MUNAQASYAH
Jurnal Ilmu Pendidikan dan Pembelajaran

P-ISSN : 2656-6494
E-ISSN : 2656-7717

Volume 5 No. 1 Mei 2023

Developing Students' Productive Skills Through Problem Based and Project Based Learning Environmental Models

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Abstrak Ditemukan bahwa sebagian besar siswa di SMA tidak memiliki kesadaran yang memadai terhadap lingkungan dan juga kesulitan dalam menulis. Mereka juga tidak dapat berkomunikasi dengan benar dalam bahasa Inggris. Untuk mengatasi masalah tersebut, beberapa model pembelajaran digunakan untuk mengajarkan pendidikan lingkungan sebagai alat untuk membangun pengetahuan mereka. Studi ini menginvestigasi dan mengintegrasikan pendidikan lingkungan ke dalam metode pembelajaran PBL dan PjBL. Desain kuasi-eksperimental, kelompok kontrol non-acak, dan pretest dan posttest digunakan dalam penelitian ini. Subyek penelitian diambil dari populasi siswa kelas XI SMAN 1 Gambiran Banyuwangi tahun pembelajaran 2021/2022. Hasil Mann-Whitney U-Test menunjukkan bahwa siswa yang diajar menggunakan PBL dan PjBL melalui scaffolds dan kampanye mendapat nilai yang jauh lebih tinggi dalam menulis dan berbicara dibandingkan dengan mereka yang diajar dengan menggunakan metode konvensional.

Kata kunci: pbl; pjbl; model lingkungan; ketrampilan produktif

Abstract It is found that most of the students in Senior high school do not have adequate awareness of the environment and also find writing difficult. They are also not able to communicate correctly in English. To overcome these problems, some learning models were used to teach environmental education as a tool to construct their knowledge. The study investigated and integrated environmental education into the PBL and PJBL methods of learning English. Quasi-experimental design, non-randomized control group, and pretests and posttests were used in the study. The subjects of the study were taken from the population of the XI grade students of SMAN 1 Gambiran, Banyuwangi, Indonesia in 2021/2022. The result of the Mann-Whitney U-Test can be shown that students taught using PBL and PjBL through scaffolds and a campaign achieve

significantly higher scores in writing and speaking compared to those taught using the conventional method.

Keywords: PBL, PJBL, Environmental Models, Productive Skills

A. INTRODUCTION

Environmental education is considered to play a significant role in teaching students about the importance of the environment, how to use natural resources more efficiently, and how to live a more sustainable lifestyle. This style of education solves environmental problems by giving relevant information to community needs, allowing future generations to enjoy the advantages of our natural heritage. Adequate school involvement is essential to accomplish this. The school's mission here is to raise students' environmental consciousness, which is desperately required. The achievement of the implementation of the intended school program should help students to develop knowledge, attitudes, and skills that are important for the obligation of environmentally responsible behavior.[1] Furthermore, the school system has its role to play in encouraging environmental care, and education is the perfect institution for increasing environmental awareness as well as sharpening it as a skill.[2] As the writer is an English teacher, environmental education was implemented in the English subject.

There are four skills that should be taught in English as a subject in terms of the teaching and learning process. One type includes receptive skills such as listening and reading, while another includes productive abilities such as speaking and writing. Students' receptive abilities refer to their ability to receive language and decipher meaning in order to comprehend the message. Productive skills refer to students employing the language they have learned to

[1] Runhar, Piety., Wagenaar, K., Wesselink, R., Runhaar, H. (2019). Encouraging Students' Pro-environmental Behaviour: Examining the Interplay Between Student Characteristics and the Situational Strength of Schools. Journal of Education for Sustainable Development 13(1), 45-66. https://journals.sagepub.com/doi/pdf/10.1177/0973408219840544

[2] Cruz, Jenny. P, N. S. Tantengco. (2017). Students' Environmental Awareness and Practises Basis for Development of Advocacy Program. Mimbar Pendidikan, 2(1), 43-63.

create a message that they want to effectively communicate to the audience through voice or written text. These four abilities should be taught concurrently. However, it is clear that many students find writing difficult because they are required to write on their own without any interactive response or feedback from peers or from the teacher. This issue is worsened by the fact that teachers do not give adequate time for writing activities compared to activities related to the three other language skills.[3] There are four reasons why teachers would be reluctant to teach writing. The first is the size of the class; a large class makes the teaching of writing difficult. The second is the teacher may not have enough time to teach writing since it is time-consuming. The third reason is teachers often underestimate the writing abilities of students, especially beginners. The last reason is teachers' lack of confidence in their own writing ability. They wonder how they teach writing well if they do not possess good writing abilities themselves. Because of these reasons, many teachers choose to neglect writing skills when teaching English, instead of finding effective ways to solve these problems.[4]

This situation is exacerbated by the monthly ETA (English Teacher Association) meetings in Banyuwangi. Most teachers stated unequivocally that they rarely teach their students to write because they believe it is not advantageous to students because it takes more time to comprehend. As a result, they place a stronger focus on reading comprehension and vocabulary proficiency. In keeping with the teachers' reluctance, the duration of the English lesson in the 2013 curriculum is only 2 hours per week, compared to the 2004 curriculum, which was 4 hours per week for the English lesson, despite the fact that there were so many subject matters (basic competency) to be taught. Because of the reduction in instructional time, teachers have very

[3] Moses, R. and Mohamad, M. (2019) Challenges Faced by Students and Teachers on Writing Skills in ESL Contexts: A Literature Review. Creative Education, 10(3), 3385-3391. https://doi.org/10.4236/ce.2019.1013260.

[4] Yangrifqi, N. 2018. Using A Narrative Scaffold To Improve Students' EFL Writing Ability In SMAN 1 Gambiran Banyuwangi. Unpublish Thesis. Malang: Faculty of Letters, State University of Malang.

little time to prepare. Based on the writer's observation, most of the students in the senior high school are barely able to use English for communicative objectives. When the students already have a certain idea in their minds, they get stuck and cannot express the idea orally. This problem may also exist because the students themselves are reluctant to practice English. This is due to aspects such as 1) inhibition in sentence structure, 2) lack of ideas, and 3) low motivation.[5]

Speaking and writing are considered productive skills because learners have a set of circumstances to produce the language itself. They implicate producing the language rather than receiving it. Productive skills are crucial as they allow students the opportunity to practice real-life activities in the classroom. Productive language is the language used to convey information or ideas both in writing and orally.[6] For effective communication, speaking is required and communication is concerned with conveying ideas and opinions, expressing a desire or a wish to do something, and negotiating or solving a particular problem.[7]

In order to achieve future goals and overcome the problems described, some learning models must be used to teach environmental education which correlates with the opportunities needed for students to increase their knowledge. This is done through engaging in self-directed inquiry, problem-solving, critical thinking, and reflections in a real-world context.[8] Furthermore, there is an assumption that people becoming more knowledgeable about the

[5] Al-Mukdad, Sarah. (2019). Investigating English Academic Writing Problems Encountered by Arab International University Students. Theory and Practice in Language Studies. 9(3), 300-306. https://www.academypublication.com/issues2/tpls/vol09/03/07.pdf.
[6] Nunan, D. 2003. Practical English Language Teaching. NY:McGraw-Hill.
[7] Putra, A.S. (2017). The Correlation Between Motivation and Speaking Ability. Journal of English Language Education and Literature, 2(1), 36-57. https://media.neliti.com/media/publications/168584-EN-the-correlation-between-motivation-and-s.pdf.
[8] Handoyo, B., Astina, I. K., Mkumbachi, R. L. (2021). Students' Environmental awareness and Pro-environmental Behaviour: Preliminary Study of Geography Students at State University of Malang. IOP Conf. Series: Earth and Environmental Science. pp1-7. doi:10.1088/1755-1315/683/1/012049.

environment and its associated issues will increase awareness of the environment and its problems, and thus be more motivated to act responsibly toward the environment. Moreover, the students that were more often affected by environmental issues had a better perception of the environmental subject.[9] There are some learning methods such as Problem-based and Project-Based leaning that are considered as constructivist-based learning. The constructivist theory has been one of the latest catchwords in higher education circles in recent years. It not only emphasizes active and collaborative learning but also requires students and teachers to discover and construct knowledge together.

Genre is usually defined as a text type. According to the 2013 Curriculum, there are eight genres that should be taught to senior high school students. These are analytical exposition, descriptive exposition, hortatory exposition, narrative exposition, news items, procedure, recount, and report. In general, the term exposition refers to a genre whose social purpose is to argue (or persuade) a case or go against a particular point of view or position. Hortatory exposition is a text type which purpose is to persuade readers that something should or should not be the case.[10] This means that a writer is using hortatory exposition when he/she wants to persuade readers to do something concerning a particular case. The generic structure of hortatory exposition consists of the thesis, argument, and recommendation. The thesis is comprised of the announcement of the issue concerned as well as the writer's position. The argument consists of the point and elaboration, and the point is used to restate the main argument in the thesis. The writer gives elaboration by developing and supporting each point/argument. For the recommendation aspect, the writer gives recommendations about what should or should not be done. To make it easier for a writer to write a hortatory exposition, he/she needs an exposition scaffold which is a scheme formed by three steps. The

[9] Ibid.
[10] Depdiknas. 2013. Modul Pelatihan Implementasi Kurikulum 2013: Mata Pelajaran bahasa Inggris SMA/SMK. Jakarta: P4TK.

steps for constructing an exposition scaffold are 1) An introductory statement 2) A series of arguments to convince the audience and 3) Recommendations about what should or should not be done.[11]

The study's aims to identify, describe, measure, and analyze the effects of problem-based learning on students' writing abilities and project-based learning on students' speaking skills. Furthermore, to judge if students have met the study's objectives, the target of the students' learning achievement is stated as follows. 1) 70% of students achieve a writing score of 75 or higher on a 0-100 scale, and 2) 70% of students achieve a speaking score of 75 or higher on a 0-100 scale.

B. RESEARCH METHODS

A quasi-experimental design, a non-randomized control group, and a pretest-posttest were employed in this investigation. The goal was to see how problem-based learning and project-based learning affected students' productive skills in the experimental group vs the control group that used conventional teaching strategies.

This study's population consists of eleventh-grade students enrolled in the Math and Science curriculum at SMAN 1 Gambiran in Banyuwangi, Indonesia, during the first semester of the academic year 2021/2022. For the following fields, the researcher chose this school and the Math and Science program: 1) SMAN 1 Gambiran is one of the schools that requires attention, mostly due to their volleyball accomplishments and lack of environmental care. 2) The appropriate genres for teaching environmental awareness include hortatory exposition text.

The data sources in this study are, first, the subjects of the study which consists of the second-year students of class XI MIPA 1 and XI MIPA 3 as the experimental group, and class XI MIPA 2 and 4 students as the control group

[11] Anderson, M. & Anderson, K. 1997. Text Type in English. South Yarra: Macmillan.

in SMAN 1 Gambiran, Banyuwangi. The selected students also serve as the respondents of this study. Documents in the form of pretest and posttest, questionnaires for the students, an observation checklist, and field notes serve as the second data source.

This study used the Mann-Whitney U-test since the data were abnormally distributed. In other words, the results of the research data or the outlier data on the writing and speaking tests were abnormal data. For practicality, SPSS 25.0 was used. When dealing with data analysis to measure students' productive skills, the value of N-Gain is used for 2 aspects, namely, Writing Aspects and Speaking Aspects, where indicators of the Writing aspects are Content, Organization, Vocabulary, Writing Grammar, and Mechanics. The indicators of the Speaking Aspects are Fluency, Content, Speaking Grammar, and Diction.

C. RESULTS AND DISCUSSION

The Result of the Posttest of the Experimental and Control Group

After giving different treatments to both groups, a posttest was administered to obtain the data relating to the writing and speaking abilities of students. The treatment given to the experimental group was the teaching of writing using a scaffold and speaking using a campaign, while to the control group, it was both teaching writing and speaking using the conventional method. The result of the pretest and posttest of both the experimental and the control groups can be seen in Tables 3.1 and 3.2

Table 3.1 The Summary of Pretest

Data Groups	X_{Min}	X_{Max}	Average	SD	n
Control Pretest	36	73.5	53.61	8.58	66
Experimental Pretest	38	84	55.97	8.43	68

From the table, it can be seen that the Pretest Control data group obtained a minimum score of 36 and a maximum score of 73.5, where the average score was 53.61 with a standard deviation (SD) = 8.58, whereas, in the data group, Pretest Experiments obtained a minimum score of 38 and a maximum score of 84, where the average score was 55.97 with a standard deviation (SD) = 8.43.

Looking at the average differences, the groups were not too different in their ability. It indicated that they were equivalent before the experiment or treatment. The pretest data showed students'writing ability in both groups showed that they had weaknesses in writing Hortatory Exposition texts. Both of the students in the control and experiment groups got the minimum score. They got the lowest score because instead of writing hortatory exposition text the students wrote other kinds of text types. Only 3 students reached the average score for content. In terms of organization, only 2 students could reach the average score. There were 4 students who reached the highest score for grammar and 41(30%) students in a level 3. For vocabulary, there were 46% of students reached level 3 score, and for mechanics term, only 51 % of students could reach a level 3 score. The highest score for content and organization was 27-30 and none of the students could reach the score.

In terms of content, the student writing is considered to be poor if it is in level 1 (16-13), means that the text has limited number of ideas which are relevant to the topic, the sentences contain very limited supporting details related to the main idea. Level 2 (21-17) means fair if some ideas are relevant

to the topic, the sentences contain few supporting details to the main idea. A hortatory exposition is good or in level 3 (26-22) if most of the ideas in the sentences are relevant to the topic, the sentences contain some supporting details to the main idea. Level 4 (30-27) means very good if the text has already all ideas in the sentences are relevant to the topic, the sentences contain a lot of supporting details to the main idea. The result of the pretest showed most of the students content writing had limited number of ideas which were relevant to the topic. The sentences in students' writing also contained very limited supporting details related to the main idea. The students specifically said that they did not have any idea to develop their content and to write in good grammatical the text.

Dealing with organization, the student writing is considered to be poor if it is in level 1 (16-13), means that the composition text contains incomplete generic structure of hortatory exposition text (either thesis, one argument or recommendation), ideas are put correctly based on the generic structure. Level 2 (21-17) means the composition contains less generic structures of hortatory exposition text (thesis,two kinds of argument, and recommendation), all ideas in the sentences are put correctly based on the generic structure. A hortatory exposition is good in level 3 if the composition contains complete generic structures of hortatory exposition text (a thesis, three kinds of argument, and recommendation) but not all ideas in the sentences are put correctly based on the generic structure. Level 4 means the composition contains complete generic structures of hortatory exposition text (a thesis, three kinds of argument, and recommendation), and all ideas in the sentences are put correctly based on the generic structure. The result of the pretest showed that only 2 students cold reach the level 3 or good in organization. Most of the students' writing composition were incomplete in generic structure of hortatory exposition text. They got the lowest score because instead of writing hortatory exposition text the students wrote the other kinds of text type.

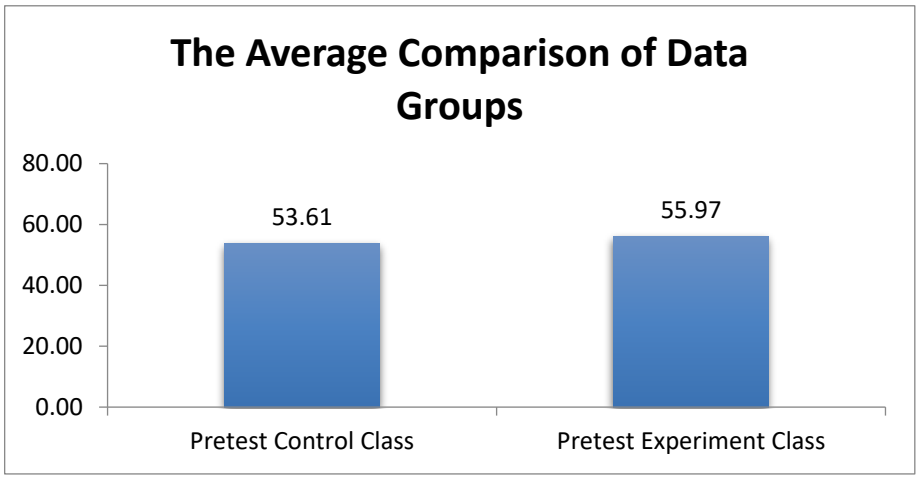
For the vocabulary aspect, a hortatory exposition text is considered to be poor if it is in level 1(9-7), means the text has very limited range of vocabulary, dominated by inappropriate diction, the intended meaning cannot be understood at all. This text is good or in level 2 (13-10) if the text has limited range of vocabulary and frequent inappropriate dictions, the intended meaning is hardly understood. Level 3 means there is enough range of vocabulary and occasional in appropriate dictions, but the intended meaning is understandable enough. Level 4 (10-9) means the text has wide range of vocabulary and appropriate dictions, the intended meaning is fully understandable.

Dealing with grammar, a hortatory exposition text is considered to be poor if it is in level 1 (9-7), means the text is dominated by grammatical errors and agreement, tense and pronoun. Level 2 (13-10) means Frequents grammatical errors in agreement, tense, and pronoun. A hortatory exposition text is good or in level 3 (17-14) if there are several grammatical errors in agreement, tense, and pronoun, then the text is in level 4 (20-18), if it has few grammatical errors in agreement, tense, and pronoun.

In term of mechanics, the student writing is considered to be poor if it is in level 1 (2-1), means it is dominated by errors in punctuation, capitalization, and spelling. Level 2 (5-3), means there is frequent errors in punctuation, capitalization, and spelling. Level 3 (8-6), means the student writing has several errors in punctuation, capitalization, and spelling. The student writing is very good or in level 4 (10-9), if there are only few errors in punctuation, capitalization, and spelling in the student writing.

The result of pretest showed that 30%, 46% and 51% students were in level 3 in grammar, vocabulary, and mechanics. In fact , the students had enough range of vocabularies and occasional in appropriate dictions, but sometimes they made some grammatical error in tenses, agreement and

pronoun. They also had several errors in punctuation, capitalization and spelling.



Source: The result of the data processing

Based on the Average Comparison Chart above, it is evident that at the time before the administration of treatment (Pretest), the mean values of the two groups of data do not have a relatively significant difference.

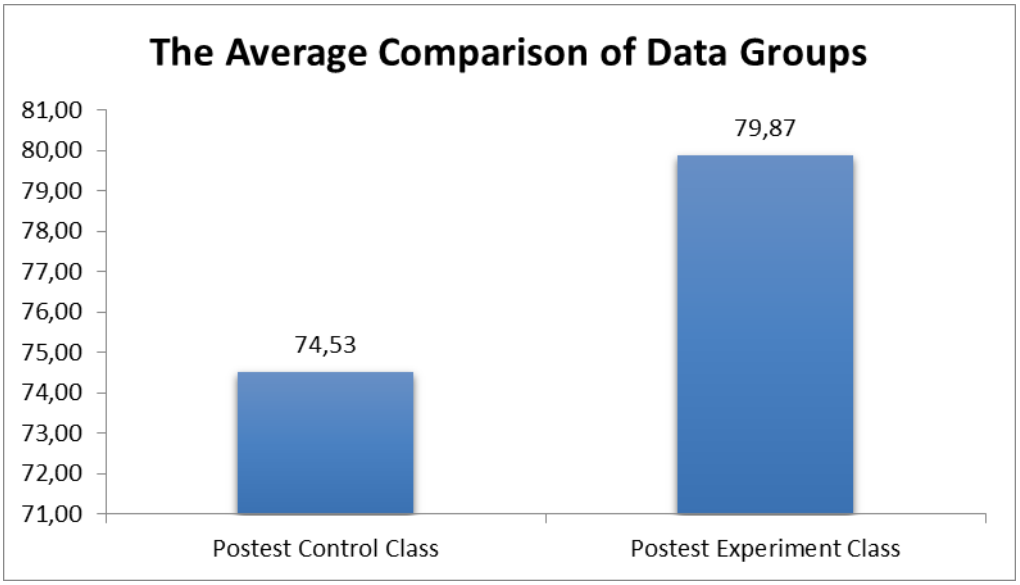
Table 3.2

The Summary of Posttest

Data Groups	X_{Min}	X_{Max}	Average	SD	n
Control Posttest	46	85	74.53	7.17	66
Experimental Posttest	65	90	79.87	4.14	68

The table shows that the Postest in Control groups had a minimum score of 46 and a maximum score of 85, where the average score was 74.53 with a standard deviation (SD) = 7.17, while in the Posttest Experiment groups,

the data obtained a minimum score of 65 and a maximum score of 90, where the average score was 79.87 with a standard deviation (SD) = 4.14.



Source: The result of the data processing

The Average Comparison Chart above indicates that after the students were given the treatment (Posttest), the two groups' data had many different mean scores, where the posttest Experimental class scores were higher than the Posttest Control Class scores.

Comparison Test (Quasi-Experimental Design)

Normality Test

Table 3.3 The Normality Test Results of Experiment Class and Control Class Pretest Scores.

Class	***p-value***	***Alpha***	**Conclusion**
Experiment Class	0,072	0,05	Data is normally distributed
Control Class	0,200	0,05	Data is normally distributed

Source: The result of the data processing

From table 3.3, there is evidence that at a significance level α = 0.05 and a sample size of 8, p-values of 0.072 for the Experimental Class and 0.200 for the Control Class were obtained. It turns out that the p-value for the two groups of data is greater than alpha. This shows that the data on the pretest class and control class pretest scores are normally distributed.

Table 3.4 The Normality Test Results of Experiment Class and Control Class Posttest Scores

Class	***p-value***	***Alpha***	**Conclusion**
Experiment Class	0,082	0,05	Data is normally distributed
Control Class	0,000	0,05	Data is not normally distributed

Source: The result of the data processing

The results presented in table 3.4 show that at a significance level α = 0.05 and a sample size of 8, the *p-value* was 0.082 for the Experimental Class and 0,000 for the Control Class. Also, the *p-value* of one group of data was smaller than alpha, which is, in the Postest Control class. This is an indication that the control class posttest score data were not normally distributed.

Based on all the results of the normality data testing, it was discovered that there were violations of the assumptions of parametric statistical testing. Therefore, an alternative test was used, namely the Mann-Whitney U-test. Thus, the comparative test used was the non-parametric statistical testing method. The test used the SPSS version 13.0 program application and the output results are as follows:

Table 3.5 *Mann-Whitney U*- Statistical Hypotheses Test

Test	**Group Comparison**	**Total Ranking**	**Mann-Whitney**	**P-value**	**Explanation**
Pre-test	Experiment Class	4992,5	1841,5	0,073	Non Significant
	Control Class	4052,5			
Post-test	Experiment Class	5905	929	0,000	Significant
	Control Class	3140			

Source: The result of the data processing

Statistical Hypothesis:

H_0: Both data groups tend to be the same (non-significantly different)

H_1: Both groups of data tend not to be the same (significantly different)

α: 5%

Test criteria:

Reject H_0 if *p-value* < α

Accept H_0 if *p-value* > α

The Pretest data testing of the Experimental Class group acquired a total ranking of 4992.5 and the Pretest data in the Control Class group obtained a total ranking of 4052.5. This resulted in a Mann-Whitney U-Test value of 1841.5 and a *p-value* of 0.073. Because the *p-value* > α (0.073> 0.050), the statistical hypothesis stated to accept H_0, which means that there is a non-significant difference between the groups of the Experimental Class data and the Control Class data group in the Pretest test.

The Posttest data testing of the Experimental Class group obtained a total ranking number of 5905 while the Posttest data in the Control Class group obtained a total ranking number of 3140. The result was a Mann-Whitney U-Test value of 929 and a *p-value* of 0,000. Due to the *p-value* < α (0,000 < 0,050), the statistical hypothesis stated to reject H_0. Therefore, the applicable hypothesis was H_1, meaning that there is a significant difference between the Experimental Class data group and the Control Class data group in the Post-test.

Overview of English Productive Skills (Writing skill) Variables

The English productive skills variable (writing skill) was measured using 5 indicators; content, organization, vocabulary, grammar, and mechanics. Concerning the writing aspects, as indicated by the major and minor findings, it was revealed that a combination of scaffolds and conferencing is effective in improving students' achievements in writing hortatory exposition texts, especially in terms of content, organization, and grammar. Moreover, the vocabulary aspect of descriptive writing was also significantly higher for the control group. The following is a presentation of the frequency distribution of respondents' responses on the English productive skills variable.

Table 3.6 Frequency Distribution of Respondents in Content Indicators

Indicator	Category	Frequency	Percentage
Content	Decrease	2	2.9
	Stable	5	7.4
	Low	4	5.9
	Average	23	33.8
	High	34	50.0
Total		68	100.0

Source: The result of the data processing

Based on Table 3.6, the overview of the number of students' writing based on content indicators indicates that the majority (as many as 34 students or 50.0%) were the students in the High category, and the least was 2 students or 2.9% in the Decrease category. In relation to the content aspect of writing, scaffolds are effective in helping the students to develop the content of their arguments. The questions in the scaffolds were helpful for the students in generating ideas and made the text that they wrote more fruitful. Moreover, the feedback given on the revision was comprehensive. The feedback was not only on content but also on the other aspects of writing like grammar, vocabulary, and mechanics. This helped the students to gain more on the content aspects of writing.

Table 3.7 Frequency Distribution of Respondents in Organization Indicators

Indicator	Category	Frequency	Percentage
Organization	Decrease	3	4.4
	Stable	4	5.9
	Low	1	1.5
	Average	13	19.1
	High	47	69.1
Total		68	100.0

Source: The result of the data processing

Table 3.7 descibes the number of students based on organization indicators. The majority (as many as 47 or 69.1%) were the students in the High category, while the least was 1 student in the Low category (1.5%). In terms of organization writing, scaffolds were indeed effective in guiding the construction of students' writing. As was stated previously, a scaffold is a guide for constructing a piece of text. It helps a writer construct texts just like it

helps a builder construct a building.[12] These scaffolds give a writer the right structure for creating a certain text type.

Table 3.8 Frequency Distribution of Respondents in *Vocabulary* Indicators.

Indicator	Category	Frequency	Percentage
Vocabulary	Decrease	9	13.2
	Stable	3	4.4
	Low	13	19.1
	Average	24	35.3
	High	19	27.9
Total		68	100.0

Source: The result of the data processing

The above table provides a description of the number of students based on the vocabulary indicator. The student in the Average category (as many as 24 students or 35.3%) outnumbered those in the Stable category (3 students or 4.4%). In terms of vocabulary, students in the experimental group performed much better than students in the control group in the hortatory exposition test. This could be because students find it easier to communicate their ideas based on the perspectives they gained from the field. Students can communicate their arguments using basic phrases and simple argumentative vocabulary. Students practiced text modeling throughout the text stage. This activity is useful for students to increase their vocabulary since it familiarizes them with certain terms used to communicate their ideas. During conferencing, the students received vocabulary feedback in the form of vocabulary in the context of theses, arguments, and recommendations. These were connected with grammar, and students taught how to convey their ideas in good grammatical sentences by using proper words/expressions. As a result, the students gained much more vocabulary in the hortatory exposition test than the control group.

[12] Anderson, M. & Anderson, K. 1997. Text Type in English. South Yarra: Macmillan.

Table 3.9 Frequency Distribution of Respondents in *Grammar* Indicator

Indicator	Category	Frequency	Percentage
Grammar	Decrease	7	10.3
	Stable	3	4.4
	Low	10	14.7
	Average	23	33.8
	High	25	36.8
Total		68	100.0

Source: The result of the data processing

Based on Table 3.9, an outline of the number of students based on grammar indicators can be seen. The majority (as many as 25 students or 36.8%) were the students in the High category and the least was 3 students or 4.4% in the Stable category. For the grammar aspect, answering the guided questions in the scaffolds helped the students to use good grammatical sentences for their writing. This is in line with Padmadevi and Artini who stated in their study that the students' progress in terms of their classroom action research grammar was achieved through the use of scaffolds by converting the answers of the guided questions into complete sentences in the right tenses used in the text. Thus, it helped them to make good grammatical sentences more easily.[13]

Table 3.10 Frequency Distribution of Respondents in *Mechanics* Indicator

Indicator	Category	Frequency	Percentage
Mechanics	Decrease	10	14.7
	Stable	1	1.5
	Low	19	27.9

[13] Padmadewi, N. Y & Artini. L.P. (2019). Using Scaffolding Strategies in Teaching Writing For Improving Student Literacy in Primary School. Advances in Social Science, Education and Humanities Research, 178(1), 156-160.

	Average	16	23.5
	High	22	32.4
Total		68	100.0

Source: The result of the data processing

The table above represents the number of students based on mechanics indicators. The majority comprised students in the High category (as many as 22 students or 32.4%) and the least was 1 student in the Stable category or (1.5%).

The experimental group's mean scores on the content and organization aspects of the hortatory exposition writing test were significantly higher than the control groups. Furthermore, the experimental group's vocabulary aspect of the hortatory exposition exam was greater than the control groups, but the difference was not statistically significant. In other words, the study's hypotheses were correct. This suggests that employing problem-based learning to educate senior high school students' hortatory exposition writing was much more effective than using the traditional way. The experimental group's success in outperforming the control group on the posttest could be attributed to a variety of factors.

Richards and Renandya as cited Ratnaningsih[14] state that writing is not easy because it is difficult to generate, organize, and translate ideas into readable text. However, scaffolds appear to solve all thesedifficulties. When it comes to generating ideas, the guided questions in the scaffolds help the students to generate ideas and make their writing detailed. To address the problem of organizing thoughts, scaffolds were built using the generic structure of a text. As a result, following this common framework makes it easier for students to organize their writing. This aided the students in organizing and

[14] Ratnaningsih, E. (2016). Improving Students' Writing Ability Through The Use Of Dictogloss Technique. Transformatika, 12 (2), 1-14.

arranging their writing. Meanwhile, in response to the challenge in translating concepts into readable text, students convert their replies to complete sentences for their draft after answering the guided questions in the scaffolds. It facilitates the creation of correct and comprehensible sentences.

Furthermore, once the students finished writing drafts utilizing scaffolds, they participated in a group revision with the teacher, allowing them to receive direct spoken feedback from the teacher. The feedback given to the students deals with all aspects of writing, i.e., content, organization, grammar, vocabulary, and mechanics. Feedback on all aspects was proven to help the students to write better.[15] The improvement in the students' writing was possible because, during revision, the input that the students received was specifically directed to each aspect of writing in the form of the teacher's oral feedback on their work. As Chaudron says in Bolourchi & Soleimani, the important component in the revision process is the provision of feedback from other readers.[16] During revision, students received feedback on the effectiveness of their writing and were required to respond to the teacher's feedback directly before counting their product finished. This would help the students to discover that good writing involves an interaction between their ideas, the expression of the ideas, and their readers' perception and reaction to the expression. By means of feedback which gave students information about the effect of their writing on readers, students developed their skills in effective writing.

Regarding organization writing, scaffolds were indeed effective in guiding the students in construction. It helps a writer construct just like a builder uses scaffolds when constructing a building. These scaffolds give a

[15] Plaindaren, C. and Shah, P. (2019) A Study on the Effectiveness of Written Feedback in Writing Tasks among Upper Secondary School Pupils. Creative Education, 10, 3491-3508. doi:10.4236/ce.2019.1013269.
[16] Bolourchi, A. & Soleimani. M. (2021) International Journal of Research in EnglishEducation. 6(1), 1-15. https://ijreeonline.com/article-1-425-en.pdf

writer the right structure for creating a certain text type. Besides scaffolds, conferencing also contributes to helping the students write more well-organized essays. This was likely to happen because during the conferencing, feedback given to the student writers was not only on minor aspects of writing, such as grammar, vocabulary, and mechanics but also on major aspects, i.e., content and organization. Since the teacher acts as "the real audience" of the students' writing, who gives not only written feedback but also interactive feedback, better organization was achieved by the students during conferences. The participation of teachers as correctors during revision also contributes to the improvement of student writing in the organization aspect.[17]

According to the findings of this study, mechanics and grammar are writing traits that did not significantly improve in the exams given to the control group. The students' gain scores were not much higher because, when assessed, they were more focused on other more important areas of writing, such as substance and structure, rather than the less important mechanical and grammar aspects.

The reason for such a condition is that checking for the correct usage of mechanics is usually done in the last part of the writing process which is editing. It is possible that the students had inadequate time to edit their essays during the test. As a result, during the treatment, the aspect of mechanics was not neglected but their achievement for this aspect was not very encouraging. This is in line with the monitor hypothesis proposed by Krashen which reported that in the acquisition process, the monitor will work if the learners focus on form, have knowledge of the rules, and have enough time.[18] In the instance of this study's experimental group, the students may not have had enough time for the monitor to focus on the mechanical part because they were preoccupied with other things that were more important. It was difficult for

[17] Ibid
[18] Lightbown, P. M & Spada, N. 2001. How Language are Learned. Oxford: Oxford University Press.

students to acquire all of the grammar components required for successful writing. Students may understand how to construct English sentences but struggle to grasp grammatical structures during the writing process.

Overview of English Productive Skills (Speaking Skill) Variables

Table 3.11 Frequency Distribution of Respondents in *Fluency* Indicator

Indicator	Category	Frequency	Percentage
Fluency	Decrease	1	1%
	Stable	9	13%
	Low	1	1%
	Average	1	1%
	High	56	82%
Total		68	100.0

Source: The result of the data processing.

Table 3.11 provides a description of the number of students depending on the Fluency indicator. The majority (as many as 56 students or 82%), were students in the High category, while the least was 1 student each or 1.5% in the Average, Low, and Decrease categories.

Table 3.12 Frequency Distribution of Respondents in *Content* Indicator

Indicator	Category	Frequency	Percentage
Content	Decrease	11	16%
	Stable	4	6%
	Low	11	16%
	Average	20	29%
	High	22	32%

Total		68	100.0

Source: The result of the data processing

Based on Table 3.12, a representation of the number of students based on the Content indicator can be seen. The majority, which consists of 22 students or 32%, were students in the High category, while the least was the Stable category consisting of 4 students or 6%.

Table 3.13 Frequency Distribution of Respondents in *Grammar* Indicator

Indicator	Category	Frequency	Percentage
Speaking Grammar	Decrease	2	3%
	Stable	0	0%
	Low	0	0%
	Average	6	9%
	High	60	88%
Total		68	100.0

Source: The result of the data processing

Represented in Table 3.13 is an overview of the number of students based on the Speaking Grammar indicator. The majorities were in the High category with as many as 60 students or 88% and the least was the Decrease category with 2 students or (3 %).

Table 3.14 Frequency Distribution of Respondents in *Diction* Indicator

Indicator	Category	Frequency	Percentage
Diction	Decrease	1	1%
	Stable	1	1%
	Low	0	0%

	Average	7	10%
	High	59	87%
Total		68	100.0

Source: The result of the data processing

Table 3.14 describes the number of students based on the Diction indicator. The Decrease and Stable categories were the least with 1 student each or (1%), and the High category was the majority with up to 59 students (87%).

The mean scores of the fluency, content, grammar and diction aspects of the speaking test in the experimental group were significantly higher compared to the control group. In other words, the hypotheses of this study were applicable. This means that using project-based learning in teaching hortatory exposition speaking to the senior high school students was significantly more effective than using the conventional method. There are various plausible explanations for the experimental group's higher posttest score compared to the control group.

Speaking in public is a difficult undertaking because it is sometimes anticipated that mistakes will be made, resulting in being directly critiqued by the audience. The most terrifying thing is public humiliation. This fear often arises when people speak in public, due to risking ideas in front of others, threatening credibility, image, and ways of attracting audience attention The fear and anxiety that come with speaking in public can be solved by practicing and rehearsing before presentations or speeches.[19] During this time, students receive feedback directly from the members of the group. This would enlighten them on the group's ideas about the topic, their punctuality, and the audience's

[19] Raja, F. (2017). Anxiety Level in Students of Public Speaking: Causes and Remedies. Journal of Education and Educational Development, 4(1), 94-111. https://files.eric.ed.gov/fulltext/EJ1161521.pdf

perception and reaction to the theme of the campaign. The students in this study developed their skills in effective speaking.

These explanations could be the reason why introducing Project-based learning through a campaign resulted in the experimental group outperforming the control group in speaking hortatory exposition texts. Furthermore, according to the results of the student opinion poll, the majority of the students regarded the campaign to be advantageous to their speaking abilities. Students notably stated that the campaign assisted them in improving their fluency and content, organizing their ideas, and speaking in proper grammatical phrases.

D. CONCLUSION

From the the discussion on Developing Students' Productive Skills Through Problem Based and Project Based Learning Environmental Models, the following can be deduced: Problem-Based Environmental Learning is a learning strategy that increases students' knowledge and awareness of environmental issues in their surroundings. This scaffolding methodology improves students' writing skills in hortatory exposition organization, content, and vocabulary. Students who are taught utilizing PBL through scaffolding obtain much greater results in producing hortatory exposition text than those who are taught using the conventional technique. Project-Based Environmental Learning is a learning model that challenges and exposes students to real-world issues. It expands students' environmental knowledge and skills through exciting projects. This learning methodology improves students' speaking fluency, content, grammar, and diction. Students who are taught utilizing PjBL through a campaign perform much better in speaking than those who are taught using the conventional method. A new approach applied in the English lesson is teaching environmental issues and productive skills through environmental learning models. Students develop higher-order skills that enable them to apply what they have learned in more meaningful ways.

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