

# Comparative Study of Critical Thinking Ability among Teacher Educators on the basis of Gender

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## Abstract

Critical thinking is an important skill that promotes self-reflection in the work done by anyone. The present study was conducted to understand the influence of gender on the critical thinking ability of teacher educators. The total number of teacher educators was 30 which were selected out of which 16 were males and 16 were females from three Teacher Education Institutions of Gandhinagar. Test on critical thinking ability, developed by the researchers was used to test the critical thinking ability of teacher educators. The finding of the study showing that there is no influence of Gender on Critical Thinking ability among teacher educators. The study gives suggestions towards designing classroom pedagogy for teacher education based on critical thinking and also towards the further research that needs to be carried on under this domain.

**Keywords :** Critical Thinking, Gender, Teacher Educators.

## **Introduction:**

In ancient India, education and religion were closely linked to each. The character formation with the proper development of the moral feeling along with preparing students to become a useful member of society was an important aim of education during that time. In the classical Indian handbook of Ayurveda called Charaka Samhita, the author Acharya Charaka said following words, "One who has acquired the knowledge (given by the authoritative text) based on various reasons and refuting the opponent's view in debates, does not get fastened by the pressure of opponent's arguments nor does he get subdued by their arguments" (Vaidya, 2016). According to Nagasena, "When scholars talk a matter over one with another, then there is a winding up, an unraveling, one or other is convicted of error, and he then acknowledges his mistake; distinctions are drawn, and contra-distinction; and yet thereby they are not angered" (Vaidya, 2016).

The National Curriculum Framework (2005) also visualizes teachers in the role of "facilitator who encourages learners to reflect, analyze and interpret in the process of knowledge construction". It also recognizes the fact that a sensitive and informed teacher is one who "is able to engage children through well-chosen tasks and questions so that they are able to realize their developmental potential". The NCF, 2005 also suggests that student-teachers, teacher educators or regular teachers should critically examine the curriculum, syllabi, and textbook on a regular basis.

Critical Thinking is one of the important skills which is much discussed in the field of Teacher Education. The National Curriculum Framework for Teacher Education, 2009 recommends teachers to critically engage with the theory and practice for developing a professional approach in the process of teacher education. The relevance of Critical Thinking can

be understood going back to the era of Socrates where he emphasized seeking reasons, obtaining evidence, questioning assumptions and analyzing concepts to justify one's claim. To understand the significance of Critical thinking in the field of teacher education, it is important to understand its meaning and definition given by various philosophers. John Dewey defines critical thinking as "active, persistent and careful consideration of a belief or supposed form of knowledge". From being active, he meant the active involvement of the individual in the process of knowledge construction rather than learning in a passive way from somebody. Building on the idea of Dewey, Edward Glaser, co-author of one of the widely used tests of critical thinking adds more emphasis to the evidence-based inquiry.

According to Mason (2008), Robert Ennis (1996) propagates the idea of critical thinking to be based on skills such as becoming reasonable and a reflective thinker in the work one chose to do. McPeck (1981) argues that critical thinking is specific to a discipline which depends on a thorough knowledge of the subject content.

Teacher Educators are required to be flexible and reflective, innovative, dynamic in their responses where they can locate, map and translate the different discourses in their arena of practice. The most significant aspect of critical thinking is raising a question which is the central aspects of both learning and knowledge creation. Therefore, the assessment of critical thinking would require an individual to be open for multiple solutions and have the motivation to examine the complex content deeply rather than just simply recalling facts or restating the answer.

### **Rationale:**

The attitude of prospective teacher educators towards critical thinking would help in bringing a desired social change in the formal Indian education system. It would also help them understand the need for collaborative planning and practice in their workspace which would help them grow as professionals. Facione (1990) defines critical thinking as "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as an explanation of the evidential, conceptual, methodological, criteriological, or

conceptual considerations upon which that judgment is based. Different Policies and recommendations on Indian education system highlight the needs towards improving quality in the education system. It is felt that the current practices in the education system fail to establish the relationship between the content taught in the classroom and its implication in the real world. Similar problems are being faced in the preparation of teacher educators where they end up spending more time "decorating their lesson-plan rather than reading and reflecting on what to teach, why and how" (Report of the High-Powered Commission on Teacher Education constituted by the Hon'ble Supreme Court of India, August 2012). Annual Status of Education Report (ASER), 2019 and National Achievement Survey (NAS), 2018 clearly highlights the concerns related to quality in the Indian education system. This, in turn, raises the question on the quality of teacher education which "acts as a bridging agency between school education and society" (Sharma & Rawat 2014).

Critical thinking has a positive influence on the academic achievement of an individual that enhance their confidence level. Sherafat (2016) conducted a study to find out the effect of critical thinking on academic achievement among secondary and senior secondary students. The findings of the study suggest that higher the critical thinking levels, the better is the academic achievement scores. It means critical thinking positively affects academic achievement of (secondary and senior secondary) students. The study also found that the age or the educational level does not pose an influence on critical thinking as secondary students were found performing better than the senior secondary students.

There are different studies that suggest different ways to enhance critical thinking. Patel (2010) found that the instructional strategies based on thinking tools and strategies were effective in enhancing fluency, flexibility and originality dimensions of creative and critical thinking among primary school teachers. Ojha (2018) conducted a study to develop the critical thinking skills of students in history through an inquiry-based approach in the classroom. The findings suggest that the inquiry approach was more effective than memorizing the facts in which students learned to appreciate the complexities,

uncertainties, and ambiguities inherent in historical issues and problem. Gopalakrishnan (2016) conducted an experimental study to see the effectiveness of Educational Ergonomics Programme (EEP) in terms of critical thinking amongst students of XI grade. The findings suggest that critical thinking of the group who underwent the EFP program was enhanced at the end of the treatment. There are many studies conducted to see the influence of different interventions in enhancing the critical thinking of students studying at different levels of school education or higher education either in a subject or around the overall developmental domain. Also, there are studies that talk about the need for developing teaching competency and professionalism among teachers or teacher educators, but it is difficult to find the study that provides an example of the practice of enhancing critical thinking abilities among teacher educators.

There can be different factors that can affect critical thinking of an individual. A research conducted on “critical thinking tendencies and factors that affect critical thinking of higher education students” gives a result that shows that female student were seen to be better than male students on the dimensions of analyticity, open-mindedness, and truth-seeking. Whereas, inquisitiveness was the only dimension that male students were better than female students (Arselen, Gulveren, and Aydin (2014). Gender is defined as a “social construction of sexed bodies and an analytical tool for providing a conceptual bridge to past and present relationships between men and women” (Pearson and Rooke, 1993).

In India, from 1991 to 2014, female to male teacher ratio has increased from 41 to 88 in primary school and 44 to 90 in secondary school as per the data of the Indian Human Resource Department. In urban areas, female teachers have outnumbered male teachers with many big schools having just 5 to 10% male teachers (Nair, 2017). But how far have they attained the sense of autonomy and decision-making is a question to inquire about. The percentage of female teachers are increasing rapidly compared to male teachers. Despite that, it would be difficult to say whether they are able to think critically in their profession that demands them to be a reflective thinker. Therefore, a comparative study of critical

thinking on the basis of gender became a chance to reflect on the process that one has gone through or going through to become teacher, educators.

### Statement of the Problem

Our current Indian education system emphasized heavily on memorizing the answer to the question rather than testing the critical thinking skills mentioned in almost all the report based on the Indian education system. In India, around 77% of teachers are female and every year they are becoming part of this profession in a large number. Therefore, a study was conducted on, “Comparative Study of Critical Thinking Ability among Teacher Educators on the basis of Gender”.

### Significance of the Study

To ensure the quality of education system in India a good teacher educator is required for preparing a good teacher which would, in turn, be reflecting in the learning level of students. In the 21<sup>st</sup> century, it is important to have an education system that promotes critical thinking which would lead towards a maximum of innovation and creativity to excel in a worldwide scenario.

### Objective

The objective of the study was

To study the influence of gender on critical thinking of teacher educators.

### Hypothesis

Ho was framed by researchers:

Ho - There is no significant difference between the mean scores of critical thinking of male and female teacher educators.

### Delimitations of the Study

Delimitations of the study were:

- The study was delimited to the English Medium Teacher Education institutions only.
- The study was conducted in the institutions of Gandhinagar city of Gujarat only.

### Methodology

The present study was descriptive in nature. In the study, the researchers used Survey method.

### Sample

In the present study, a sample of 32 teacher educators was taken, out of which 16 were males

and 16 were females. The sample consists of Teacher Educators, Research Scholar and Master of Education (M.Ed.) students among the age group of 21 to 50 years. The institutions selected for the purpose were English medium and the name of the institutions are Indian Institute of Teacher Education, Education department of Kadi Sarva Vishwavidyalaya and School of Education Central University of Gujarat, located in Gandhinagar city.

### Sampling techniques

The sampling technique used by the researchers was purposive.

### Tool

For the study, a test based on critical thinking ability was prepared by the researchers. The language of test was English. The dimensions of critical thinking that were considered while developing a test were- analyzing arguments, assumptions, deductions, inferences and interpreting information.

### Data Analysis, Result, and Discussion

Mann Whitney 'U' test was used for data analysis which summary of results is given in Table 1.

**Table 1. Summary of Mann Whitney 'U' test for comparing Critical thinking and Gender**

\*\* not significant at 0.05 level of significance

From table 1, it is clear that the value of Mann-Whitney 'U' is 102.50 for which the value of two-tailed significance is 0.335, which is greater than 0.05 level of significance, therefore 'U' value 102.50 and Z-value 0.964 is not significant at 0.05 level of significance. Hence, there is no significant difference between the scores of critical thinking of male and female teacher educators. In this view, the null hypothesis, "There is no significant difference between the mean scores of critical thinking of male and female teacher educators" is not rejected. The data in table 1, clearly shows that the value of scores of critical thinking of male is 18.09 which is not significantly higher than the value of scores of critical thinking of female which is 14.91. Therefore, it can be concluded that critical thinking of teacher educators is not influenced by gender.

Salahshoor and Rafiee (2016) conducted a study to investigate the relationship between critical thinking and gender among Iranian (English as Foreign Language) learners. A result of a standardized test revealed that males and females were not significantly different from one another in applying critical thinking skills. Leach (2011) in his study explored the five dimensions of critical thinking based on gender, college and academic discipline. The result of the study shows that there is no significant difference found among gender aspect, however, a student within a certain academic discipline is found to perform better in some areas of critical thinking. The study also indicated that the development of critical thinking is highly dependent on the environment and instruction by teachers. Another study regarding gender and problem solving administered under PISA (Programme for the International Student Assessment) by the Organisation for Economic Cooperation and Development (2009) found that gender differences in problem-solving for adolescents were few and insignificant.

The above studies suggest that the role of gender is not much in determining the critical thinking ability of an individual. However, the other factors that can play a major role in the critical thinking of an individual are

| Critical Thinking | Gender | N  | Mean Rank | Sum of Ranks | Z    | Mann-Whitney 'U' | Sig.    |
|-------------------|--------|----|-----------|--------------|------|------------------|---------|
|                   | Male   | 16 | 18.09     | 289.80       | .964 | 102.50           | 0.335** |
|                   | Female | 16 | 14.91     | 238.50       |      |                  |         |

the academic environment and teacher's facilitation at the school and university level. Afsahi and Afghari (2017) conducted a study with thirty students of Master of Arts (M.A.) to study the relationship between Mother Tongue, Age, Gender and Critical Thinking. The result of the study indicates that there is a significant relationship between mother tongue and critical thinking but there is no significant relationship between age, gender, and critical thinking level.

The reasons behind getting the above result were maybe because of the similar educational or academic attainment by both the male and female teacher educators. They have either completed or were pursuing a Master of Education (M.Ed.) degree, that means, they all were at a certain level of education. Therefore, there was no significant difference found in the

relationship between critical thinking and the gender of the teacher educators.

### Conclusion

The finding of the study showed that critical thinking is not influenced by gender. The studies display that it is not gender that determines the critical thinking of an individual but the environment in which one is living. Another important point stated by almost all the study is the significance of critical thinking in one's academic or personal life as it demands self-reflection and self-regulation at every end of life. Similarly, the beliefs, practices, and attitude of teachers educators are really significant to improve the educational scenario of the country as they are the ones who would prepare teachers to cope with their professional life challenges and provide a student-friendly environment which would, in turn, shape the motivation and achievement of students. At last it can be concluded that there is no relationship between gender and critical thinking.

### Implications of the study

The study can give direction for further researches which are going to explore or experiment towards improving the existing classroom practices in the field of teacher education. It can also be useful in designing a classroom pedagogy of teacher education. It can also give an insight to the teachers who are teaching at a different level of schools and colleges to stop generalizing the student's choice of subject with their gender.

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