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The Influence of the Webbed-type Integrated Model on Students' Critical Thinking Ability in Social Sciences Material in the Field of Sociology Studies in SHS

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ABSTRACT

The purpose of this research is to find out how the Webbed integrated learning paradigm influences the critical thinking abilities of Senior High School (SHS) students. This research was conducted using a one-group *Pre-test-Post-test* design in a pre-experimental setting. The research subjects were ten men and nine women who were class X students at SHS 12 Padang. The instruments used are test sheets and observation sheets. The critical thinking ability test consists of two stages, namely *Pre-test* and *Post-test*. Based on research, students' critical thinking skills obtained an average score of 87 on the *Post-test* and 71 on the *Pre-test*. A sig value of 0.251 < α (0.05) was obtained using the Paired Sample *T-test* at α (0.05) in data analysis SPSS 22 for Windows. Research findings show that the *Pre-test* and *Post-test* are significantly different. Apart from that, a medium category *N-Gain* value was obtained of 0.543. This shows that the use of the Webbed integrated learning model has an impact on student's critical thinking abilities both before and after treatment. Then in several aspects of critical thinking, such as argument evaluation and information analysis, women tend to show higher levels than men, with the average score for women's argument evaluation being 78% while men's is 72%. However, in other aspects such as information synthesis and making conclusions, men tend to stand out, with men's average information synthesis score being 80% while women's is 76%.

Keywords: Integrated Learning, Webbed Model, Critical Thinking Ability, Social Sciences, Senior High School.

INTRODUCTION

Rapid progress in today's world requires workers to have a variety of skills to meet the needs of the 21st century. The government has taken steps to continuously update the curriculum to face this challenge. This leads to a learning process called 21st-century learning (Ilham, 2022). Creativity and innovation, critical thinking, problem-solving, decision-making, and metacognition are the five skills needed for students in the 21st century (Zuriady, 2017). Critical thinking is one of the 21st-century skills that students must have to face various personal and social problems in their lives (Superni, 2018). Critical thinking involves the process of thinking about ideas and concepts related to a particular concept or problem. Critical thinking can also be defined as the activity of analyzing ideas and concepts in depth, distinguishing clearly, selecting, identifying, studying, and developing these ideas thoroughly (Aan et al., 2021).

The first study, explains that there are differences in individual study results, boys and girls at the high school level have significant differences in their overall critical thinking abilities. According to the study, women typically demonstrate better levels of critical thinking than men in areas such as information processing and argument evaluation. On the other hand, men usually excel in other areas such as synthesizing information and making conclusions (Damayanti et al., 2023). Meanwhile, the second study explains how important the classroom environment is in determining how well children develop their critical thinking skills. While there is no significant difference in the critical thinking abilities of men and women in classrooms that encourage debate and active engagement, disparities begin to emerge in environments where participation and collaboration are less encouraged. Men are usually more comfortable voicing their thoughts in situations like this, but women may feel less supported or comfortable enough to participate more actively (Damayanti et al., 2023). The application of learning models that are less creative and not student-centered is the cause of the low level of students' critical thinking abilities during the learning process. Students' critical thinking skills may decline as a result of using conventional learning approaches, which may make them passive. Researchers' observations in the classroom also show that teachers do not always try to connect learning with their students' real-world experiences (Wardani & Murtiningsih, 2020).

As a result, students' abilities become less developed, making it more difficult for them to use critical thinking to solve contextual difficulties. Additional factors also make students appear less involved in the learning process (Efendi et al., 2022). For example, they tend not to engage in group discussions and social interactions and simply accept the reading assigned by the teacher without taking the risk of voicing their own opinions. The idea of student-centered educational processes and learning methodologies are less visible.

An effective learning model to overcome this problem is the Webbed-type integrated learning model (Barkara, 2020). It is recommended that the curriculum be implemented with an integrated learning approach at all levels of education, from elementary school (ES) to SHS. In essence, the integrated learning model is a teaching method that provides opportunities for students to actively seek, investigate, and reveal real-world ideas and concepts in a comprehensive and significant manner, both individually and in groups (Karli, 2016). Students can gain direct experience through integrated learning, which will strengthen their ability to absorb, remember, and produce impressions about what they learn (Hernawan & Officialni, 2015). Students are prepared in such a way as to be able to actively, meaningfully, holistically, and authentically study the various subjects they have studied. The importance of the learning process for students is greatly influenced by the way the teacher structures it (Efendi et al., 2022). To increase the effectiveness of the learning process, learning experiences show more connections between conceptual ideas. For students to obtain fullness and completeness of knowledge, a schema (concept) of the conceptual relationship studied will be formed with the subject matter concerned (Wahyuni, 2022).

The Webbed-type integrated learning model is one of the integrated learning models that can be applied. Of course, it will be easier for teachers to carry out the teaching and learning process if they use the Webbed-type (Oktaviani & Halim, 2021). The webbed model is an integrated learning framework that bases learning on topics (Wali et al., 2020). This kind of learning integrates knowledge from various disciplines or subjects that are connected by a common theme. Teachers can determine themes by collaborating with students or other educators (Marni et al., 2023). After a theme has been decided, sub-sub themes are selected while still paying attention to the relationship of each theme to each other. Therefore, major themes need to cover a wide range of topics and offer opportunities for students to learn more.

The following procedure can usually be followed when implementing Webbed-type integrated learning: 1) The teacher selects the main theme and other themes from various subject and field-specific competency criteria; 2) Educators create certain topics, such as those related to arithmetic, art, language, and social studies, which are in line with the main theme that has been determined; 3) To make the content more comprehensive, the instructor clarifies related subjects; 4) The instructor selects ideas or data that support student learning while still considering additional factors that are in line with integrated learning principles; 5) Selecting contracts and learning activities (Armadi & Astuti, 2018; Pramita et al., 2022). Webbed offers several advantages, such as the ability to involve students in the learning process by selecting themes according to their areas of interest, simplicity of use for novice teachers, efficient scheduling, and an easier approach for students to understand the problems and tasks involved (Yulia et al ., 2023). Based on a study of how well the Webbed-type of integrated learning model works in improving the level of social studies education. The findings of this study show how the Webbed integrated learning approach can improve the standards of social studies teaching for SHS students (Syahrir et al., 2022).

To further improve student learning outcomes, we also researched integrated Webbed learning (Dewi, 2017). Research findings show that integrating Webbed learning into teaching can improve student learning outcomes. In addition, studies on integrated Webbed learning based on local culture are being carried out to improve the learning outcomes of secondary school students. Student learning outcomes are improving, according to statistics. Based on the background and preliminary studies mentioned above, the author intends to research the Effect of Integrated Learning with the Webbed Model on the Critical Thinking Ability of SHS Students.

METHODS

The research was carried out at SHS 12 Padang. This research uses a one-group *Pre-test-Post-test* design using the pre-experimental methodology and quantitative research methodology (Sugiyono, 2020; Uhyat, 2013). Due to the pre-experimental approach,

external factors can still influence the emergence of dependency. Meanwhile, the *Pre-test* and *Post-test* findings were compared using a One-Group-*Pre-test-Post-test* design.

Data on students' critical thinking abilities was collected using this method both before and after treatment. The Webbed integrated learning paradigm was used in this research treatment. They completed a *Pre-test* before receiving therapy, integrated learning treatment using the Webbed model, and a *Post-test* at the end of the learning activities. Table 1 displays the one-group *Pre-test-Post-test* research design.

Table 1. One group *Pre-test Post-test* design

Pre-test	***Treatment***	***Pos-test***
O_1	X	O_2

Information:
O_1: Initial test (*Pre-test*) before treatment is given
X: Treatment using the Webbed model of integrated learning
O_2: Final test (*Post-test*) after being given treatment

There were nine women and ten men among the 19 class X SHS 12 Padang students who were used as research subjects. The webbed integrated learning model as an independent variable was used in research for class X SHS 12 Padang. Tests and observations are used as data collection methods. In implementing the Webbed model of integrated learning, the assessment instruments used are thinking ability tests and observation sheets. Before and after the research, critical thinking test questions were given, and an observation sheet for the Webbed integrated learning model was given after the model was put into practice. Students see how much the teacher has implemented the learning stages during the lesson based on the teacher's actions.

In this study, an objective multiple-choice test with four possible solutions was used for the test questions. This test has a scoring system; Correct answers get points (1), while bad answers get points (0). An observation sheet in the form of a checklist with two options 1 = yes and 0 = no is used to assess how the integrated learning model of Webbed is applied in teaching and learning activities. Descriptive statistical analysis and parametric statistical analysis, which include traditional assumption tests (normality tests) and hypothesis tests (*T-test*s), are the technical methods of data analysis used.

RESULT

Based on the research results there are variations in the findings from individual studies, overall there are significant differences in critical thinking abilities between men and women in SHS. The analysis shows that in some aspects of critical thinking, such as argument evaluation and information analysis, women tend to show higher levels than men, with the average score for women's argument evaluation being 78% compared to men's at 72%. However, in other aspects such as information synthesis and inference

making, men tend to stand out, with the average information synthesis score for men being 80% while that of women is 76%. Although there is no significant difference in critical thinking abilities between men and women. While men and women were observed in a classroom environment that supported active participation and discussion, differences began to emerge when the classroom environment encouraged less participation and collaboration. In such situations, men tend to be more confident in expressing their opinions, while women may be more likely to feel uncomfortable or less supported to contribute actively. For more clarity, see Fig 1 and Fig 2 below.

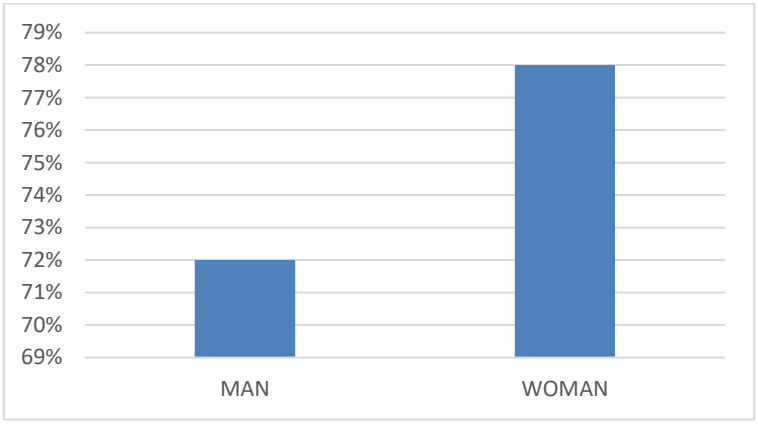

Figure 1. Evaluation of arguments and analysis of information

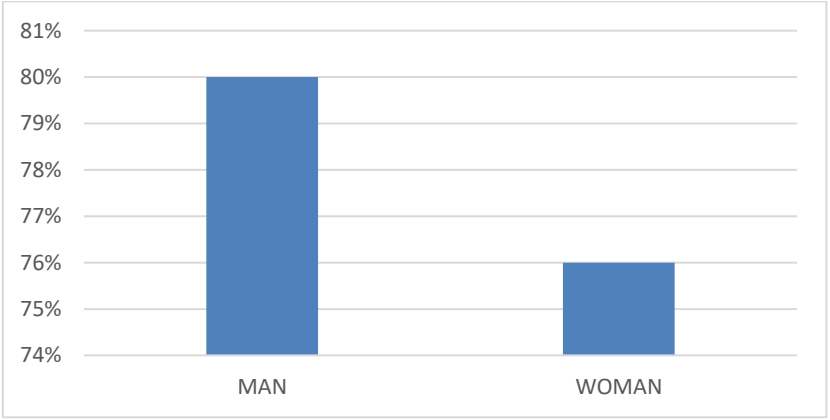

Figure 2. Evaluation of information synthesis and conclusions

Critical thinking indicators, include: 1) providing basic explanations (elementary clarification); 2) developing fundamental skills (basic support); 3) concluding (inferring); 4) providing further explanations (advanced clarification); and 5) compiling strategy and tactics (strategy and tactics), can be used to measure students' critical thinking abilities. For a clearer picture of the percentage of each indication of critical thinking ability based on research findings, see Fig 3 below.

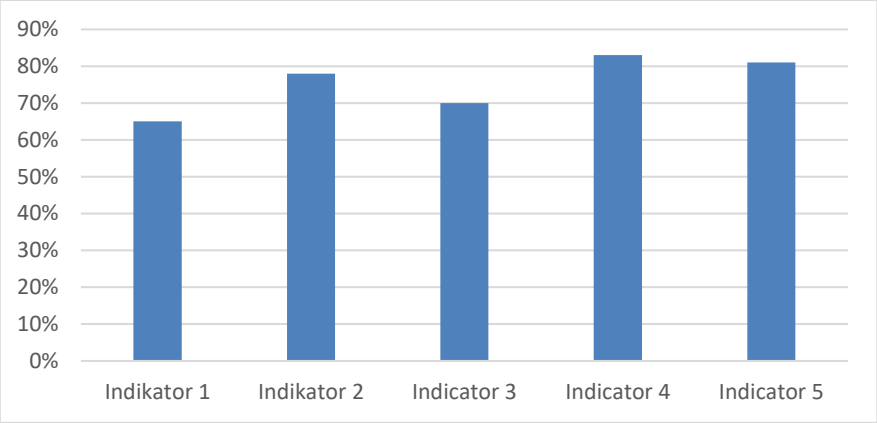

Figure 3. *Pre-test* Results

The percentage of achievement of each indicator of a student's critical thinking abilities can be seen in the diagram above. For example, indicator 3 gets a score of 65%, indicator 4 gets a score of 78%, indicator 3 gets a score of 70%, indicator 4 gets a score of 83%, and indicator 5 gets a score of 81%. More details can be seen in Fig 4 below.

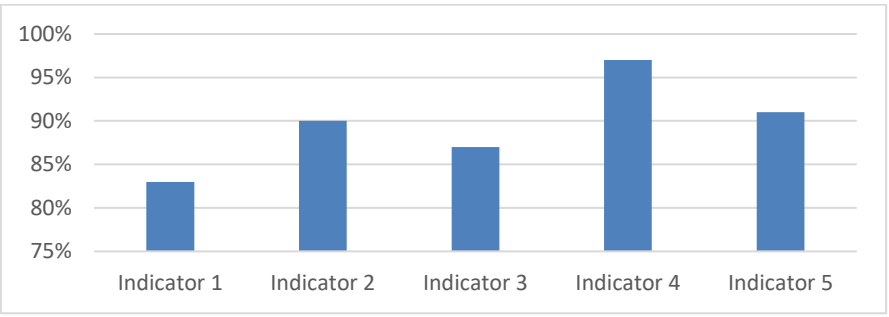

Figure 4. *Post-test* results

Diagram 4 shows that the percentage of *Post-test* achievement for each critical thinking ability indicator is higher than the *Pre-test*. This can be seen from the results of indicator 1 which obtained a percentage of 83%; indicator 2 which received a score of 90%; indicator 3 obtained a score of 87%; indicator 4 scored 97%; and indicator 5 which obtained a score of 91%.

Pre-test and *Post-test* findings provide information regarding students' critical thinking abilities. Multiple choice questions on the written test are used to determine the results of the *Pre-test* and *Post-test*. Students are given these questions to test on, and the answers are analyzed afterward. Before learning begins, students do a *Pre-test*. This is done to assess students' critical thinking abilities in responding to questions on the subject matter they will study. After the *Pre-test*, students engaged in web-based learning activities. Students received *Post-test* questions after the treatment course was completed. The following is a table of *Pre-test* and *Post-test* results along with the lowest value (X_{min}), highest value (X_{max}), average value ($X_{average}$), and standard deviation (s), which can be seen more clearly in Table 2 below.

Table 2. Description of *Pre-test* and *Post-test*

Description	*Pre-test*	*Post-test*
Lowest Score	38	71
Highest Score	80	100
Average	70	87
Standard Deviation	10,723	9,12
The number of students	19	19

It can be seen from Table 2 above that the average score of the *Pre-test* results is 70, the maximum score is 80, and the lowest score is 38. Meanwhile, the average score is 87, the maximum score is 100, and the lowest score. Score 71 on *Post-test* result data. This shows how teaching critical thinking to students can improve their critical thinking skills after implementing the Webbed integrated learning paradigm. The following picture can be seen in Fig 5 for variations in students' critical thinking abilities in the *Pre-test* and *Post-test*.

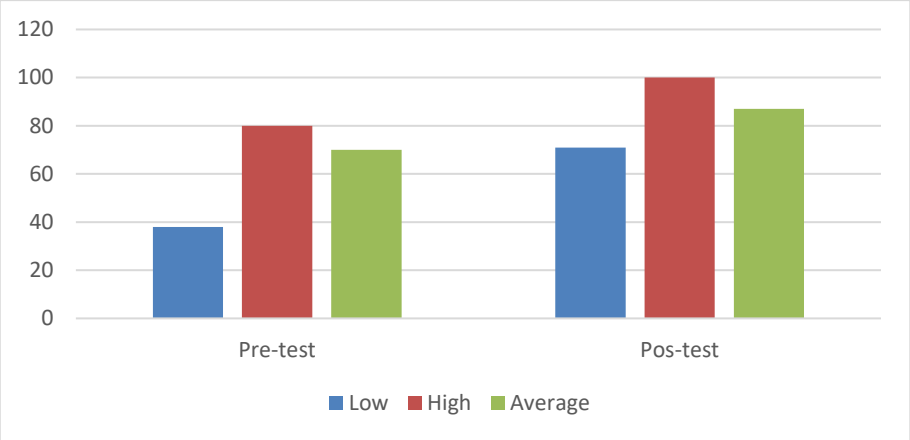

Figure 5. Critical thinking ability in *Pre-test* and *Post-test*

Students' critical thinking scores on the *Post-test* were higher than their *Pre-test* results, as seen in the attached diagram. Thus, incorporating the Webbed integrated learning paradigm into the teaching process can help students become more adept at critical thinking. The following results were found when the *N-Gain* test was used to measure how much students' critical thinking abilities improved. Based on the test findings, the *N-Gain* score of students belonging to the middle group is 0.543. As a result, Webbed's integrated learning paradigm helps students become more advanced thinkers. Before carrying out a paired sample *T-test* to determine the significance of the influence of the Webbed model of integrated learning on students' critical thinking abilities, a data normality test was first carried out. The Shapiro-Wilk normality test was used to carry out the normality test. This test provides results above the significance level of 0.05, with a *Pre-test* sig of 0.071 and a *Post-test* sig of 0.251. Thus, it can be said that both data sets have a normal distribution. This data can now be continued to the Peer Sample *T-test* because it has been circulated. The following are the results.

The calculation above produces a probability score of 0.000, which is smaller than the significance level of 0.05. Therefore, it can be said that there is a striking difference in the way students think before and after using the Webbed integrated learning model in class.

CONCLUSIONS

The research findings support the assumption that class based on research, students' critical thinking abilities obtained an average *Pre-test* score of 71 and an average post-test score of 87 for critical thinking. $0.251 < \alpha$ (0.05) is a significant value. Research findings show that the *Pre-test* and post-test are significantly different. Apart from that, a medium category N-gain value was obtained of 0.543. This shows that the *Pre-test* and *Post-test* findings differ significantly from each other. The analysis shows that in some aspects of critical thinking, such as evaluation of arguments and analysis of information, women tend to show higher levels than men, with average scores evaluation of women's arguments was 78% while men's was 72%. However, in other aspects such as information synthesis and making conclusions, men tend to stand out, with the average information synthesis score for men at 80% while for women at 76%. Thus, the critical thinking ability of class X students at SHS 12 Padang is very good. influenced by integrated learning with the Webbed paradigm.

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