DEVELOPING STUDENTS' DESCRIPTIVE READING SKILLS AND CRITICAL THINKING THROUGH THE SCAFFOLDING STRATEGY USING GOOGLE WORKSPACE FOR EDUCATION (GWE)

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Abstract

The use of technology remains a need to integrate into the teaching-learning process. Meanwhile, the students are still weak in reading skills with their low critical thinking capacity and engage more activities not being tied and integrated into the learning process at school. The aim of this study was to explain the effectiveness of the scaffolding strategy using GWE on the students’ descriptive reading skills and critical thinking and to inquire about the relationship between those two variables. This study used a quasi-experimental design with two research instruments, namely a standardized descriptive text test sourced from the National Examination from 2005-2019 and a 21-critical thinking questionnaire items that had been validated by the expert. The subjects of this research were the tenth grade of senior high students of an integrated public school in Tana Tidung and were taken randomly to be an experimental class and a control class with 32 students for each of these classes. The results revealed that the implementation of the scaffolding strategy with the use of GWE could develop the students’ descriptive reading skills and critical thinking. Additionally, their descriptive reading skills and Greenstein’s critical thinking across four dimensions, namely: (a) critical thinking, multiple viewpoints; (b) analysing information; (c) using data to develop critical insight; and (d) using data to develop advanced clarification indicated stronger relationship. Thus, the implementation of the scaffolding strategy had to be supported to develop in the teaching learning process and to research in a broader scope for continual development.

Keywords: Scaffolding Strategy, GWE, Descriptive Reading Skills, Critical Thinking.
Further, Ouyang & Stanley (2014) confirm that technology-based learning as clarified in the Anchored Instruction Theory reveals two essential things, namely (a) the core contents of teaching related to the real life of the world known as the anchor and (b) the process of establishing and identifying the real life of the world by requiring the students to discover problems, generating questions, and ultimately solve problems in the various means of the real living world known as casting the anchor. The former defines that the students strive for the acquisition of information, knowledge, and skills through the integration of technology in the teaching-learning process. The latter indicates that as annotated in casting the anchor, they are also taught to be critical in exploring and manipulating what matters a lot, converging questions with controversies, or performing experiments, while drawing on their own experience and prior knowledge by means of the technology integration-based teaching-learning process. Thus, they tend to learn through technology, not with technology (Niederhauser, 2013).

Realizing the importance of technology in the teaching-learning process, The Head of the Centre for Data and Information Technology - Ministry of Education, Culture, Research, and Technology entered into a performance agreement for 2022 with the Secretary-General with one of the targets, namely increasing the number of teachers and students in utilization of Information and Communication Technology (ICT) for learning ( Kemdikbud, 2022). The use of technological developments in education is inevitable and will most likely continue (Tutkun, 2011) and the adoption of the technological advances will now take on even more importance in schools (Wollhuter & Jacobs, 2021). Eiland & Todd (2019) affirms that technology is beneficial for learning environment such as enhancing student learning, engagement, and learning outcomes. Moreover, D’Angelo’s ideas (2018) that the integration of technology in the teaching-learning process may improve students’ engagement and academic achievement in terms of learning collaboration among peers, creative exploration through technology elements, high-order thinking process engagement, inquiry-based learning, and online social interaction. Thus, Thuan (2022) intentionally suggest the use of GWE because it provides options that are user-friendly and effective for use in educational contexts.

In fact, the better use of technology can assist the students in improving their learning skills (Ahmadi, 2018). Yet, the students’ reading skills is still poor; as a result, they definitely encounter some apparent difficulties to understand what they read. In this regard, they struggle with word recognition and understanding, resulting in weak and extremely difficult reading. They feel difficult to comprehend and extract meaning from written content as well. The other phenomenon is that they still struggle to make conclusions, recognize important concepts, locate supporting facts, and link different portions of the text. Another challenge for them is that they are just exposed to a narrow range of topics and genres so they have a lack of background information, which can further impair their comprehension of complicated materials and their ability to rely on prior knowledge. More severely, they just comprehend texts by drawing logical conclusion from the information presented, but not being critically formulating and testing hypotheses or guessing the previously known information or prior knowledge as recommended by Tarchi and Mason (2020). Thereupon, they may struggle with higher-order thinking abilities and applying them to reading assignments.

Owing to this condition, the implementation of the scaffolding strategy
using GWE integrates technologies and multiple pedagogical approaches Dillenbourg et al. (2015). Besides, its practice also contains pedagogical virtues such as active engagement and collaboration, social behaviour, critical thinking and problem-solving skills, personalized learning experience heading to self-regulated learning (Dillenbourg et al., 2015). According to confirmatory analyses using Generalized Linear Mixed Models (GLMMs) as revealed by Diprossimo et al. (2023) in their study, students with weaker reading skills, beginning readers, females, and multilingual students were more likely to use the scaffold. Wood, Bruner, and Ross (1976) who are the first to use the term scaffolding as cited in Clark and Graves (2005) fundamentally clarify that scaffolding is defined as a strategy that helps a student or beginner to solve an issue, complete a task, or attain a goal that would be impossible for him to do on his own.

Some of relevant previous studies revealed the importance of GWE in the teaching-learning process. Nurkhin & Rohman (2023) intended to characterize the degree of student participation in both face-to-face and virtual learning, and innovative teaching strategies developed by instructors using Google Workspace's built-in features. This study was administered using quantitative and qualitative methods by focusing on students' and instructors' experiences during face-to-face instruction during the epidemic. The study's findings indicated the need of GWE integrated in the teaching-learning process in order to improve the students’ learning and also engagement. The results showed that student participation in face-to-face instruction was not lacking. Unfortunately, the functionalities in Google Workspace were not fully exploited by lecturers.

Another study was done by Thuan & Hanh (2024) that revealed the evident results to incorporate GWE into the teaching and learning process. This resulted in the benefits of GWE utilization to generate better learning skills as well as an improved attitude and motivation for learning. The qualitative method was used to explore the importance of utilizing GWE as a technological tool for teaching EFL of high school students. Related to this case, it was advised that GWE tools be used in the English teaching-learning process. The purpose of this small-scale qualitative study is to investigate the advantages of using GWE as a technology tool in high school EFL classes. Eight eleventh graders from northern Vietnam who were taking evening English sessions at an English centre constituted the participants. The students were questioned in order to gather statistics. Themes were employed in the analysis of the qualitative data.

This study was held to measure the effectiveness of the scaffolding strategy using GWE to the students’ descriptive reading skills and critical thinking. The last objective of this study was to measure the relationship between the students' descriptive reading skills and critical thinking in the teaching-learning process with the implementation of the scaffolding strategy using GWE.

**METHOD**

**Research Design**

The research design chosen in this study was a quasi-experimental design with a pretest-posttest non-equivalent control group design. The experimental group received a pre-test, a treatment, and then a post-test. There was also a non-equivalent control group that took the pretest, received no treatment and then took the post-test. Technically, researchers view that students as the research respondents are not randomly assigned to conditions, identified as a non-equivalent group, between the control group and the experimental group design.
because those researchers hardly control external variables influencing the conduct of the experiment (Sugiyono, 2022). Then, Creswell (2014) practically clarifies that the steps of conducting this research are to give one group a specific treatment while withholding it from another, the researcher evaluates this by comparing the results of both groups on an outcome. The following figure demonstrates a quasi-experimental design with a pretest–posttest non-equivalent control group design (Emzir, 2015).

![Figure 1. Pretest – Post-test Non-equivalent Control Group Design](image)

**Samples/Respondents/Participants**

In this research, cluster random sampling by the use of online spinning wheel in https://wheelofnames.com/id/ was applied in determining the research respondents. Regarding this matter, the sampling for the control class and the experimental class by means of online spinning wheel was conducted on November 13, 2003. Further, Sugiyono (2011a) explains that the research sample must be representative in order to make a general conclusion about the population. In this research, the homogeneity of the population was analysed by using SPSS 25 with level of significance 5% (α:0.05) from the students’ scores on standardized reading comprehension tests sourced from the National Examination (UN) instruments from 2005 to 2019. This instrument had been validated by BNSP. Brown & Abeywickrama (2018) disclose that the standardized tests put forward a set of standards or competencies for a particular domain and program a series of assignments intended to measure those standards or competencies through construct validation. Next, the researcher used Cronbach Alpha’s test to measure the reliability of 21-critical thinking questionnaire-items through the try-out test to non-subject of research before applying it in research administration.

**Techniques in Data Collection and Analysis**

Some steps were outlined to analyse and interpret the collected data in order to answer research questions in this study. Firstly, the researcher used Cronbach Alpha’s test to measure the reliability of critical thinking questionnaire through the try-out test to non-subject of research. Secondly, the obtained scores sourced from pre- and post-test of descriptive reading skills as well as pre- and post-critical thinking questionnaire were calculated and analysed based on Zihad’s classification (2012:131) as cited in Surbakti & Hasibuan, 2022). Thirdly, the normally distributed data sourced from descriptive reading skills and critical thinking questionnaire needed to be tested before applying t-test. The researcher used Lilliefors where the significant value of df >=50 refers to Kolmogorov Smirnov, but if df <= refers to Saphiro Wilk. Fourthly, the homogeneity testing was administered using Levene’s test to determine whether the variance of the sample data from experimental and control classes is equal or not. Fifthly, the equivalence testing aimed to test whether the students from experimental and control class had the equivalent or comparable with their initial skills before treatment given using independent t-test. Sixthly, the comparison before and after treatment as well as analysis results for the statistical significance derived from the empirical data of post-test of descriptive reading skills and post-critical thinking questionnaire in the experimental and control classes were measured respectively through the use of independent t-test and paired samples t-test. Seventhly, to know the effectiveness extent of treatment given, the researcher intended to analyse the gained scores from
the post-test of descriptive reading skills and post-critical thinking questionnaire. Lastly, the measurement of relationship between the students’ descriptive reading skills and critical thinking in the teaching-learning process through the scaffolding strategy using GWE was conducted by using the Pearson Product moment.

RESULT(S) AND DISCUSSION

Result(s)

The results of this study were focused on three research objectives implying the related research questions aforementioned. The result delivery of this study was presented into five parts, namely: individual test score calculation, normality test, pre-administration, post-administration, and the correlational analysis between descriptive reading skills and critical thinking.

Before calculating the individual scores of pre- and post-test of descriptive reading skills as well as pre- and post-scores of critical thinking questionnaire, the reliability results were presented below.

Table 1. Results of the Critical Thinking’s Reliability by the Cronbach Alpha’s Test

<table>
<thead>
<tr>
<th>No</th>
<th>Dimensions</th>
<th>Cronbach’s Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Critical thinking, multiple viewpoints</td>
<td>0.774</td>
<td>9</td>
</tr>
<tr>
<td>2.</td>
<td>Analysing information</td>
<td>0.784</td>
<td>8</td>
</tr>
<tr>
<td>3.</td>
<td>Using data to develop critical insight</td>
<td>0.803</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Using data to develop advanced clarification</td>
<td>0.800</td>
<td>2</td>
</tr>
</tbody>
</table>

It was known that the overall items were reliable because they had the significant values of more than 0.05. In term of validity, this instrument had been validated by the expert.

Having known the validity and reliability of the research instruments at the beginning, the individual score test calculation was done to know the observed difference after the treatment more particularly in post-descriptive reading skill test and post-critical thinking questionnaire in the experimental class compared to the control class as presented in the following figure.

![Graph showing results of post-descriptive reading skill test in the experimental class](image1)

![Graph showing results of post-descriptive reading skill test in the control class](image2)
Figure 2. Result Comparison of Individual Score Test Calculation for the Students’ Post-Descriptive Reading Skills and Post-Critical Thinking in the Experimental and Control Classes

The result comparison resulted in the observed difference between the students of the experimental class whose scores ranged in very good classification of 25%, good classification of 75%, and those of the control class whose scores ranged in very good classification of 3%, good classification of 53%, and enough classification of 44% (Adopted from Zihad, 2012:131 as cited in Surbakti & Hasibuan, 2022). Likewise, the result comparison of post-critical thinking after the treatment given indicated the observed difference in which the students of the experimental class in general gained the higher scores ranging from very good classification of 28%, good classification of 50%, and those of the control class’ scores ranging from good classification of 38%, enough classification of 59%, and not enough classification of 3%.

Then, the normality test results covering Kolmogorov-Smirnov and Saphiro-Wilk demonstrated the normally distributed data in the experimental and control classes presented in the following table.

<table>
<thead>
<tr>
<th>No</th>
<th>Variables</th>
<th>Experimental Class</th>
<th>Control Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Kolmogorov Smirnov Sig.</td>
<td>Saphiro Wilk Sig.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pre-scores</td>
<td>Post-scores</td>
</tr>
<tr>
<td>1.</td>
<td>Descriptive Reading Skills</td>
<td>0.118</td>
<td>0.116</td>
</tr>
<tr>
<td>2.</td>
<td>Critical thinking on the dimension of critical thinking, multiple viewpoints</td>
<td>0.078</td>
<td>0.198</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of analysing information</td>
<td>0.200</td>
<td>0.055</td>
</tr>
</tbody>
</table>
All the data for both in the experimental and control classes had the normal distribution because they were greater than 0.05 as the significance level of this test (Mishra et al., 2019). This indicated that the hypothesis testing could be used at the later stage.

In the pre-administration, the examination focused on the equal variance of data representing the homogeneity of variance and equality of means by independent samples t-test representing the equality of the students’ initial descriptive reading skills before the treatment given. The results were summarised in the following table.

Table 3. The Results of Homogeneity Test and t-test for Equality of Means for Pre-scores of Descriptive reading Skills and Critical Thinking in the Experimental and Control Classes

<table>
<thead>
<tr>
<th>No</th>
<th>Variables</th>
<th>Homogeneity of Variances Significance Value</th>
<th>t-Test for Equality of Means Significance Value (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Descriptive reading skills</td>
<td>0.718</td>
<td>0.835</td>
</tr>
<tr>
<td>2.</td>
<td>Critical thinking on the dimension of multiple viewpoints</td>
<td>0.745</td>
<td>0.315</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of analysing information</td>
<td>0.615</td>
<td>0.562</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of using data to develop critical</td>
<td>0.893</td>
<td>0.938</td>
</tr>
<tr>
<td></td>
<td>Insight</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of using data to develop advanced</td>
<td>0.230</td>
<td>0.829</td>
</tr>
<tr>
<td></td>
<td>Clarification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The summarized results above indicated that both the students of the experimental and control classes had the equal variances of the data and equal skills in the beginning of this study because the significance values were greater than 0.05 as the significance level (Nuryadi et al., 2017 and Wadhwa & Marappa-Ganeshan, 2023).

The subsequent later was to measure the effect of the post-treatment by independent samples t-test results in the experimental and control classes, and the effect of the pre- and post-treatment by paired samples t-test in the experimental class. The results were presented below.

Table 4. The Results of t-Test to Measure the Post-Treatment and Pre-Post-Treatment

<table>
<thead>
<tr>
<th>No</th>
<th>Variables</th>
<th>t-Test of the Post Treatment Significance Value (2-tailed)</th>
<th>t-Test of the Pre-Post-Treatment Significance Value (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Descriptive reading skills</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>2.</td>
<td>Critical thinking on the dimension of critical thinking, multiple viewpoints</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of analysing information</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of using data to develop critical insight</td>
<td>.039</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of using data to develop advanced clarification</td>
<td>.46</td>
<td>.000</td>
</tr>
</tbody>
</table>

All results above were lower than 0.05 as the significance value so Nuryadi et al. (2017) concluded that the treatment in the experimental class had the better result than in control class without any treatment. Likewise, the results of t-test of the pre-post-treatment in the experimental class indicated that the treatment itself could develop the students’ descriptive reading skills and critical thinking.

Meanwhile, in terms of the effectiveness extent of two variables aforementioned, the following table also presented the related results.

Table 5. The Effectiveness Extent of the Treatment by N-Gain Score Calculation

<table>
<thead>
<tr>
<th>No</th>
<th>Variables</th>
<th>Class</th>
<th>Mean Score</th>
<th>Hake’s Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Descriptive reading skills</td>
<td>Exp.</td>
<td>53.95</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>16.14</td>
<td>Low</td>
</tr>
<tr>
<td>2.</td>
<td>Critical thinking on the dimension of critical thinking, multiple viewpoints</td>
<td>Exp.</td>
<td>55.91</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>26.88</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of analysing information</td>
<td>Exp.</td>
<td>63.34</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>14.65</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Critical thinking on the dimension of using data to develop critical insight</td>
<td>Exp.</td>
<td>31.83</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>13.71</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exp.</td>
<td>25.17</td>
<td>Low</td>
</tr>
</tbody>
</table>
Hake (1999) indicated that all the values obtained with the treatment in the experimental class showed the better results of medium classification (range of mean scores from 30 – 70), except critical thinking on the dimension of using data to develop advanced clarification that indicated low classification (range of mean scores of less than equal to 30). For this reason, this finding needed more improvement. Lastly, the measurement of relationship between the students’ descriptive reading skills and critical thinking (CT) in the teaching-learning process through the implementation of the treatment by using the Pearson Product moment correlation. The following table presented the results.

Table 6. The Correlational Analysis between the Post-test of Descriptive Reading Skills and Post-Critical Thinking in the Experimental & Control Classes

<table>
<thead>
<tr>
<th>Statistical Indicators</th>
<th>CT on the dimension of critical thinking, multiple viewpoints</th>
<th>CT on the dimension of analysing information</th>
<th>CT on the dimension of using data to develop critical insight</th>
<th>CT on the dimension of using data to develop advanced clarification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive reading skills in the experimental class</td>
<td>Pearson correlation</td>
<td>0.979</td>
<td>0.884</td>
<td>0.609</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>The extent of relation</td>
<td>Very strong</td>
<td>Very strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Descriptive reading skills in the control class</td>
<td>Pearson correlation</td>
<td>-0.051</td>
<td>-0.211</td>
<td>-0.015</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.782</td>
<td>0.246</td>
<td>0.934</td>
</tr>
<tr>
<td></td>
<td>The extent of relation</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
</tr>
</tbody>
</table>

Obilor & Amadi (2018) concluded that the descriptive reading skills and four dimensions of critical thinking fused with the implementation of the scaffolding strategy using GWE in the experimental class had stronger relationship because significance values were lower than 0.05. Then, they had perfect positive relationship as clearly indicated by r-scores approaching value of +1 (Schober et al., 2018). Siregar (2013) testified that those variables had very strong, strong, and enough relationship after being treated by the implementation of the scaffolding strategy using GWE. This meant that there was a positive change of the students’ increasing descriptive reading skills followed by their increasing critical thinking as well (Schober et al., 2018). Yet, Obilor & Amadi (2018) pointed out that the descriptive reading skills and four
dimensions of critical thinking with the conventional strategy had weaker relationship because significance values were greater than 0.05. Consequently, these findings suggested that the students’ increasing descriptive reading abilities were not accompanied by their increasing critical thinking abilities, or that these variables performed in opposition to each other. Schober et al. (2018) clarified that the conventional strategy had no effect on the students’ descriptive reading skills and critical thinking.

Discussion

The study’s findings taken from Tables 4, 5, and 6 basically proved that the implementation of the scaffolding using GWE could confer significant effect of the treatment and also show the significant result of mutual beneficial relationship between descriptive reading skills and critical thinking. These could convey testified alternative solution to overcome the students’ weak reading skills (Diprossimo et al., 2023) and the need of technology-based learning including the use of GWE in English language learning (Ouyang & Stanley, 2014). The implementation of the scaffolding strategy employing GWE had to be considered to result in some advantages aligned with the research questions formulated before to answer in this case.

In this regard, Wood, Bruner, and Ross’s ideas (1976), the first originators of scaffolding term, as cited in Clark & Graves (2005) were proved to be true that scaffolding could be regarded to be a strategy that helped a student or beginner to solve an issue, complete a task, or attain a goal that would be impossible for him to do on his own. Additionally, Hikmat and Nurizal (2017) as cited in Narina (2022) added that in order for students to acquire knowledge and comprehend new material, the scaffolding approach can be utilized to develop and enhance their past knowledge. Then related to the use of GWE, Ouyang & Stanley (2014) revealed their findings that the use of technology in the language learning could connect students’ past knowledge and schemata with their learning experiences because it could represent authentic materials of the real world the students were familiar with and could enhance the quality of education (Niederhauser, 2013). This was based on the current condition that the technology including the use of GWE was unavoidable and had to be integrated in the teaching learning process. For the purpose of answering the first research question, the significant values of Table 4 proved the findings proposed by some experts aforementioned that the implementation of the scaffolding strategy employing GWE was needed to boost the students’ descriptive reading skills. These results were supported with the N-Gain score calculation result of Table 5 that evidently told the students’ descriptive reading skills were in Hake’s (1999) medium classification.

Likewise, the findings of Table 4 also revealed the answer for the second research question. There was significant indication that the students who got instruction utilizing the scaffolding strategy with the use of GWE performed better on critical thinking examination than those who did not receive such treatment. These were in accordance with Ouyang & Stanley’s (2014) claim that the use of GWE had the potential to validate the instruction through the use of authentic materials that depicted the real-world experiences familiar to students, thereby bridging their prior knowledge and learning experiences with newly acquired information and emphasizing inquiry-based learning, encouraging the generation of solutions, projects, and objective judgments over mere opinions, ideas, or test responses. Kurt (2010) as in Costley (2014) adds that technology including GWE could be utilized to create engaging projects that encourage students to think critically and solve problems. For this reason, it prioritized evidence-based
decision-making, analysis, and the generation of new knowledge, and was specifically acknowledged as constructive competence. These facts truly embody Mendenhall & Johnson’s ideas (2010) as cited in (Gökçearslan et al. (2019) that technology like GWE could offer a significant capacity for critical thought. Regarding this importance, it was obvious that the use of GWE could empower the students’ critical thinking in interacting with learning materials and more importantly, performing critical thinking acts such as investigation, decision making, analysis, and other constructive competence. These findings were further supported by Table 5’s N-Gain score computation result, which clearly showed that the students’ descriptive reading abilities fell into Hake’s (1999) medium classification, except the last dimension, namely critical thinking on the dimension of using data to develop advanced clarification which needed improvement because it was still in Hake’s (1999) low classification.

Lastly, the answer of the third research question was based on the findings in Table 6. All significance values (p-values < 0.05) and Pearson correlation coefficient (r) scores approaching +1 for the students’ descriptive reading skills and critical thinking across four dimensions in the experimental class with the treatment given had a perfect positive stronger relationship (Obilor & Amadi, 2018; Schober et al., 2018; and Siregar, 2013). This signified a testified proof that both the students’ descriptive reading skills and critical thinking in the experimental class tended to have stronger relationship for each other though only one enough relationship existed between the students’ descriptive reading skills and critical thinking on the dimension of using data to develop advanced clarification. Nevertheless, there was no significant relationship of the conventional strategy on the students’ descriptive reading skills and critical thinking in the control class on any of the four dimensions. These results proved that that development of reading skills had to be supported by critical activities such as questioning, summarizing, clarifying, and predicting in order that the students could gain more ability or grow more capable (Clark & Graves, 2005). In other words, they could definitely enhance their learning, especially in the learning process (Niederhauser, 2013). Therefore, the implementation of the scaffolding strategy using GWE constituted multimodal help as an alternative solution which significantly improve word pronunciation and meaning (Diprossimo et al., 2023) as well as critical thinking capacity (Gökçearslan et al., 2019) at the same time. Finally, the students could build, improve, and add knowledge as well as understand new information.

CONCLUSION AND RECOMENDATION

Conclusion

Referring to the significant research findings and the discussion of their implications for the broader field of study aforementioned, a concise summary was needed to explain here. The implementation of the scaffolding strategy using GWE generated meaningful results of the students’ learning enhancement, engagement, and learning outcome particularly leading to the development of the students’ reading skills and critical thinking to solve problems. In relation with this actual circumstance, their learning must be monitored regularly and carefully as well as provided immediate assistance when they still struggle, and guidance to develop their language learning abilities, overcome challenges, and ultimately become independent learners. Therefore, this practice had to be supported and developed more in many
Developing Students’ Descriptive, Umardani\textsuperscript{1}, Saehu\textsuperscript{2}, Zuhairi\textsuperscript{3}

forms of learning activities with the functionalities of diverse technology that had been familiar with the students, and more essentially enabled them to develop their academic work and achievement as well as professional success.

Further, there must be continual broader scope of the research involving the implementation of the scaffolding strategy using GWE with its development aligned with the most current reviews and/or other relevant research for the increasing better results. Regarding this explanation, it could be concluded that the implementation of the scaffolding strategy with the use of GWE constituted a potential alternative to develop the students’ reading skills and critical thinking because these two variables had mutually beneficial relationship.

**Recommendation**

Referring to the significant research findings and their implications, it is necessary to provide a concise summary of the study. The implementation of the scaffolding strategy using GWE has yielded meaningful results in enhancing students’ learning, engagement, and outcomes, particularly in developing reading skills and critical thinking. To ensure effective learning, continuous monitoring and immediate assistance should be provided to students facing challenges, alongside guidance to develop their language abilities and become independent learners. This practice should be further supported and developed through various learning activities, leveraging familiar technologies to facilitate academic and professional success. Additionally, there is a need for ongoing research with a broader scope, aligned with current reviews, to optimize the effectiveness of scaffolding strategies with GWE. In conclusion, the implementation of these strategies presents a promising alternative for enhancing reading skills and critical thinking, with both variables mutually reinforcing each other.

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