mathematical intelligence scores of Male and Female students. The mean of Logical – mathematical intelligence scores of male and female students are 14.20 and 13.84 and S.D. is 2.76 and 2.75 respectively.

To find out the significance of this difference ‘t’-test was used. The CR<sub>cal.</sub> of male and female students is 0.654.

This calculated value of t is

Group	N	Mean	S.D.	CR value	Sig. of CR value	Verification of Ho
Male	50	15.68	2.96	0.919	Insignificant	Ho <sub>3</sub> Accepted
Female	50	15.12	3.13			

less than the CR<sub>stand.</sub> 1.96.

Hence there is no evidence against the Ho<sub>2</sub>.

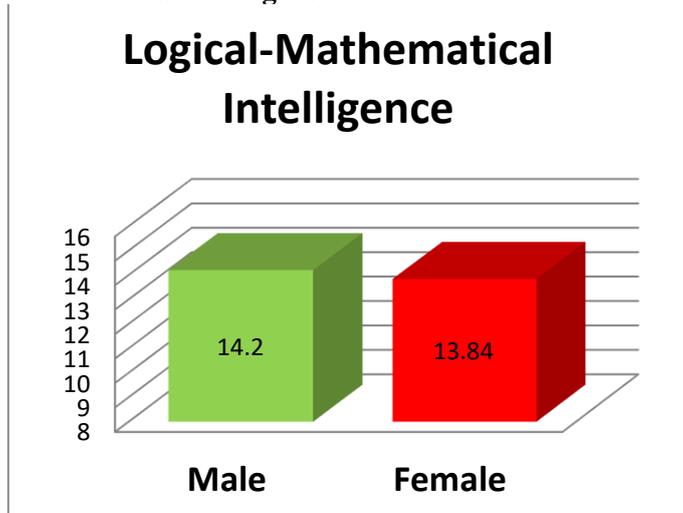
**Result:** - Ho<sub>2</sub> is accepted.

**Interpretation:-**

Table-4.4 shows insignificant difference between male & female students in relation to overall Logical-mathematical intelligence as CR<sub>cal.</sub> (0.654) is lower than required CR<sub>stand.</sub> (1.96) at 0.05 level.

Now a days male and female both are opting equally for competitive exams. There is no such logic that females will prefer only arts and home science subjects. Today’s females are showing more interest in maths & logical subjects and proving themselves as better scientist and mathematician . So there is no effect of gender difference on logical- mathematical intelligence.

**Graphical Presentation of Mean Difference of Male & Female Students with regard to Logical - Mathematical Intelligence**



**Fig.-2**

**Graphical Analysis:** - Here, the graph of mean difference of male & female students regarding Linguistic Intelligence is showing very minor difference which came insignificant after checking the significance of this difference by using ‘t’-test.

**Conclusion:-** There is no significant effect of gender difference on logical – mathematical intelligence.

**TABLE- 3**

**Significance of Mean Difference among Male and Female Students In relation to Musical intelligence**

**Inference:-**

CR<sub>cal.</sub> (0.919) < CR<sub>stand.</sub> (1.96) at 0.05 level.

Therefore CR<sub>cal.</sub> Value is insignificant. Ho is accepted.

**Analysis:-**

The above table-4.5 indicates the value of Musical intelligence scores of Male and Female students. The mean of Musical intelligence scores of male and female students are 15.68 and 15.12 and S.D. is 2.96 and 3.13 respectively.

To find out the significance of this difference ‘t’-test was used. The CR<sub>cal.</sub> of male and female students is 0.919. This calculated value of t is less than the CR<sub>stand.</sub> 1.96.

Hence there is no evidence against the Ho<sub>3</sub>.

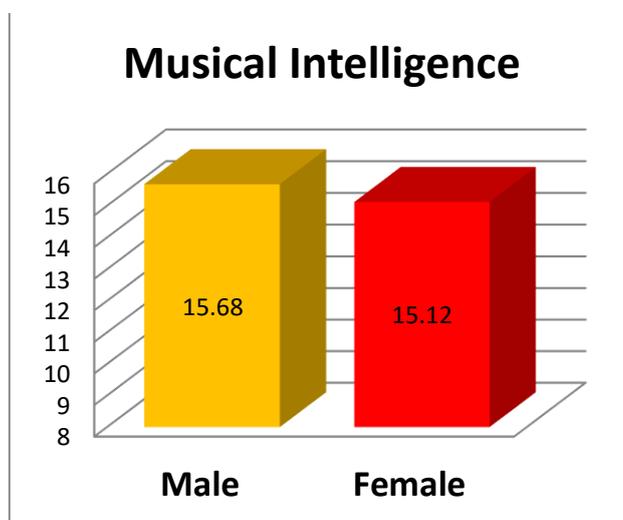
**Result:-** Ho<sub>3</sub> is accepted.

**Interpretation:-**

Table-4.5 revealed insignificant difference between male & female students in relation to Musical intelligence as CR<sub>cal.</sub> (0.919) is lower than CR<sub>stand.</sub> (1.96) at 0.05 level.

Earlier it was illusion that females show more interest in music because there musical intelligence is more developed as compared to males but now a days it is totally a myth because males are also showing better musical intelligence.

**Graphical Presentation of Mean Difference of Male & Female Students with regard to Musical Intelligence**



**Fig. 3**

**Graphical Analysis:** - Here, the graph of mean difference of male & female students regarding Musical Intelligence is showing very minor difference which came insignificant after checking the significance of this difference by using 't'-test.

**Conclusion:-** There is no significant effect of gender difference on musical intelligence.

Today's females are showing more interest in maths & logical subjects and proving themselves as better scientist and mathematician . So there is no effect of gender difference on logical- mathematical intelligence.

**Conclusion:** - There is no significant effect of gender difference on logical – mathematical intelligence.

**Result:** -  $H_{03}$  is accepted.

#### IV. DISCUSSION AND CONCLUSION

In this chapter, the researcher is going to discuss whole work in summarized form. Conclusion of the study, suggestions for students, teachers and parents is mentioned in this chapter so that the reader can understand the importance of this study and utilize the suggestions for their further benefits and at last of this chapter researcher has given some recommendations for further studies. Statement of the problem was to compare linguistic intelligence, logical – mathematical intelligence, and musical intelligence among male and female gender differences

#### V. RESULTS, INTERPRETATION AND CONCLUSION

**Result:** -  $H_{01}$  is accepted.

##### **Interpretation:-**

The data revealed insignificant difference between male & female students in relation to Linguistic intelligence as obtained  $CR_{cal}$  (0.369) is lower than required  $CR_{stand}$  (1.96) at 0.05 level of significance. Though there is no significant difference between the mean scores of male and female students. There is a little difference in mean value of Linguistic intelligence scores of male and female students but it is marginable as both the groups are successive close group. Hence difference might not be significant. This is because in the present time both Male and Females are getting equal educational and job opportunities, so they are good enough to express themselves. Their command on language is not lesser than males. So there is no effect of gender difference on linguistic intelligence.

**Conclusion:-** There is no significant effect of gender difference on linguistic intelligence.

**Result:** -  $H_{02}$  is accepted.

##### **Interpretation:-**

Regarding Logical - mathematical intelligence, the data shows insignificant difference between male & female students in relation to overall Logical - mathematical intelligence as  $CR_{cal}$  (0.654) is lower than required  $CR_{stand}$  (1.96) at 0.05 level of significance.

Now a day's male and female both are opting equally for competitive exams. There is no such logic that females will prefer only arts and home science subjects.

**Interpretation:-**

The data revealed insignificant difference between male & female students in relation to Musical intelligence as  $CR_{cal.}$  (0.919) is lower than  $CR_{stand.}$  (1.96) at 0.05 level of significance.

Earlier it was illusion that females show more interest in music because there musical intelligence is more developed as compared to males but now a days it is totally a myth because males are also showing better musical intelligence.

**Conclusion:** - There is no significant effect of gender difference on musical intelligence.

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