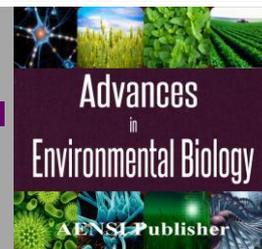




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### Impact of Environmental Education on Students' Critical Thinking of the Teacher Training Centers (A Case Study: YASUJ city)

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#### ABSTRACT

The main problems that exist throughout the world, such as problems of Environmental Protection, they claim that, in the mission, and the role of education, a fundamental rethink is needed, in order to human to be made ready to deal with these issues and developments. The main goal of educating students is to educate lifelong learners. According to experts, one of the main ways of achieving this goal is to equip them with critical thinking, since the environment is highly interdisciplinary subject it covers a wide range of ways in which they can gain the critical thinking. And also, environmental issues have the complexity, which they can be examined from different aspects. And each of these aspects opens the new concept and different from other dimensions to man. Hence, this study has sought to evaluate influence the effect of the environmental on students' critical thinking of the Teacher Training Centers of the YASUJ city. Thematic scope of this research is environmental education. Geographic scope of this study includes teachers' university of the YASUJ that is divided into two parts Teacher Training Center of Kowsar (girls), and the Teacher Training Center of Shahid IZADPANAHA (male). The number of students in these centers generally is 1189 people, including 397 female students and 792 male students. This study was conducted in 2014. Since the formula Cochran is one of the most widely used methods for calculating the sample size, the Cochran formula to calculate the sample size was used. According to this formula, the sample size in this study 290 people was identified.

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#### INTRODUCTION

Extensive cultural, social and economic changes and developments in the present era, have created new challenges, new expectations for the educational system, And the main problems that exist throughout the world, such as problems of Environmental Protection, they claim that, in the mission, and the role of education, a fundamental rethink is needed, in order to human to be made ready to deal with these issues and developments [1]. Therefore, the necessity of environmental education in international conferences always as one of the objectives of environmental has been highlighted. In the programs of environmental education, public education is considered as the most important and most sensitive courses. The main goal of educating students is to educate lifelong learners. According to experts, one of the main ways of achieving this goal is to equip them with critical thinking, which is considered as the skill of wise judgment and rational decision-making; which the researches have shown that, despite the importance of critical thinking as an essential tool for learning, in general, the ability of students to use critical thinking skills is very little, and also, still many teachers are refusing to engage students in critical thinking activities. Researches have shown that teachers who have completed their environmental education courses, have critical role in nurturing talent, creativity, change attitudes, knowledge, skills and increasing abilities of students. Because critical thinking is a skill that can be learned, and in various fields, there are several ways to achieve this, since the environment is highly interdisciplinary subject, it covers wide range of ways that can achieve critical thinking, As well as environmental issues have complexities, which can be studied from different aspects, and each of these aspects opens a new concept and different from other aspects to the man. In the world today, the fundamental issue is training people who can think correctly and to face amazing transformations of the twenty-first century, they are

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acquiring increasingly thinking skills for good decisions and solving complex problems of society. Ennis believes that one of the fundamental goals of education should be training thoughtful man. Paul believes that training of the thinkers and probe mind must be the first aim and the final product of education [1]. As a result of the use of critical thinking, prosperity, and enhance mental function will be higher, and we see that in practice, people with a high level of critical thinking, and have a positive attitude, will have better performance and ideas and more creativity, further speculation on the subject, higher reasoning power and more vigilance, and in general, critical thinking will improve the community. If we have an overview of the state of the surrounding environment, we see that, the reason of the transformation and degradation due to human ignorance or lack of attention to the environment is due to lack of academic and professional training and human selfishness and kick back to the customs of the past in order to preserve and protect it. Without a doubt, one of the most important ways to protect and preserve the environment and prevent its degradation and pollution is the use of training activities [2]. Since, environmental education is one way of developing this skill, and students of the Teacher Training Centers are considered as culture makers and key persons in the development of critical thinking in students and future generations of the community, therefore, necessity to perform this research, more than ever, becomes clear.

#### *Education:*

Education is the process of change in information, knowledge, attitudes, behaviors, skills and performance of employees through needs assessment, course design and theoretical and practical with practical teaching and measurement of learning to better prepare for and carry out job responsibilities and playing roles of staff [2]. Manpower Services Commission has defined learning as a process designed to correct the mindset, knowledge into effective performance, through experiential learning in order to achieve effective performance in an activity in the range of the activities and their objectives in the training workshops where develops the ability of individuals and current and future satisfaction of manpower needs of the organization. (Wilson, 2004, quoting from Manpower Services Commission, has defined learning as a process designed to correct the mindset, knowledge into effective performance, through experiential learning in order to achieve effective performance in an activity in the range of the activities and their objectives in the training workshops where develops the ability of individuals and current and future satisfaction of manpower needs of the organization [2].

#### *Environmental Education:*

According to the World Conservation Union definition in 1970, environmental education is: Identification of the values, description of the concepts in order to create attitudes and skills required to understanding the interdependence between humanity, his culture and the environment around him. Environmental education includes as well as activities such as decision-making, self-induced, behavioral rules relating to environmental quality.

According to the group of specialists, environmental education is: An active process in which the awareness, knowledge and skills will be improved, which leads to the understanding, commitment, informed decisions and constructive activities to manage all the mixed components of a environment.

Environmental education is a systematic process in which learners are able to review environmental issues through direct experience, and they are encouraged to join the scientific activity in favor of the environment [2].

According to the William, environmental education is a process that its aim is to create a global population, a population which has knowledge, attitudes, motivation, commitment and skills needed for individual and group activities in order to solve current problems and prevent future problems [2] .

#### *Importance and necessity of the environmental education in the current situations:*

It is several decades that the planners and executors of policies of economic development have used the pretext of progress and prosperity to achieve mass production of the equipment and facilities, so that it popularized the culture of the rejection consumption among communities, and to achieve this goal, they pay attention to the depletion and environmental degradation in the forefront of their work. But in recent years, the results of these hasty decisions, and unreasonable policies, is markedly evident. Aldo Leopold, father of the science of the conservation of nature says: ((We use the nature of the land without notice, because we know it is part of his property, when we look into the land as a society, and consider ourselves as the property of that community, then we will use it with love and respect)). Therefore, to achieve sustainable development, means the harmonious development and with preservation of environmental values we need to think change the culture of life in our communities, so people who form societies, adapt their character with stability and dynamism of the nature. Sustainable development is realized when environmental information is spread among the people, and public participation in the preservation of it be doubled. Without popular support, to develop, mutation towards the development also will be problematic. Because, can be transformed their performance by changing in belief and faith of the people, and the prospect of sustainable development can be predicted by the suitable

model. One of the factors that led to the recognition and the need for environmental education in the country is changing individual attitudes and overall learning of the environment (Moharamnejad and Haideri, 2006).

#### *Objectives of environmental education:*

The goal of environmental education in the first priority is to develop active and aware people of their environment, and their responsibility to protect it. To achieve this goal, the education must increase the recognition of people about interactions about the physical, biological, social, economic and cultural aspects and improvement of the environment. The goal of environmental education is to create sensitivity to events and physical, biological, social, economic and political changes of the environment, and create concerns about the issues raised for him, and encourage him to correct the Human Problems, such as poverty, illiteracy, social injustice, and like this, and develop the skills to devise methods and tools to solve environmental problems in him. Also, Shobeiri and Abdullahi, in their book have been expressed providing opportunities for all people to acquire the knowledge, values, attitudes, commitment and skills needed to protect and develop the environment as one of the goals of environmental education, In their book, they have been expressed achieving critical thinking about the world, environment, region, politics, economy, society, and culture in order to develop problem-solving states as one of other goals of environmental education.

#### *Critical Thinking:*

##### *Definition of Critical Thinking:*

Maiorana, V.P. notes, the purpose of critical thinking is to understand the issues, evaluate ideas and solve problems. What is common in all three areas is asking the question. So you say, critical thinking is a question or a search for understanding, evaluating, and problem solving [8,5]. Critical thinking skill is the ability to analyze objectively the available information, according to personal experiences and Identification of influence social values, peers and the media on individual behavior. To judge or assess and improve the quality of judgments, a person uses a set of cognitive skills, as well as it is called as critical thinking skills, these skills include analysis, interpretation, inference, explanation and self-assessment. Alexander and Giguere, quoting from some scholars, have considered critical thinking as not only a technical process but a process of Emancipatory, and have insisted that the development of thinking skills in education thereby improving the health of the person.

##### *Perspectives on critical thinking:*

Although most people believe that critical and creative thinking is inherent, but studies have shown that these skills can be learned [7]. Perhaps, it can be said that the first person who has experienced this effort is Socrates. Once, he calls the youth of Athens by own method to deeply reflect, therefore, he hoped that they learn how to think [5].

Ennis believes that one of the fundamental goals of education must be training people to be thoughtful people. Paul (1992) argues that train of thoughtful people and probe mind, should be the first goal of the final product of the education. The most important purpose of education is fostering critical thinking [5].

Passionate motivation, diligence and impartiality, enthusiasm to achieve the origin of all things, and to hear opposing viewpoints, strong motivation to search for evidence and Intense disgust of paradox and disordered thinking and Inconsistent application of criteria, and Belief in the truth against self-interest are typical characteristics of a rational person [1].

Critical thinking, has acquired through training, we can train students with critical thinking [1].

Some techniques for teaching critical thinking are as follows: Written assignments, library activities, practical work, learning with classmates, project methods, case study techniques, instructional games, and playing role, Journalism [1]. Philosophers such as Ennis, Lipman and Richard believe that the main goal of education should be education of the rational thinkers. Paul (1992), visualizes the final result of education in the form of an inquiring mind [8].

Tasvi, Mayerz and Reid believe that critical thinking is acquisitive, and through training, students can be trained with the critical thinking.

Today, education experts agree that critical thinking is not only a goal of education, but it should be an integral part of the training at any point. Because, critical thinking is thinking that creates analysis, evaluation, and selection and application of best solution in human, what is the need of today's world.

Watson and Glaser say critical thinking is a mixture of knowledge, attitude and practice in any person, they consider ability of critical thinking in 5 skills as follows:

Inference, recognition of assumptions, deduction, interpretation, evaluation of logical arguments

They believe that the ability of critical Thinking is processing and evaluation of previous data with new information and the consequence of resulting combination of deductive and inductive reasoning with a process of problem solving. The definition of the Watson and Glaser about critical thinking is the basis for testing critical thinking, which today is widely used to measure of critical thinking and for majority of researchers in various scientific disciplines it is acceptable [9].

Alan Bansly in a book titled "Critical Thinking in Psychology" has emphasized on that Critical Thinking is trainable and says as you learn Concepts and work in a particular field, the skills of the Critical Thinking is transferable, and will be taught [9].

#### *History of Critical Thinking:*

Interest in the development of critical thinking abilities in educational circles, is not a new phenomenon. Chet Meyers, author of the book untitled "Teaching Critical Thinking", believes that the source of such interest is related to Plato's Academy. A pattern, which modern universities today are based on it, but gradually they away from this tradition, and most attention has been paid to provide information. Intellectual roots of critical thinking have a long history, teaching method and view of Socrates, in 2500 years ago, confirms this. Socrates expressed this fact that a person can't rely on those who are in authority to achieve knowledge and intellectual insight. He found that individuals may have a high position of power, but they are deeply confused and misguided and illogical. Socrates showed the importance of asking deep questions that cause people to think before accepting an idea, and the importance of seeking evidence, rigorous testing, reasoning, assumptions and the analysis of key concepts. His method, which is known now as the "Socratic asking and answering" is the best strategy to teach critical thinking, in which Socrates shows the need for strength and clarity of logic clearly. The method of Socrates was followed by Plato and Aristotle. In the middle Ages, the tradition of systematic critical thinking appeared in the writings and teachings of thinkers like Thomas Echinacea. In the Renaissance (ages 15 and 16) because of massive flow of secular in the Europe, critical thinking about religion, art, society, human nature, law and liberty began. The secularists were associated with the assumption that most areas of life of the human require investigate analytically and critically. Francis Bacon in England discussed the introduction of the idols of the tribe, means the ways that our mind has a natural tendency to self-deception. His book is the Advancement of Learning one of the earliest texts on critical thinking. Among other scientists who paid attention to critical thinking in the 16th and 17th centuries, it can be named Descartes who in his book argues rules to guide thinking about the need to provide a systematic order to induce the mind into thinking.

#### *Research Methodology:*

This study in terms of method is a descriptive study and in terms of purpose is a correlational study in which the correlation between the learning environment and promote critical thinking among students of teacher training centers YASUJ is checked. This study given the aim of the study is an applied study. Given that this research is about the impact of environmental education on promotion of students' critical thinking of the Teacher Training Centers, so the subject domain of this research is environmental education. Geographic scope of this study includes teachers' university of the YASUJ that is divided into two parts Teacher Training Center of Kowsar (girls), and the Teacher Training Center of Shahid IZADPANAH (male). The number of students in these centers generally is 1189 people, including 397 female students and 792 male students. This study was conducted in 2014. Since the formula Cochran is one of the most widely used methods for calculating the sample size, the Cochran formula to calculate the sample size was used. According to this formula, the sample size in this study 290 people was identified. The questionnaires after collection and extraction for analysis were entered into SPSS software. The analysis of the findings of the study is done in both descriptive and inferential statistical procedures. In descriptive statistics, frequency, percentage, percentage frequency density and mean and in the inferential statistics, with respect to the variables studied, one sample t tests, two independent samples t tests, Spearman correlation, analysis of variance ANOVA, due to the influence of variables on the dependent variable, are used. In this study, by using library studies, we have discussed the collection of the literature, and then refer to the available documents and similar organizations and the reputable websites, we examined the background of this study, then, with the help of the field method and using a questionnaire, we discussed the collection of information from students of the teacher training centers in the YASUJ City. The questionnaire used is the questionnaire of the California Critical Thinking Skills Test (CCTST-B).

#### *California Critical Thinking Skills Test Questionnaire (CCTST-B):*

"California Thinking Skills Test" is a test developed to measure critical thinking skills in college students. Structural basis of test is based on the definition of critical thinking, which is a self-regulation and targeted (Saeid Al Zakerin *et al* 2006). The result of factor analysis showed that, the California Critical Thinking Skills Test consists of five components (factor), which ultimately they measure the same structure (critical thinking). This test contains 34 multiple-choice questions with one correct answer, which measures these skills:

Interpretative skills, including: Classification, Decoding sentences, clarify of the meaning, evaluation of ideas and analysis ideas, analytical skills, including: the search for evidence, speculation about the alternatives and extraction of the results

Evaluation skills, including: Claims assessment, evaluation of discussions, expression of results, justifying procedures and presenting arguments

Deductive reasoning including logical reasoning in mathematics

Inductive reasoning includes the conclusions of the discussion following the confrontation with the facts related to the assumptions.

This questionnaire in 1990 was invented by Fasioun. In 20 questions of this test, the numbers of options are 4 cases, and in 14 questions, the numbers of options are 5 cases. The scores of evaluation Section from 14, the analysis Section from 9, conclusions Section from 11 and inductive reasoning Section and deductive reasoning Section, respectively from 16 and 14 are calculated. The California critical thinking test has strong content validity, because, has been developed based on the definition of critical thinking by philosophers Association of America and the University system of California. The respondents to each question must select the best answer among correct options, which it is based on their judgments. The time required for the exam 45 minutes is intended. Grading of this examination is such that, for each correct answer, a score is given to the subject. For incorrect answers, scores can't be deducted, and for every question that is not answered, or every question that has had more than one answer, no scores will not be considered.

## RESULTS AND DISCUSSION

### *An overview of the demographic characteristics of the study:*

According to the questionnaire, among total number of 290 respondents, 184 (63.4%) of them were male and 106 (36.6%) of them were women. This suggests that the gender distribution is roughly balanced, and we can examine the gender variable in our analysis. 53% of fathers and 44.5% of mothers have a college education, and this suggests that parents have good literacy. Distribution of family income levels of respondents is as follows: 2.1 percent under 500 Thousands toman, 62.8% from 500 thousand to one million, 25.5% from one to two million and 9.7% from 2 million and higher.

### *Educational features:*

21% of respondents have GPA between 3-12, 10.14 percent of respondents have GPA between 14-16, 49.3 percent of respondents have GPA between 16-18 and 18.6 percent of respondents have GPA between 18-20. The GPA of the respondents is good and acceptable, and it makes the study more valuable. Of the total 290 persons, 31 percent of students were in first year of study, 41 percent were in the second year of study and 28 percent were in third and fourth years of study.

### *First hypothesis:*

Environmental education has a significant impact on improving the students' critical thinking of the teacher training centers.

Critical thinking has 5 aspects of assessment, analysis, inference, inductive reasoning and deductive reasoning that we obtain the effect of education on each of them separately.

Above table is the output of the paired t-test to assess the impact of environmental education on 5 aspects of the critical thinking. First row of the test is to evaluate the impact of education on the analysis, which is interpreted as follows: Average of Vulnerability Analysis of respondents before training is 3.93 and after training, it is 4.26. This difference given the significant level of zero, which is less than 0.05, is significant, because, in this case the null hypothesis is rejected, we conclude that the education has increased level of vulnerability analysis, and this increase is significant, so the education has an impact on Vulnerability Analysis of respondents. Thus, because of this impact of education on critical thinking, it could be concluded that environmental education has an impact on the promotion of critical thinking.

### *Second hypothesis:*

Impact of environmental education on students' critical thinking, is an issue related to gender.

**Table 1:** Spss output of the paired two-sample test.

	Situation	Average	$\bar{d}$	$S_d$	The T score	Degrees of freedom	Significance Level	The hypothesis confirmed
Analysis	After Training	4.26	0.33	1.22	4.55	289	.000	The hypothesis H0 is rejected and the hypothesis H1 is accepted.
	Before training	3.93						
Assessment	After Training	6.84	0.94	2.006	7.93	289	.000	The hypothesis H0 is rejected and the hypothesis H1 is accepted.
	Before training	5.91						
Inference	After Training	4.87	0.411	1.70	4.09	288	.000	The hypothesis H0 is rejected and the hypothesis H1 is accepted..
	Before training	4.46						

Deductive Reasoning	After Training	7.68	0.55	1.93	4.86	289	000	The hypothesis H0 is rejected and the hypothesis H1 is accepted..
	Before training	7.13						
Inductive reasoning	After Training	5.91	0.58	2.14	4.61	288	000	The hypothesis H0 is rejected and the hypothesis H1 is accepted.
	Before training	5.32						

➤ In the first hypothesis, we found that education is effective on critical thinking of the respondents, and it leads to promote critical thinking in students. In this hypothesis, we sought to investigate this, whether this effect is different in men and women, that is, whether the influence depends on gender or not.

➤ First test of the table, shows examining the impact of gender on the impact of education on vulnerability analysis. So that, the effect of education on men vulnerability analysis is 0.30 and the impact of education on women's vulnerability analysis is 0.36. This slight difference between women and men with regard to the significance level is not significant. Because, the significant level is 0.67, and is greater than 0.05. As a result, the null hypothesis base on the lack of difference in the impact of environmental education on vulnerability analysis in both men and women can't be rejected.

➤ Second test of the table, shows examining the impact of gender on the impact of education on assessment. So that, the effect of education on men assessment is 0.89 and the impact of education on women's assessment is 1.01. This slight difference between women and men with regard to the significance level is not significant. Because, the significant level is 0.58, and is greater than 0.05. As a result, the null hypothesis base on the lack of difference in the impact of environmental education on assessment in both men and women can't be rejected. Thus, gender has no significant effect on this influence.

➤ Third test of the table, shows examining the impact of gender on the impact of education on Inference. So that, the effect of education on men Inference is 0.35 and the impact of education on women's Inference is 0.52. This slight difference between women and men with regard to the significance level is not significant. Because, the significant level is 0.40, and is greater than 0.05. As a result, the null hypothesis base on the lack of difference in the impact of environmental education on Inference in both men and women can't be rejected. Thus, gender has no significant effect on this influence.

➤ Fourth test of the table, shows examining the impact of gender on the impact of education on Deductive Reasoning. So that, the effect of education on men Deductive Reasoning is 0.50 and the impact of education on women's Deductive Reasoning is 0.63. This slight difference between women and men with regard to the significance level is not significant. Because, the significant level is 0.60, and is greater than 0.05. As a result, the null hypothesis base on the lack of difference in the impact of environmental education on Deductive Reasoning in both men and women can't be rejected. Thus, gender has no significant effect on this influence.

➤ Fifth test of the table, shows examining the impact of gender on the impact of education on Inductive reasoning. So that, the effect of education on men Inductive reasoning is 0.50 and the impact of education on women's Inductive reasoning is 0.71. This slight difference between women and men with regard to the significance level is not significant. Because, the significant level is 0.45, and is greater than 0.05. As a result, the null hypothesis base on the lack of difference in the impact of environmental education on Inductive reasoning in both men and women can't be rejected. Thus, gender has no significant effect on this influence. Which, it shows that the impact of environmental education on critical thinking is an issue independent of gender.

### Third Hypothesis:

There is a significant relationship between social welfare and critical thinking.

$$\begin{cases} H_0: r_s = 0 \\ H_1: r_s \neq 0 \end{cases}$$

If the null hypothesis is accepted, there is no correlation between the two variables, and the hypothesis 1 is accepted, there is a correlation between the two variables.

**Table 2:** The correlation coefficient between Social Welfare and Critical Thinking.

sig	The correlation coefficient	Number	Variables
0.002	0.183	290	Analysis and Social Welfare
0.004	0.170	290	Assessment and Social Welfare
0.29	0.062	289	Inference and Social Welfare
0.60	0.031	290	Deductive reasoning and social welfare
0.008	0.157	289	Inductive reasoning and social welfare

Due to the output of the above table of spss, the sig Analysis, Assessment and inductive reasoning is less than or equal 0.05, we conclude that the null hypothesis is rejected in these aspects, and there is a significant relationship between social welfare and these aspects. In the analysis aspect, the correlation coefficient is 0.183, it is positive, so there is positive correlation and when social welfare increases (decreases), vulnerability analysis of respondents also increases (decreases). In the Assessment aspect, the correlation coefficient is 0.17, it is positive, so there is positive correlation and when social welfare increases (decreases), Assessment of respondents also increases (decreases). So for every one unit increase in social welfare, the 0.170 unit will be added to the evaluation. In the Inductive reasoning aspect, the correlation coefficient is 0.157, it is positive, so there is positive correlation and when social welfare increases (decreases), Inductive reasoning of respondents also increases (decreases). But in the other two aspects, ie, inference and deductive reasoning, the correlation coefficient is small, and the significance level is less than 0.05. So, the null hypothesis of the correlation coefficient test for these two factors can't be rejected, that is the correlation is almost zero and it is negligible.

#### Fourth Hypothesis:

There is a significant relationship between students' critical thinking and gender.

H<sub>0</sub>: There is no significant relationship between students' critical thinking and gender.

H<sub>1</sub>: There is a significant relationship between students' critical thinking and gender.

**Table 3:** Spss Output of independent two-sample hypothesis test of the eighth Hypothesis.

Factor	Gender	Average	The T score	Degrees of freedom	Significance Level	The Hypothesis confirmed
Critical thinking	Man	5.96	0.387	287	0.0699	The hypothesis H <sub>0</sub> is accepted and the hypothesis H <sub>1</sub> is rejected.
	Woman	5.84				

Given the significant level 0.699, which is larger than 0.05, the null hypothesis of the test will be accepted. As a result, the level of critical thinking in both men and women has insignificant difference, which is negligible. Thus, critical thinking is an independent subject of gender. This is consistent with the findings of Javidi *et al*, who in 2010 showed that there is no significant difference between male and female students' critical thinking. This is also consistent with the findings of Dehghani *et al* and Curtis *et al*, who showed that there is no significant difference between male and female students' critical thinking [11]. This is consistent with the findings of Khandaghi *et al*, who conducted a study on students of the University of Medical Sciences of the Mashhad and showed that there is no significant difference in the mean scores of critical thinking of boys and girls. So for every one unit increase in social welfare, the 0.170 unit will be added to the evaluation.

#### Conclusions and recommendations:

❖ Environmental education has an impact on the promotion of critical thinking.

❖ The impact of environmental education on students' critical thinking is an issue independent of the gender.

There is a significant relationship between Social Welfare and aspects of the Analysis, Assessment and inductive reasoning. In the analysis aspect, the correlation coefficient is 0.183, it is positive, so the correlation is positive and when social welfare increases (decreases), vulnerability analysis of respondents also increases (decreases). In the Assessment aspect, the correlation coefficient is 0.17, it is positive, so the correlation is positive and when social welfare increases (decreases), Assessment of respondents also increases (decreases). In the Inductive reasoning aspect, the correlation coefficient is 0.157, it is positive, so the correlation is positive and when social welfare increases (decreases), Inductive reasoning of respondents also increases (decreases). But in the other two aspects, ie, inference and deductive reasoning, the correlation coefficient is small, and the significance level is less than 0.05. So, the null hypothesis of the correlation coefficient test for these two factors can't be rejected, that is the correlation is almost zero and it is negligible.

❖ The Critical Thinking men and women have little difference, which it is negligible. Therefore, the Critical Thinking is an issue independent of gender.

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