

## **Optimizing English Vocabulary Acquisition in Fashion Design Students through Project-Based Learning Strategies at the Vocational Level**

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**Abstract.** This classroom action research aims to enhance English vocabulary acquisition among 27 eleventh-grade students enrolled in the Fashion Design program at SMK Negeri 7 Malang, Indonesia. The study employs Project-Based Learning (PBL) to address vocabulary learning challenges specific to the fashion design context. The research follows the stages of planning, action, observation, and reflection to evaluate the effectiveness of PBL in improving vocabulary skills. Data collection methods included vocabulary assessments, student surveys, and teacher observations, providing a comprehensive understanding of the intervention's impact. The results reveal a significant improvement in students' vocabulary mastery, particularly in fashion design major, after implementing PBL. The approach fostered active student engagement through real-world projects, leading to increased motivation and a deeper understanding of relevant vocabulary. Surveys indicated heightened enthusiasm for learning English, with students expressing greater confidence in using specialized terms. This research demonstrates the potential of integrating PBL into the curriculum to support vocabulary development in vocational education, suggesting that such strategies could be beneficial across various fields.

**Keywords:** Project-Based Learning; English Vocabulary Skills; Fashion Design Education

### **A. INTRODUCTION**

Mastery of English vocabulary is fundamental for effective language acquisition and communication, playing a pivotal role in both academic success and professional development. For students in specialized fields such as fashion design, acquiring relevant vocabulary is essential not only for understanding subject-specific terminology but also for applying this knowledge in practical contexts. However, many students struggle with vocabulary acquisition, which can impede their ability to fully engage with course material and perform effectively in their field (Beck, McKeown, & Kucan, 2013; Nation, 2001). Recent educational research has increasingly spotlighted innovative teaching strategies to address these challenges. One such strategy is Project-Based Learning (PBL), which has gained recognition for its potential to enhance student engagement and learning outcomes. PBL involves students working on complex projects that necessitate critical thinking, problem-solving, and collaboration, thereby providing a practical and context-rich approach to learning (Mergendoller, 2005; Bell, 2010). This student-centered approach aligns with constructivist theories of learning, which emphasize the importance of active, experiential learning in developing deeper understanding (Jonassen, 1999).

In the context of vocational education, particularly within the Fashion Design program at SMK Negeri 7 Malang, students encounter unique challenges related to English vocabulary. Fashion design is a field abundant with specialized terminology critical for both understanding and practical application. Effective vocabulary acquisition in this context can significantly impact students' ability to grasp complex concepts and execute tasks crucial for their professional development (Miraj, 2015; Schmitt, 2008). Research indicates that integrating relevant vocabulary through innovative

instructional methods can notably enhance students' comprehension and application of course content (Coxhead, 2019; Laufer & Goldstein, 2004). Wilkins' assertion that vocabulary is fundamental for conveying meaning, even when grammar is well-formed, underscores the critical role of vocabulary in communication (Wilkins, as cited in Thornbury, 2002). Stahl and Nagy (2005) further argue that robust vocabulary knowledge is linked to enhanced cognitive functions, including improved speaking and critical thinking skills. These insights highlight the need for effective interventions to address vocabulary gaps and support comprehensive language development.

Classroom Action Research (CAR) offers a practical and reflective approach to addressing educational challenges within the classroom setting. Unlike experimental research, which often isolates variables and controls conditions, CAR involves a cyclic process of planning, acting, observing, and reflecting. This approach allows educators to systematically address specific issues in their teaching practice and make iterative improvements based on real-time observations and feedback (Kemmis & McTaggart, 2000; Stringer, 2013). At SMK Negeri 7 Malang, implementing PBL as part of CAR represents a strategic approach to improving vocabulary acquisition among students in the Fashion Design program. By engaging students in projects that incorporate relevant vocabulary and real-world applications, PBL provides a meaningful context for learning and helps bridge the gap between theoretical knowledge and practical use (Krajcik & Blumenfeld, 2006; Blumenfeld et al., 1991). This iterative approach allows for continuous refinement of teaching strategies based on classroom experiences and student feedback.

The application of Project-Based Learning (PBL) in enhancing vocabulary skills has been widely examined in various educational contexts, with numerous studies affirming its effectiveness. Yildiz (2009) found that implementing PBL significantly improved vocabulary achievement among sixth-grade students in Turkey, with the hands-on nature of projects encouraging deeper engagement with new words. This finding is in line with the present study, as the use of real-world fashion design projects enabled students at SMK Negeri 7 Malang to contextualize vocabulary within their field, thus facilitating more meaningful learning experiences. By actively participating in project tasks, students encountered new terms repeatedly in practical settings, which aligns with Yildiz's observations of enhanced vocabulary retention through experiential learning. Similarly, Jincheng (2020) demonstrated the positive impact of PBL on vocabulary acquisition among Thai secondary students learning Chinese, where project activities not only helped students learn new vocabulary but also motivated them to use the language in various communication scenarios. In the current study, PBL fostered a dynamic learning environment in which English vocabulary related to fashion design was not only taught but also practiced and applied in authentic tasks, such as creating fashion portfolios or presenting design concepts. The active nature of PBL projects contributed to increased student motivation, as reflected in survey responses indicating a higher level of enthusiasm for learning English vocabulary.

The research by Nurfahana (2024) also supports the use of PBL for vocabulary development, specifically through the integration of flashcards to aid vocabulary acquisition among eighth graders. While the present study did not use flashcards, it similarly benefited from PBL's structured approach to vocabulary learning, which provided repeated exposure to new terms through project cycles involving planning, execution, and reflection. This cyclical process was instrumental in reinforcing students' understanding of fashion-related terminology and building their confidence in using specialized language. Moreover, Ali and Hasan (2022) highlighted the benefits of PBL in enhancing the vocabulary skills of English as a Foreign Language (EFL) students, noting that project-based tasks promote active learning and encourage students to explore language beyond traditional classroom settings. The findings of this study are consistent with their conclusions, as the real-world projects undertaken by the fashion design students went beyond passive learning and allowed for practical application of vocabulary in tasks closely related to their vocational training. This practical engagement not only improved vocabulary mastery but also deepened students' understanding of how language is used within their specific field. The research by Zare-Behtash and Sarlak (2017) on Iranian EFL learners demonstrated that PBL could positively influence various language skills, including vocabulary and speaking abilities. The interactive nature of PBL encouraged students to engage in meaningful communication, enhancing their ability to recall and apply new words in conversation. In the context of this study, PBL projects not only enriched vocabulary learning but

also provided opportunities for students to use English as they collaborated on projects, thereby supporting language development across multiple skill areas.

These previous studies collectively underscore the value of PBL as a strategy for optimizing vocabulary acquisition, especially in vocational education settings where learning is often context-specific. The present study contributes to this growing body of literature by demonstrating how PBL can be tailored to meet the unique vocabulary needs of fashion design students, ultimately bridging the gap between academic language learning and real-world application.

Previous studies have demonstrated the effectiveness of Project-Based Learning (PBL) for vocabulary acquisition across different educational contexts (Yildiz, 2009; Jincheng, 2020; Nurfaiana, 2024; Ali & Hasan, 2022; Zare-Behtash & Sarlak, 2017), they focus on general language learning without specifically addressing vocational education needs, such as the domain-specific vocabulary required in fields like fashion design. Additionally, most studies examine younger learners or secondary students, while limited research targets vocational high school students who require specialized vocabulary to support their career development. This study seeks to fill that gap by exploring how PBL can enhance English vocabulary acquisition specifically within the context of a fashion design program at a vocational level, providing insights into the application of PBL strategies tailored to the unique needs of vocational students.

This study aims to utilize Classroom Action Research to evaluate the effectiveness of PBL in enhancing English vocabulary skills among XI grade Fashion Design students. Through iterative cycles of planning, implementation, observation, and reflection, the research seeks to address existing vocabulary challenges and contribute to improved educational outcomes in vocational contexts. The findings will offer valuable insights into the practical application of PBL as a pedagogical tool for vocabulary instruction and its impact on students' language proficiency. In conclusion, addressing vocabulary challenges through innovative teaching methods such as PBL, within the framework of Classroom Action Research, can yield significant benefits for students in specialized fields. This research will contribute to a deeper understanding of effective strategies for vocabulary acquisition and support the development of pedagogical practices that enhance both language skills and professional competencies.

## **B. METHODS**

This study employed a classroom action research design to address the challenge of enhancing English vocabulary among 11th-grade students in the Fashion Design program at SMK Negeri 7 Malang. Classroom action research is a systematic, reflective approach used to improve educational practices through iterative cycles of planning, action, observation, and reflection. This design was chosen to facilitate ongoing improvements and to tailor interventions based on real-time feedback from students and educators.

The study involved 27 students enrolled in the Fashion Design program in SMKN 7 Malang, all in the 11th grade as the participants. These students were selected based on their identified challenges with English vocabulary pertinent to their field of study. Inclusion criteria required participants to be actively engaged in the Fashion Design curriculum and willing to participate in all phases of the research. The research was conducted at a vocational high school. The institution is located in Malang, Indonesia and is known for its specialized programs in various vocational fields, including Fashion Design.

The instruments are lesson plan, pre-test, post-test, questionnaire, and observation checklist. A detailed lesson plan was designed incorporating Project-Based Learning (PBL) strategies. The plan included specific project tasks, vocabulary objectives, and assessment criteria tailored to the Fashion Design context. Vocabulary tests were developed to assess students' knowledge before and after the intervention. These tests were designed to measure understanding of fashion-related English vocabulary. The pretest was administered at the beginning of the study, and the posttest was administered at the end of the intervention period. The tests were developed based on current fashion design terminology and included multiple-choice and short-answer questions. A student perspective questionnaire was created to gather feedback on the PBL approach. The questionnaire included Likert-scale items to assess students' engagement, perceived improvement in vocabulary,

and overall satisfaction with the learning experience. An observation checklist was used to monitor the implementation of the PBL strategy. This checklist included criteria such as student participation, project completion, and use of vocabulary in context.

The research commenced with consultations involving academic mentors and subject experts to refine the implementation strategy, reviewing existing literature on Project-Based Learning (PBL) and discussing its best practices. Based on this feedback, a comprehensive lesson plan was developed to address vocabulary gaps in the Fashion Design program, incorporating PBL methods. The plan outlined objectives, project tasks, and assessment criteria, aiming to engage students in practical vocabulary application through presentations and group work. Following this, further consultations ensured the validity and reliability of research instruments, including pretests, posttests, and questionnaires. A pretest assessed students' initial vocabulary knowledge, establishing a baseline for measuring the PBL intervention's effectiveness. The PBL strategy was implemented over a defined period, with students working on projects that integrated relevant vocabulary into their coursework, supported by instructional guidance. At the end of the intervention, a posttest measured vocabulary improvement, while a questionnaire collected student feedback on engagement, vocabulary growth, and overall satisfaction. The collected data were analyzed to evaluate PBL's effectiveness, with test score comparisons and feedback reviews informing the final assessment and recommendations for future practice.

### **C. RESULT & DISCUSSION**

After the preparation is complete, the researcher immediately carries out the planned activities according to the planned schedule. Activity description is described successively from the first activity to the last activity. Consultation activity for mentors were carried out on 29 October 2021 and 01 November 2021. Both of these activities aimed to consult on the design of the actualization activity and the instrument used during implementation. In this activity, the researcher determines the basic competency and indicator to be achieved in learning. In addition, researcher also received advice and input from mentor regarding the actualization activity to be carried out. The technique used is online consultation via the WhatsApp application and face-to-face meetings with mentors at SMK Negeri 7 Malang. The activity carried out is selecting basic competencies or materials to be used in the implementation of actualization. The researcher used the basic competency 3.18 class XI for the English subject, namely the procedure text material.

The second activity is run by making a lesson plan and consulting the lesson plan that has been integrated with Project-Based Learning on November 2, 2021. The purpose of this consulting activity is to consult the lesson plan about the procedure text and the material that has been structured. The aim of this activity is to make the learning process run smoothly and achieve the learning objective. The technique used is to arrange the learning instruments, which are the lesson plan and learning material. With the presence of a lesson plan, the researcher has guidance in implementing the learning process in accordance with the strategy or idea that has been arranged by the researcher. The researcher explains the content and the learning activity that used Project-Based Learning as the strategy for three meetings of the learning process.

The third is the validating and consulting instrument activity that was carried out on November 3, 2021. The purpose of this activity is to consult the instrument and the implementation of the research with the mentor. It aims to ensure that the implementation of the research is run according to a predetermined schedule, and the instrument can be the reference or indicator of success from the study conducted. The actualization technique employed is consultation online through WhatsApp and directly at SMK Negeri 7 Malang. After that, the researcher designs the questions for Pretest / Post-test and schedule for the implementation of the research. The questions for Pretest / Post-test use the Procedure Text in Basic Competence 3.18 as the material. On the other hand, the questions in the student questionnaire focus on the students' opinion of the strategy that was used by the researcher in the study.

The fourth is the pre-test was conducted on November 4, 2021. This activity is important to carry out before carrying out the next stage of the actualization activity, namely implementing the Project-Based Learning strategy. In this activity, the researcher carried out pretest activities with 10

multiple-choice questions and 10 matching questions. The material used is procedural text with basic competence 3.18. The pretest questions themselves had been prepared by the researchers on November 3, 2021, so that at the time of implementation the questions were ready for use. After carrying out the pretest, the researcher obtained a recapitulation of values which would later be analyzed after the post-test was carried out. The technique used is to distribute pretest questions to class XI Fashion Design 1 students with a total of 10 multiple-choice questions and 10 matching questions online via the WhatsApp Group. The distribution of questions was carried out on November 4 2021 at 08.00 WIB and given 40 minutes to work on it, but the deadline was given until 23.59 WIB. With this activity, researchers can find out students' abilities before the Project-Based Learning strategy is applied.

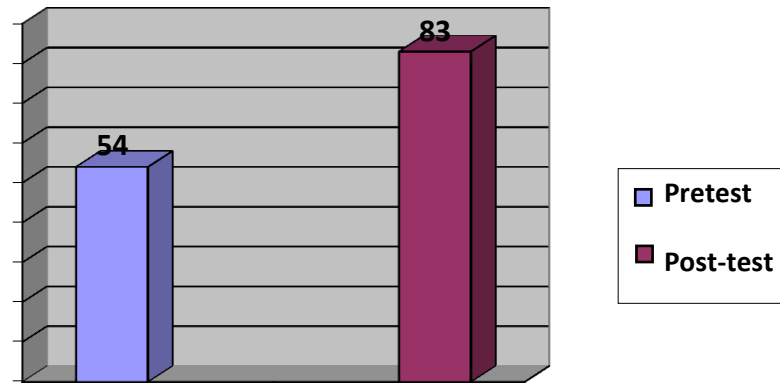
Fifth, the implementation of Project-Based Learning was carried out online on November 9, 11, and 16 2021 using the Zoom application. This activity is important to be carried out before carrying out the next stages of actualization activities. In this activity, learning begins with determining basic questions related to the material presented up to compiling a schedule in preparing the project. For the next meeting, the learning activities ended with the stages of project evaluation and student learning experiences. This activity is evidenced by the existence of activity minutes and also activity documentation. The technique used is to carry out the online learning process through the Zoom application. The learning was carried out in class XI Fashion Design 1 with a total of 27 students participating. The stages of the learning process are starting with apperception activities, reviewing procedural text material, submitting projects that students must work on, then entering the stages in the process of making student projects. In the second stage, the learning process begins with apperception activities, reviewing the material in previous learning, delivering sewing terms material, then entering the stage of monitoring student progress on the projects made. Apart from using the Zoom application, the researchers also conducted monitoring through the WhatsApp application. For the last stage, learning activities begin with apperception activities, review material at the previous meeting, then carry out assessment activities on projects that have been completed by students. In addition, there are activities to evaluate students' experiences of learning that have been carried out during the implementation of the Project-Based Learning strategy.

The sixth activity that is the post-test was carried out on November 18, 2021. This activity is important to be carried out before carrying out the next stage of the actualization activity. In this activity the researcher carried out post-test activities with the same questions as the pretest totalling 10 multiple choice questions and 10 matching questions. The material used is procedural text with basic competence 3.18. The post-test questions had been prepared by the researchers on November 3, 2021, so that at the time of implementation the questions were ready to use. After carrying out the post-test, the researcher obtained a recapitulation of values which would later be analyzed with the results of the pretest. The technique used is to distribute post-test questions to class XI Fashion Design 1 students with a total of 10 multiple choice questions and 10 matching questions online via the WhatsApp Group. The distribution of questions was held on November 18, 2021 at 13.00 WIB and given 40 minutes to work on, but the deadline was given until 23.59 WIB. With this activity, researchers can find out students' abilities after the Project-Based Learning strategy is applied. Then, the results of the pretest and post-test scores was analyzed and compared to find out the success of the Project-Based Learning strategy in increasing the vocabulary of class XI Fashion Design 1 students at SMK Negeri 7 Malang

The evaluation process is carried out on November 18, 2021. This activity is important to carry out before carrying out the next actualization activity stage, namely the evaluation stage of increasing students' English vocabulary mastery. In this activity the researcher distributed questionnaires to students' perspective levels with a total of 5 questions; 4 multiple choice questions and 1 short answer question. The technique used is to distribute questionnaires to class XI Fashion Design 1 students via the WhatsApp Group. The distribution of questions was carried out on November 18, 2021 at 08.30 WIB and was given 40 minutes to work on. With this activity, researchers can find out students' perspectives on the application of Project-Based Learning strategies in the learning process.

The evaluation results of this activity were carried out on November 19, 2021. The activity of

analyzing the pretest and post-test scores of students in class XI Cosmetology 1 is carried out by making an analysis table of the results of the pretest and post-test scores and then comparing the results of the two scores. The following is a chart of student mean scores during the pretest and post-test.



**Figure 1.** Mean scores of pretest and post-test

It can be seen that the average student score increased during the post-test. Then the latsar participants conducted a normalized gain test (N-Gain). The normalized gain test (N-Gain) is carried out to determine the increase in student learning outcomes after treatment. This increase is taken from the pretest and post-test scores obtained by students. The actual gain score is the gain score obtained by students while the maximum gain score is the highest possible gain score obtained by students. The calculation of the normalized gain score (N-Gain) can be expressed in the following formula:

$$g = \frac{Sf - Si}{\text{Maximum Score} - Si}$$

Keterangan:

g = Gain Ternormalisasi (N-Gain)

Sf = Post Test Score

Si = Pretest Score

With the provisions of the range of values obtained on the Normalized Gain in the following format.

No	N- Gain	Predicate
1	$\langle g \rangle < 0.30$	Low
2	$0.70 \langle g \rangle \geq 0.30$	Medium
3	$\langle g \rangle \geq 0.30$	High

**Tabel 1.** Recapitulation of Normalized Gain for Pre-test and Post-test

No.	Name	Pretest	Post-Test	Nilai	Predicate
1	AF	70	75	0,17	Low
2	AS	35	95	0,92	High
3	AT	60	85	0,63	Medium
4	AR	25	75	0,67	Sedang
5	BV	40	90	0,83	Tinggi
6	DS	25	80	0,73	Tinggi
7	IM	55	85	0,67	Sedang
8	IM	75	100	1,00	Tinggi
9	LP	25	75	0,67	Sedang
10	MA	75	75	0,00	Rendah

11	MJ	85	100	1,00	Tinggi
12	MK	45	80	0,64	Sedang
13	ND	80	80	0,00	Rendah
14	NI	75	95	0,80	Tinggi
15	NS	75	75	0,00	Rendah
16	NA	60	75	0,38	Sedang
17	NA	70	80	0,33	Sedang
18	NR	55	90	0,78	Tinggi
19	NH	60	65	0,13	Rendah
20	NK	25	80	0,73	Tinggi
21	PD	45	80	0,64	Sedang
22	RM	50	75	0,50	Sedang
23	RS	30	90	0,86	Tinggi
24	SP	50	75	0,50	Sedang
25	SW	50	95	0,90	Tinggi
26	TM	40	80	0,67	Sedang
27	UD	60	85	0,63	Sedang
<b>RATA-RATA</b>		<b>53</b>	<b>83</b>	<b>1</b>	<b>High</b>

Based on the data above, it was obtained that the N-Gain score was 1, which means that the increase in the mastery of the English vocabulary of grade XI Tata Fashion 1 students is included in the high category. It proves that learning that applies the Project-Based Learning strategy makes students master English vocabulary. In conclusion, the integration of PBL into the curriculum for Fashion Design students significantly enhanced their English vocabulary skills. This outcome supports the theoretical and empirical evidence favouring PBL as an effective instructional strategy for vocabulary acquisition (Coxhead, 2019; Wilkins, 1972). The combination of quantitative improvements and qualitative feedback underscores the efficacy of PBL in fostering both language development and practical application, making a compelling case for its continued use in educational settings.

The implementation of the Project-Based Learning (PBL) strategy demonstrated a significant improvement in English vocabulary acquisition among the Fashion Design students, aligning with established educational theories and research. The initial consultations with academic mentors and subject experts laid a robust foundation for the PBL intervention. This phase followed the principles of Beck, McKeown, and Kucan's (2013) framework for robust vocabulary instruction underscores the importance of interactive and contextually rich learning environments, which were integral to the consultation process. These interactions guided the development of a lesson plan that effectively incorporated PBL methodologies, ensuring alignment with the theoretical underpinnings of constructivist learning.

The lesson plan, reflected principles from both Blumenfeld et al. (1991) and Jonassen (1999), who advocate for project-based tasks that simulate real-world challenges and promote deeper engagement. The lesson plan's design, which included hands-on projects and collaborative activities, was informed by these theories and aimed to make vocabulary learning relevant and practical. This approach not only facilitated engagement but also fostered the application of vocabulary in meaningful contexts, which is crucial for effective language acquisition (Schmitt, 2008). The subsequent PBL intervention, conducted online was guided by Bell's (2010) and Eggly (2024) emphasis on the importance of authentic, collaborative learning experiences. The intervention engaged students in projects that required the practical application of English vocabulary relevant to their field of study. This hands-on approach, as described by Krajcik and Blumenfeld (2006), effectively promoted deeper learning and skill development, aligning with the principles of PBL and constructivist theory. The post-test results, obtained indicated a significant increase in students' vocabulary proficiency, supported by a high normalized gain score (N-Gain). This outcome reflects Schmitt's (2008) assertion that vocabulary instruction should involve continuous, contextually relevant practice. The significant improvement in post-test scores compared to pre-test scores

demonstrates the effectiveness of the PBL strategy in enhancing vocabulary knowledge, validating the theoretical support for PBL as an effective instructional approach. The student feedback collected through the questionnaire provided qualitative insights into the perceived impact of the PBL strategy. This feedback, which highlighted increased engagement and satisfaction, aligns with the research on effective PBL practices and reinforces the quantitative findings. According to Coxhead (2019), effective vocabulary instruction requires both quantitative and qualitative measures to fully assess the impact of instructional strategies.

In summary, the integration of PBL into the Fashion Design curriculum led to substantial improvements in English vocabulary acquisition, supported by both quantitative data and qualitative feedback. This outcome aligns with the theoretical frameworks of constructivist learning and PBL, demonstrating the efficacy of these approaches in enhancing vocabulary skills and promoting practical language use. The results underscore the value of PBL in educational settings, offering a compelling case for its continued application in similar contexts.

#### **D. CONCLUSION**

Regarding the English vocabulary mastery of class XI Fashion Design 1 students, it can be concluded that their English vocabulary mastery has increased since implementing the Project-Based Learning strategy in learning activities. This Project-Based Learning strategy assists students in improving their students' English vocabulary because this strategy is a student-centered learning model that determines the teacher as a facilitator. In other words, students design processes and frameworks to create solutions to the problems they find in doing projects by collaborating. Thus, students have experience solving problems and collaborating in developing and practicing communication skills. From the student's perspective, they also feel that applying Project-Based Learning strategies in learning is more exciting and fun and increases their motivation to learn English. In addition, students acquire a lot of English vocabulary related to the Fashion Design major during the learning process. In addition to increasing students' motivation to learn English, the English vocabulary skills of class XI Fashion Design 1 students also experienced an increase. This case is evidenced by the students' pre-test and post-test scores, which showed an increase of 31%. In addition, according to the questionnaire results, the students were more enthusiastic and acquired a lot of English vocabulary related to the Fashion Design major during the lesson. Therefore, learning that applies the Project-Based Learning strategy is attractive, especially for SMK students. In the future, implementing the Project-Based Learning strategy can be continued so that students' vocabulary mastery can continue to increase.

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