



THE EFFECTS OF PROJECT-BASED LEARNING ON 9TH GRADE STUDENTS' WRITING PERFORMANCE AT PHAN TAY HO SECONDARY SCHOOL, HO CHI MINH CITY, VIETNAMⁱ

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Abstract:

The current paper attempted to perform an action research to measure the effects of using project-based learning (PBL) on students' writing performance and their perceptions towards the use of PBL in writing lessons. In response to research aims, objectives, and questions, the researcher adopted mixed methods with the use of quantitative and qualitative approaches. While pre-test and post-test were adopted to collect quantitative data to measure whether the use of PBL promoted students' performance after action research interventions, student questionnaires and teacher interviews were respectively used to collect quantitative and qualitative data of students' perceptions of using PBL to promote their writing performance. One hundred Grade 9 and four in-charge English students were selected as research samples. Overall, the analysis of research data reveals the following findings: 1) Descriptive statistics and results of sample t-test of test scores indicated that there was a statistically significant difference in writing test scores of students, implying that the use of project-based learning generated positive impacts on students' improvement in writing proficiency; 2) Data collected from the questionnaire indicated that students expressed their positive perceptions towards the adoption of project-based learning to promote students' writing competence owing to the enhancement of learning environment, improvement in learning motivation and the positive impacts of PBL on students' writing skills; and 3) Data collected from teacher interview also support findings from the questionnaire concerning students' perceptions of benefits of PBL, leading to their students' positive perception towards

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the use of project-based learning. Based on the research findings, the implications for the use of PBL in writing teaching and learning in an effective manner are proposed.

Keywords: project-based learning (PBL), writing performance, perceptions, Grade 9 students, Phan Tay Ho Secondary School

1. Introduction

1.1 Background to the study

It is common knowledge that English is the language of universal communication. English is the official language of over 20% of the world's population and is a compulsory foreign language subject in other countries' curricula. Until today, English has been playing an irreplaceable role in Vietnam's educational system, ranging from elementary to post-graduate level, as it is widely used in business and other platforms (Nguyen Xuan Nghia, 2004). Mastering the English language is one of the requirements for success as it helps break down the barrier to knowledge acquisition in our society. Encouraging its learners, therefore, is still among the main concerns of every teacher of English all over Vietnam.

Social, historical, and cultural phenomena shape teachers' perspectives regarding their instructional role, instructional pedagogy, and their perceptions of effective writing criteria in the teaching and learning of academic writing (Beck, 2006; Vitella, 2006). A large majority of schools across the nation specifically struggle with the teaching and learning of academic writing. National reports gravely unveil that more and more students are graduating high school without the proper knowledge and skills on how to write a cohesive academic essay using primary and/or secondary sources (Kracker & Wang, 2002). Writing program frameworks were developed in response to the growing need to identify and standardize characteristics of effective writing criteria within schools (Franz & Spitzer, 2006; Smith & Eggleston, 2001). Through the experience gained from field teaching as a teacher of English, it could be deduced by the researcher that writing competences seem to be limited among some secondary school students, especially the 9th-grade students as they frequently give disdainful expressions when being assigned classroom activities or projects. The sampling area of the research is going to be evaluated at Phan Tay Ho Secondary School.

Bearing the above circumstances, the writer decides to conduct a research with the desire to have a deeper insight into discovering the effectiveness that contributes to the application of project-based learning in the writing competences of 9th-grade students.

Based on the results from the aforementioned research, moreover, the writer would like to further propose some strategies to enhance students' learning methods to take on the subject as well.

1.2 Statement of the problem

Learning a foreign language is considered one of the most difficult subjects in the school curriculum by a lot of students since they have to constantly tackle language learning and mistake-making is inevitable. Contrary to most other subjects, engaging in English learning requires a student to actively produce utterances with a limited knowledge repertoire. Furthermore, most students do not seem to have enough tips or efficient approaches to improving language skills, especially in writing competences which is one of the target skills focused on most of their tests, as they have a vague vision of beneficial learning another language may help them, other than meeting the condition to be qualified for school graduation. Clearly, there is a lack of advantaged methodology in the subject of Writing for language learners.

Bearing the above dilemma in mind, this study is conducted concerned with the problems brought upon the students' learning in engaging in Writing classes; and whether there exist some logical strategies in helping improve the English writing performance through one of the beneficial teaching methods applied in the developing stage for 21st-century skills and required competences of language learners.

1.3 Aims and objectives of the study

The aim of this study is to present and discuss a range of theoretical perspectives towards the understanding of PBL. Additionally, the contributions from a range of approaches to PBL help to apply to language teaching, especially in teaching writing. Due to my limited time and knowledge, I would like to put my focus on PBL in English writing teaching by briefly looking at the concept of PBL in teaching methodology. Besides, the study is conducted to show how the applications of PBL using are employed in persuasive learning writing among 9th Grade students. Specifically, the objectives of the study are as follow:

- 1) To study the effect of project-based learning on 9th Grade students' writing performance
- 2) To investigate 9th Grade students' perceptions of project-based learning through learning writing

1.4 Research questions

According to the objectives mentioned above, two research questions are raised in this study:

- 1) To what extent does project-based learning affect 9th Grade students' writing performance?
- 2) What are 9th Grade students' perceptions of project-based learning through learning writing?

1.5 Scope of the study

Regarding the area of teaching method, there are a lot of issues to be discussed, such as the efficiency of teaching and learning a language that helps provide an improvement for

students to progress in their learning process. It should be noted that project-based learning is one of the most popular methodologies these days in order to be implemented in most educational institutes and schools. This research, in the same manner, will be concentrating on the effects of using PBL in teaching writing to emerge and the strategies for 100 students in Grade 9 at Phan Tay Ho Secondary School. Each student will be filling out a questionnaire regarding their point of view on how their writing abilities were affected by PBL in the Writing class. Furthermore, the study also includes 4 in-charge lecturers' opinions which are collected through an in-person interview.

1.6 Significance of the study

Due to the fact that the research focuses on the effectiveness of learning English in improving writing skills by the students in Grade 9 at Phan Tay Ho Secondary School, it is hoped that the outcome of this study will be aiding language teachers, in general, to determine whether their learners are well acquisitive enough in learning the subject of Writing.

In addition, the proposed strategies from this study can also be used as a necessary source of reference for the teachers currently in charge of teaching English as well as in the process of pursuing ways to arouse those students' learning interest, especially in students' writing competences so as to fulfil required learning qualifications by themselves.

2. Literature review

2.1 Definitions of Project-based Learning (PBL)

During the 1980s, several scholars experimented with various process-oriented approaches to language teaching. These approaches include: comprehension approach (Winitz, 1981), natural approach (Krashen & Terrell, 1983), proficiency-oriented approach (Omaggio, 1986), communicational approach (Prabhu, 1987), lexical approach (Lewis, 1993; Willis, 1990) and process approach (Legutke & Thomas, 1991). In addition, there is a host of other local projects that are little known and less recognized (see Hamilton, 1996, for some). All these attempts indicate a rare convergence of ideas and interests in as wide a geographical area and as varied a pedagogical context as North America, Western Europe and South Asia. In this paper, I focus on one of those learning-centered methods, mainly because it has been widely recognized and reviewed in the L2 literature, Project Based Learning (PBL).

Many learning scientists are developing new types of curricula, with the goal of increasing student engagement and helping them develop a deeper understanding of important ideas. Our own contribution is articulating the features of project-based learning (Blumenfeld et al., 2000; Krajcik et al., 1994). Project-based learning allows students to learn by doing and applying ideas. Students engage in real-world activities that are similar to the activities that adult professionals engage in.

Project-based learning is a form of situated learning (Greeno, this volume) and it is based on the constructivist finding that students gain a deeper understanding of material when they actively construct their understanding by working with and using ideas. In project-based learning, students engage in real, meaningful problems that are important to them and that are similar to what scientists, mathematicians, writers, and historians do. A project-based classroom allows students to investigate questions, propose hypotheses and explanations, discuss their ideas, challenge the ideas of others, and try out new ideas. Research has demonstrated that students in project-based learning classrooms get higher scores than students in traditional classrooms (Marx et al., 2004; Rivet & Krajcik, 2004; William & Linn, 2003).

Project-based learning is an overall approach to the design of learning environments. Learning environments that are project-based have five key features (Blumenfeld et al., 1991; Krajcik, et al., 1994; Krajcik, Czerniak, & Berger, 2002):

- 1) They start with a driving question, a problem to be solved.
- 2) Students explore the driving question by participating in authentic, situated inquiry – processes of problem-solving that are central to expert performance in the discipline. As students explore the driving question, they learn and apply important ideas in the discipline.
- 3) Students, teachers, and community members engage in collaborative activities to find solutions to the driving question. This mirrors the complex social situation of expert problem-solving.
- 4) While engaged in the inquiry process, students are scaffolding with learning technologies that help them participate in activities normally beyond their ability.
- 5) Students create a set of tangible products that address the driving question. These are shared artifacts, publicly accessible external representations of the class's learning.

2.2 Writing requirements for the 9th grade students

The Vietnamese Ministry of Education and Training promulgated Circular No. 01/2014/TT- BGDDT dated January 24, 2014 on the six-level Foreign Language Proficiency Framework for Vietnam that is applied to foreign language training programs and institutions. foreign language training institutions and foreign language learners in the national education system. The Foreign Language Proficiency Framework for Vietnam is developed on the basis of reference and application of CEFR and some frameworks of English proficiency of other countries, combined with the actual situation and conditions of teaching, learning and using foreign languages in Vietnam. This Framework is divided into 6 levels (from Level 1 to Level 6 and equivalent to levels from A1 to C2 in CEFR) corresponding to 3 broad levels (Elementary, Intermediate and Advanced).

Its aims are to serve as a unified basis for competency requirements for all foreign languages taught in the national education system, for program development, compilation or selection of curricula, textbooks, teaching plans and other foreign

language teaching materials, and to develop criteria for examination, examination and evaluation at each level. education level, training level, and ensuring the connection in foreign language training between educational levels and training levels. In addition, the framework also helps to serve as a basis for teachers and lecturers to select and deploy content and teaching methods, test and evaluate so that learners can meet the requirements of the training program. Besides, through this framework, learners are able to understand the content and requirements for each level of foreign language ability and self-assess their competences. It additionally creates favorable conditions for cooperation, educational exchange, and recognition of diplomas and certificates with countries applying the Common European Framework of Reference (CEFR).

After finishing the English curriculum at the secondary level, students need to achieve Level 2 in the six-level Foreign Language Proficiency Framework for Vietnam, which is equivalent to level A2 in CEFR. English level A2 is the second level of English in the Common European Framework of Reference (CEFR), a definition of different language levels written by the Council of Europe. In everyday speech, this level might be described as “basic” as in “I speak basic English”. The official level descriptor in the CEFR is “elementary”, which means the same thing: it is the foundation. At this level, students, particularly the 9th-grade students, have mastered the basics of English and can communicate simple, basic needs.

According to the official CEFR guidelines, someone at the A2 level in English:

- 1) Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g., very basic personal and family information, shopping, local geography, employment).
- 2) Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters.
- 3) Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.

Specifically, according to the promulgation of the new English curriculum on December 26, 2018 (MOET, 2018), in Writing requirements of Grade 9, students are able to:

- Write (with instructions) a short paragraph of about 100 - 120 words about family; write a personal letter, short, simple messages concerning the issues in the area of interest.
- Write summaries of information, and write paragraphs in a simple way, using practice text and sequence as in the original text.

2.3 Procedures of Project-Based Learning (PBL)

The PBL learning model has its root in the constructivist theory of education where students take an active role in their learning, generating meaning through experience, rather than in a passive role as found in the traditional model of textbook-based instruction. Jean Piaget’s theory of constructivism argues that students produce knowledge and create meaning based on their experiences. The teacher is to facilitate a

student's learning through a variety of experiences and most importantly at the student's developmental level (Baken, 2014).



Figure 2.1: Project-Based Learning (Zulama, 2017)

Aldabbus (2018) stated that PBL primarily involves the following steps: important content should be carefully selected to satisfy the goals of the learners while also attracting their attention. The topic should then be introduced in an engaging manner, such as by activating students' prior knowledge through a brief discussion, prompting questions, or showing a video or a trip. The major purpose of this phase is to stimulate students' interest in learning more about the topic. Following the introduction and discussion of the topic, students are encouraged to create a driving question to help them keep focused on the area of the project and to give them a reason for carrying out the project. The question should be challenging, open-ended, and directly related to the project's core.

It is critical to make the project relevant by allowing students enough freedom to express themselves and choose how to carry out the project. They should be encouraged to provide suggestions for project design, materials to be employed, information sources, and how to present the finished product. Throughout the project's procedures, teachers should ensure that students have sufficient time and chances to practice skills such as effective communication, technology use, critical thinking, and problem-solving, all of which are essential in today's employment market.

After answering the primary driving question, students must communicate the acquired information with one another in order for it to be evaluated and summarized, and then further sub-questions can be produced by students for more specific information. Another key aspect of project-based learning is feedback and modification.

The teacher and classmates collaborate to offer constructive feedback to each other. Students often learn via the process of carrying out the project, in which they edit and change their work in response to comments from their teacher and classmates. The key motivation for students to work hard and feel pleased with what they have done is to present the end product to a public audience such as students and teachers from other classes, parents, community members, and friends. As a result, students should be encouraged to show their work, talk about them with others, and answer their questions as much as possible.

2.4 The effects of PBL in Writing competences

2.4.1 Time, space, and money

A subtheme that emerged from the first series of questions dealt with the challenges of the implementation of PBL. A unified response found that time, space, and money always seemed to be a challenge associated with the implementation of PBL. Fifty-eight percent responded that space and finances were a challenge, and 75% responded that time was a challenge with PBL. With almost all public education sectors there seems to be a challenge with time, space, and money.

2.4.2 Patience

Another subtheme that emerged from the data collected was patience. Sixty percent of the student participants found that they had to face the issues of developing patience in order to complete the projects because of the challenging activities. As with any new activity or skill learned, patience is gained through the actual process of working through and enduring without becoming annoyed or upset. As a recommendation, students should participate in supplemental activities that would provide them with time-passing methods in their decision-making process.

2.4.3 Adequate information and subjective grading

The next subtheme that developed beneath the theme of challenges was adequate information and subjective grading. A low 8% questioned if educators were providing students with adequate information to complete the projects and sharing expectations in an adequate manner. Teachers who are incorporating PBL into their learning environments should be provided with the opportunity for professional learning that would give them insights into various grading practices and methods. There is also the impact on preparation for the workforce and competition. Participants responded that participating in an active PBL environment prepared the students for the workforce by equipping them with skills in various vocation areas. Study participants found that PBL simulated the real workforce and allowed students to gain real-world experiences. Renewing partnerships with businesses and an active advisory committee will continue to steer the vocational curriculum towards success in the 21st-century workplace. Through recommendations from industry leaders, teachers should continue to teach and incorporate the skills and knowledge needed for a successful career.

2.4.4 State requirements

Accountability and high standards are two catchwords vital to the recommendations for standardized tests. Across the nation, there seems to be a feeling that schools are not teaching students the skills needed to succeed in society (Orphal, 2007). Therefore, state legislators recommend standards of what skills all students should have when they graduate and standardized tests to assess whether the skills have been met. In Georgia, the USA, this formulates high-stakes standardized testing. Forty percent of the participants agreed that state requirements are many times a challenge with the implementation of PBL because vocational teachers are responsible for teaching the performance standards in the vocational area in addition to the core academic standards laid out in the course guidelines. Since accountability is a major element of public education, the assessment will always be present. It is suggested that teachers keep abreast of the changes in assessment instruments through professional learning training. In the near future, vocational education will be incorporated into the success or failure of “soft skill-Awake Your Power-AYP” in public high schools. Vocational teachers should take advantage of attending all state-sponsored workshops and conferences where issues related to the high stakes testing, especially end-of-pathway assessments, will be discussed.

2.4.5 Distractions and motivation

Another subtheme that developed under the challenge theme was distractions and motivation. Students are not interested at the same level, nor are they motivated with the same types of motivation. Some students are not serious about learning and cause distractions for others. In addition, motivational levels are various in a classroom setting. Some students are overachievers and others are happy to strive for completion. Many high school students go through life phases where they simply need help or encouragement to stay on task and complete assignments. Even with high school students, parent contact should remain a high priority since they could be a positive motivator. In addition, no matter the age of the student, he or she is encouraged by praise. Posting examples of students' work is an exciting motivator. Students are encouraged when their accomplishments are put on public display. Lastly, there should be a balance of difficulty with the learning activity. Assigning projects that are slightly above the knowledge level of the students participating will allow for growth, not failure. Study participants responded that PBL allowed students the opportunity to become both intrinsically and extrinsically motivated.

2.4.6 Student achievements

With the excitement of PBL, participants experienced gains in assessment instruments and certification examinations. Through the various Career and Technical Student Organizations (CTSO), students have the opportunity to participate and compete in the different pathway areas. For example, with the model- Future Business Leaders of America-FBLA, students have the opportunity to compete at the regional and state level

in various competitions such as Business Calculations, Business Communications, Website Development, Digital Video Production, etcetera. The culmination of the competition is an A-rated awards celebration with awards of college scholarships available. FBLA offers three levels of student competition: region, state, and national. The activities completed in the classroom prepare the students for the competitions as well as for certification exams. As students complete their individual pathways, the end-of-pathway assessments are administered. Once successfully passed, they are considered pathway completers. Teachers are encouraged to continue to recruit students for the various CTSOs to add extra insights to the curriculum covered in the vocational areas.

2.4.7 Instructional delivery

Ninety-two percent of the sample shared the same viewpoints toward the instructional approach. Many agreed that traditional lecture method delivery will always have an integral place in education simply because the basics have to be learned in order for the scaffolding of knowledge to take place. However, many of the participants agreed that PBL was replacing the traditional lecture style of instruction delivery in the secondary level and advanced courses because PBL encourages the students to become self-learners and learn from a hands-on approach. Karpiak (2011) examined the scores of a pretest for a course with a prerequisite. Students who had taken the foundation class in a PBL section compared to those students who had taken the same course in a traditional format section earned higher scores. Educational researchers agree that an emphasis on inquiry capabilities pushes students to go beyond the simple rote memorization and regurgitation of information. Therefore, PBL can provide a deeper understanding of a specific topic (Ramsey et al., 2008).

2.4.8 Projects and scaffolding knowledge

Projects were vital to the implementation of PBL; without the project, there is no PBL. Projects ranged from demolition derby cars to minor automotive repair services, checking account simulations, payroll calculations, career investigation projects, brochures, newsletters, catering occasions, furniture creation and construction, design, creation, and testing of robots, and finally students achieving the status of certified nursing assistants. Through the use of PBL, the scaffolding of knowledge allowed the students to take skills and knowledge and build upon that in order to create an end product for a new question, situation, or problem. Balancing the learning in the classroom will ensure that students are being motivated and scaffolding of knowledge is occurring. The assignments should be challenging, but not so difficult that it frustrates and discourages the learner. Increasing the difficulty level with each project will promote a more active learner and successful student.

2.4.9 Transfer of skills

All of the participants agreed that the skills learned through the implementation of PBL could be transferred. PBL allowed the students to mentally create a file folder of skills to

transfer to the workplace once they graduate high school. To ensure that high school graduates have the opportunity to learn work-related competencies, state education departments have recently adopted a set of standards required in each subject area. Implementing the state-approved curriculum will continue to enable students to learn both the competencies and skills the industry has and continues to require for 21st-century employees.

2.5 Evaluation of PBL

The majority of the study participants strongly agreed that PBL was effective in preparing the future workforce and PBL provided attainment and assimilation of basic skills. In addition, the majority of the participants agreed that PBL promoted decision-making skills and knowledge scaffolding, opportunity for collaboration, real-world connections, opportunities for the transfer of knowledge, self-learning, opportunity for knowledge attainment and assimilation, lifelong learning, preparation for future careers, critical-thinking and problem-solving skills, creativity and innovation, and a means for closing the gap for success in the workforce. Although many of the participants felt that PBL offered a variety of assessment instruments, some reported that they were uncertain of the usefulness of the rubrics provided by the teachers.

Education leaders, business leaders, administrators, educators, parents, and politicians claim that students lack the knowledge and skills essential for success in higher education and the workforce (Freshwater, 2009). The above-mentioned interested parties fear that students are not being taught in a way that makes connections between their learning and the real world. Consequently, they advocate for school reform in an effort to prepare students for success in the 21st century (Freshwater, 2009). Advocates of the constructivist approach support the ideology of presenting new material in the context of its intended real-world experience (Prince & Felder, 2006). The current research study involved attending to the expressions and gaining the perceptions of administrators, teachers, and students who were involved in the educational process in order to provide a viewpoint from the participants in seeking solutions to improve education. Recommendations from this research may help school leaders and stakeholders to rethink the instruction and implementation of programs needed in secondary vocational education training of high school students to prepare them for entrance into the workforce and re-evaluate the skills and knowledge needed in the global economy.

3. Methodology

3.1 Research design

The research was conducted in an action research design involving collecting information regarding PBL application and outcomes, analyzing the information, developing a plan to improve it, collecting changes after PBL is implemented, and developing conclusions regarding the improvements. The pretest aimed to measure participants' achievement

levels in writing. The writing posttest was used to determine the level of students' writing performance after the experiment which would last for 12 weeks. In the pretest and posttest, 100 students in two classes would write an email chosen from Cambridge Key English Test because the researchers intended to orient students to approach Level 2 in the six-level Foreign Language Proficiency Framework for Vietnam according to the requirements of the new curriculum of Grade 9.

In this study, in order to determine the effectiveness of using PBL in writing class to contribute to the enhancement of the 9th Grade students at Phan Tay Ho Secondary School, the researchers decided to employ a mixed method research design in which both quantitative data and qualitative data were to be collected. This research design allowed the researchers to obtain the information and opinions of the students as well as their teachers in charge regarding the writing performance. To be more specific:

- 1) Quantitative data was collected through a questionnaire designed specifically for 100 students in Grade 9 at Phan Tay Ho Secondary School. The data collected from the questionnaire would then be analyzed in order to point out the factors affecting their competences in learning the subject of Writing.
- 2) Qualitative data, on the other hand, was collected through a semi-structured interview with 4 teachers who are in charge of teaching the subject of English writing at Phan Tay Ho Secondary School. The data would then be further assessed to find out whether the factors and strategies proposed had an impact on each student's learning efficiency and how they affected the students' learning performance.

3.2 Research site

The research was conducted at Phan Tay Ho Secondary School at 18B/27 Thong Nhat, Ward 16, Go Vap District, Ho Chi Minh City. Established in 1975, Phan Tay Ho Secondary School is determined to educate highly skilled graduates who are able to assist in the industrialization and modernization of Vietnam. At present, Phan Tay Ho Secondary School is aiming for the school of national standards. During 45 years of development, Phan Tay Ho Secondary School has achieved many valuable performances in the field of education in Ho Chi Minh City.

The study took place in two English writing classes in Grade 9. To be more particular, the research focused on 100 students in Grade 9 and 4 teachers who are in charge of teaching the class of Writing.

3.3 Sample and sampling procedures

The pre-test was collected and marked following the Cambridge English Writing Assessment scale. At week 11 of the research, after applying the lesson plan following the procedures of PBL mentioned in advance in teaching writing, a post-test with the same content as the pre-test was administered in the two classes to analyze by using statistical tools such as SPSS and then withdraw the findings.

Sampling was the process of choosing a smaller set of units from a population as representatives and the sample would be having almost all the features or characteristics that the population bears (Field, 2005). Generally speaking, sampling techniques can be divided into two major kinds, probability sampling and non-probability sampling. The difference between the two types of sampling was whether randomization was taken into account or not. In this research, the writers adhered to convenience sampling, which belonged to non-probability sampling since access to the sample was available at the researcher's hands.

To be more specific, with the aim of maximizing the reliability of the study, the population of 100 students who were attending English writing classes of Grade 9 and 4 teachers in charge of teaching the subject of Writing were designated as participants. The participants were divided into two groups: one consisted of 100 Ninth grade students and the other with 4 in-charge teachers of the Writing subject.

3.4 Research instruments

3.4.1 Pre-test and post-test process

The pre-test and post-test were based on the A2 Key English Test from Cambridge English. It would include writing an email which was the format of the sixth part of the writing section. Students wrote a short email of 25 words or more. This part had a maximum of 15 marks available. The duration of the test was 20 minutes.

3.4.2 Student questionnaire

The questionnaire was among the most commonly used instruments for data collecting for its versatility and quick information-gathering capability. The questionnaire could be operated in two forms, which were close-ended and open-ended. The close-ended format was decided for this research because it relieved the stress of producing own sentences from the participants, thus ensuring reliability for the responses to the questionnaire. Furthermore, it was more convenient for the researcher to comply with and analyze the data collected.

To answer the first research question, a questionnaire consisting of 25 close-ended items was constructed. All the questions were about eliciting students' opinions about the factors and strategies that allowed the increase in motivation of the students. There were some items in the questionnaire adapted from the original survey of Gardner's Attitude/Motivation Test Battery (AMTB) in 1985. Furthermore, in order to avoid unnecessary misunderstandings and to help students understand the questionnaire perfectly since the participants are, despite learning in English Language, the 9th Grade students with limited vocabulary repertoire, the questionnaire items were written in their mother tongue – Vietnamese. Additionally, a Likert scale was utilized to measure the students' responses ranging from: '5' for Strongly Agree (SA), '4' for Agree (A), '3' for Neutral (N), '2' for Disagree (D) and '1' for Strongly Disagree (SD). By using this, the researchers could properly evaluate the student's viewpoints towards the elements and approaches that they found the most effective in improving their writing performances.

3.4.3 Teacher semi-structured interview

Since the writers were aware of the fact that not all the items in the questionnaire were sufficient to discover the efficient issues of the students, there was a need for a direct interview with all the teachers who were responsible for teaching the subject of Writing. Particularly, the interview was operated in form of a semi-structured interview, as apart from answering the predetermined questions, the interviewers and the participants were free to initiate a free conversation of relevance. In order to enhance the validity as well as the reliability of the interview process, the whole progress was operated in the second language, English.

A semi-structured interview was conducted with the participation of all 4 teachers, with the aim to discover their viewpoints regarding by which factors the teachers thought would influence their students' English writing acquisition process the most by using PBL and whether they found any particular strategies were beneficial to their students through their projects in class. The interview consisted of 3 open-ended questions, whose answers could not be collected by quantitative method alone. Therefore, the results were analyzed by qualitative content analysis method. These questions were designed specifically to help the writers obtain a more thorough knowledge of how the in-charge teachers view their students' writing progress with the help of PBL. In addition, more opinions about effective factors and strategies that the teachers found interesting and may yield fruitful results would also be elicited through the interview session.

3.5 Data collection procedures

3.5.1 Pre-test and post-test operating procedures

The pre-test and post-test were conducted and marked by other teachers who did not intervene in the research. The detailed band score descriptors of Cambridge assessment are as follow:

A2	Content	Organisation	Language
5	All content is relevant to the task. Target reader is fully informed.	Text is connected and coherent, using basic linking words and a limited number of cohesive devices.	Uses everyday vocabulary generally appropriately, while occasionally overusing certain lexis. Uses simple grammatical forms with a good degree of control. While errors are noticeable, meaning can still be determined.
4	<i>Performance shares features of Bands 3 and 5.</i>		
3	Minor irrelevances and/or omissions may be present. Target reader is on the whole informed.	Text is connected using basic, high-frequency linking words.	Uses basic vocabulary reasonably appropriately. Uses simple grammatical forms with some degree of control. Errors may impede meaning at times.
2	<i>Performance shares features of Bands 1 and 3.</i>		
1	Irrelevances and misinterpretation of task may be present. Target reader is minimally informed.	Production unlikely to be connected, though punctuation and simple connectors (i.e. 'and') may on occasion be used.	Produces basic vocabulary of isolated words and phrases. Produces few simple grammatical forms with only limited control.
0	Content is totally irrelevant. Target reader is not informed.	<i>Performance below Band 1.</i>	

Figure 3.1: Brand scores

3.5.2 Questionnaire operating procedures

The questionnaire had a time limit of 10 minutes. Permission for cooperation was granted by the students along with their teachers during recess in order not to interfere with the learning process. All the participants were asked to answer the questionnaire with honesty as the result of the research would not pose any impact on the participants physically and mentally. Participants' anonymity was also guaranteed. Data collected from the questionnaire would then proceed to be analyzed by percentage for discussion.

3.5.3 Semi-structured interview operating procedures

The operation allotted around 20 minutes long for the teacher interview. This process took place in agreement to the participants' free time schedule for their convenience at the research site as well. Each interview was then audio-taped for a later process, under the participants' permission.

Although it was recommended to use English throughout the whole interview process, interviewees were allowed to express their answers in their mother tongue, which is Vietnamese for various reasons. Firstly, there were some ideas throughout the interviewees' answers that needed to be understood perfectly in the researcher's mother tongue. Secondly, despite being fluent in English as a teacher, there were occasions when the participants might not find the appropriate vocabulary that perfectly expressed their

ideas due to time restraints or lack of advanced preparations. Finally, it might be helpful that the researchers clarified some unfamiliar concepts or terminology vocabulary to the participants so that the answers would be trustworthy and vagueness-free.

3.6 Data analysis procedures

The results generated from the questionnaire were analyzed into descriptive statistics into the form of percentage counts. Descriptive statistics offered a basic overview of the data collected, enabling a greater general understanding of the data set (Mackey, & Gass, 2005).

On the other hand, the interview's results would be examined with the help of qualitative content analysis. The answers to the interview's questions would be categorized into lists of factors believed to influence English major freshmen's motivation at Phan Tay Ho Secondary School and the effective strategies that oriented one toward a more dedicated learning performance.

Consequently, after compiling both quantitative and qualitative data, the researchers would then carry on synthesizing the analysis in order to respond to the two research questions raised earlier in the previous parts.

4. Results and Discussions

4.1 Results

4.1.1 Results of research question 1

To measure whether the use of project-based learning generated positive impacts on students' writing performance of Grade 9 students or not, the researcher recorded and compared scores of pre-test and post-test performed before and after the use of project-based learning in writing lessons. All three tests were measured with a scale 10 meanwhile score was categorized in the following table.

Table 4.1: Score categorization

No.	Score (15 points in total)	Categorization
1	0-3	Very poor
2	3.1 - 5	Poor
3	5.1-7	Fair
4	7.1-8.5	Good
5	8.6-10	Very good

Source: Composed by the researcher.

Firstly, a pre-test was performed with 100 Grade 9 students to measure the student' writing competence before the adoption of project-based learning. Descriptive statistics of pre-test scores are shown in Table 4.2.

Table 4.2: Descriptive statistics of pre-test scores

Pre-test	
Mean	6.955
Standard Deviation	0.696655
Minimum	5
Maximum	8.5
Count	100

As shown in Table 4.2, mean of pre-test was reported at 6.95 (SD = 0.60), representing the fair proficiency in writing. This finding implied that writing performance of most of the participants was fair. The minimum score was five (5) reported with Student 42 (S42) while the maximum score of 8.5 was also earned by only Student 77. Details of the score category of pre-test were presented that the writing performance of 69% of the students was categorized as fair while 30% of the students received good scores for their pre-test. Particularly, only one student's writing performance was poor.

After 12 weeks of teaching students the method of project-based learning, a post-test was run with the students to test whether this method was useful to promote the students' writing performance. Descriptive statistics of post-test results were shown in Table 4.3.

Table 4.3: Descriptive statistics of post-test scores

Post-test	
Mean	7.995
Standard Deviation	0.557297773
Minimum	7
Maximum	9
Count	100

It was revealed in Table 4.3 that in the post-test of writing the students achieved an average score of 7.99 (SD = 0.55), implying the good writing performance of most of the students. Specifically, the lowest score increased from 5 in the pre-test to 7 in the post-test while the highest score rose to 9 in comparison to 8.5 in the pre-test. In other words, the use of project-based learning generated positive impacts on students' writing performance reflected by the increase in test scores. Particularly, there were eight students (S24, S47, S57, S65, S67, S70, S71, S74) achieved a score of 9 for their post-test of writing. Score categories of writing post-test were presented that the majority of students received good performance in their post-test of writing (81%) while 11% of the students enjoyed the very performance. Interestingly, the proportion of students with fair performance. The comparison of scores of students in pre-test and post-test indicated that while the number of students with poor and fair writing performance significantly decreased from the pre-test to post-test, that of students with good and very good writing performance experienced a surge. These findings reflected the benefits of project-based learning to students' overall improvement in writing performance.

Furthermore, to affirm the impacts of project-based learning on students' writing performance interactive group on extensive reading skills the researchers also performed t-test with test scores. Results were presented in Table 4.4.

Table 4.4: Paired samples test of students' test scores

Paired samples statistics									
		Mean	SD			N			
Pair 1	Pre-test	6.95	.69			100			
	Post-test	7.99	.55			100			
Paired samples t-test									
Paired differences									
		Mean	Std. dev.	Std. error mean	95% confidence interval of difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair	Pre-test	-1.632	1.409	0.233	-2.134	-1.446	-7.708	29	.000
	Post-test								

According to Table 4.4, the results from the pre-test (M = 6.95, SD = .69) and post-test (M= 7.99, SD = .55) indicated that there was a statistically significant difference in writing test scores of students, $t(29) = -7.70$, $p = .000$. The results implied that the use of project-based learning generated positive impacts on students' improvement in writing proficiency.

Overall, the analysis of test scores from the pre-test and post-test indicated that students' writing performance was significantly improved by the use of project-based learning in writing lessons. To answer the second research question concerning the students' perceptions towards the use of project-based learning, data was collected from the questionnaire for the students and interviews for the teachers. Details of questionnaire results were presented in the following section.

4.1.2. Results of research question 2

4.1.2.1. Results from students' questionnaire

In order to explore students' perceptions towards the use of project-based learning, the researcher adopted 22 items questionnaire. Major themes of the questionnaire included the students' perceptions towards the impacts of using project-based learning on the learning environment, learning motivation, writing skills and competence, and the intention to engage in project-based learning activities. Specifically, the researchers utilized four questionnaire items to understand the students' perceptions of how the use of project-based learning affected their learning environment. Descriptive results were presented in Table 4.5.

Table 4.5: Students' perceptions of the impacts
 of project-based learning in a learning environment

Impacts of project-based learning in a learning environment	M	SD	Ranking
1. Different tasks included in project-based learning creates a more flexible and comfortable learning environment.	4.31	.50	3
2. Different tasks included in project-based learning creates a more motivating, encouraging learning environment.	4.22	.47	4
3. A collaborative learning environment is generated by integrating different tasks into lessons with the use of project-based learning.	4.53	.35	1
4. A student-centered learning environment is generated by integrating different tasks into lessons with the use of project-based learning.	4.34	.49	2

Note: M – Mean; SD – Standard Deviation

It was revealed in Table 4.5 that referring to the positive impacts of the use of project-based learning on the learning environment the students expressed their agreement and strong agreement to four statements with the mean value ranging from 4.22 to 4.53. In particular, it was strongly agreed by the students that they could enjoy a collaborative learning environment in writing lessons owing to the integration of projects into learning activities (M = 4.53; SD = .35). Accordingly, the students showed their agreement to others questionnaire items in this category, including 1) the use of projects in writing lessons created a student-centered learning environment (M = 4.34; SD = .49), 2) learning environment became more flexible and comfortable owing to the integration of projects in writing tasks (M = 4.31; SD = .50); and 3) a more motivating, encouraging environment was generated by the use project-based learning in writing lessons (M = 4.22; SD = .47). In sum, the students expressed their positive perceptions towards the adoption of project-based learning to promote students' writing competence owing to the enhancement of flexibility, motivating atmosphere, student-centered learning, and collaborative learning environment.

The second aspect concerning the students' perception of the use of project-based learning examined in the current study referred to how students' motivation to learn writing was changed owing to the employment of project-based learning. In more detail, eight items (item 5 to item 12) were used in the questionnaire to examine how the impacts of project-based learning on students' learning motivation were perceived by the respondents. Table 4.6 summarizes the descriptive results.

Table 4.6: Students' perceptions of the impacts of project-based learning on learning motivation

Impacts of project-based learning on learning motivation	M	SD	Ranking
5. I am more motivated to participate in project-based learning activities because of the challenges in writing projects.	4.02	.55	8
6. I am more motivated to participate in project-based learning activities because of my interesting knowledge in writing projects.	4.46	.51	3
7. I am more motivated to participate in project-based learning activities because of the relevant contents of writing projects	4.24	.49	7
8. I am more motivated to participate in project-based learning activities because I can access more authentic materials in writing projects.	4.27	.34	6

9. I am more motivated to participate in project-based learning activities because it is so great to work with my peers in writing projects.	4.38	.52	4
10. I am more motivated to participate in project-based learning activities because I can improve my relationship with my peers through cooperative activities in writing projects.	4.35	.40	5
11. I am more motivated to participate in project-based learning activities because of my expectation to improve my writing skills through writing projects.	4.54	.39	1
12. I am more motivated to participate in project-based learning activities because of my expectation to improve my writing test score.	4.50	.48	2

Note: M – Mean; SD – Standard Deviation

As shown in Table 4.6, similar to the results collected from the first four items of the questionnaire, all mean values of eight items concerning the impacts of project-based learning on learning motivation were reported from 4.02 to 4.54, indicating the respondents' agreement. The highest level of agreement was reported with item 11 (M = 4.54; SD = .39) and item 12 (M = 4.50; SD = .48) by which the respondents affirmed that they are motivated to engage in project-based learning because of their expectation to improve writing skills, resulting in higher test scores. Besides the improvement in writing skills that led to rising test scores, students also explained their agreement to the improvement in learning motivation with the use of project-based learning activities because of interesting knowledge gained from the lessons with projects (M = 4.46; SD = .51), the enjoyment of working with classmates in projects (M = 4.38; SD = .52), the improvement in the relationship with their classmates through cooperative activities in writing projects (M = 4.35; SD = .40), and the accessibility to more authentic materials in writing projects (M = 4.27; SD = .34). The other two reasons explaining the respondents' positive perception of the impacts of project-based learning on learning motivation received a lower level of agreement included the relevance of contents of writing projects to their proficiency (M = 4.24; SD = .49) and the challenges of writing projects (M = 4.02; SD = .55). Overall, the benefits and challenges provided in project-based learning activities the students' motivation of writing learning was significantly improved.

Another important area of the students' perceptions towards the use of project-based learning explored in the current study was the perceived benefits of using project-based learning on students' writing skills and competence. Eight questionnaire items (item 13 to item 20) were employed by the researchers to understand how different aspects of writing skills such as vocabulary, grammatical, cohesion, writing knowledge, and so forth were improved by the use of the project in writing lessons. Results concerning the students' perceptions towards the effects of project-based learning on students' writing skills were summarized in Table 4.7 as follows.

Table 4.7: Students' perceptions of the impacts of project-based learning on writing skills and competence

Impacts of project-based learning on writing skills and competence	M	SD	Ranking
13. My vocabulary knowledge for writing is improved owing to my participation in project-based learning activities.	4.45	.51	4
14. My grammatical knowledge of writing is improved owing to my participation in project-based learning activities.	4.41	.49	5
15. My writing accuracy is improved owing to my participation in project-based learning activities.	4.16	.40	8
16. The cohesion of writing is improved owing to the participation in project-based learning activities.	4.32	.50	6
17. My writing speed is improved owing to my participation in project-based learning activities.	4.27	.43	7
18. My background knowledge of writing is enhanced owing to my participation in project-based learning activities.	4.54	.43	2
19. My content knowledge for writing is enhanced owing to my participation in project-based learning activities.	4.51	.32	3
20. My writing test score increased owing to my participation in project-based learning activities.	4.57	.41	1

Note: M – Mean; SD – Standard Deviation

Statistics presented in Table 4.7 indicated that the respondents perceived the benefits of utilizing projects in writing lessons to different aspects of writing skills and competence with the mean range of 4.16 to 4.57. In particular, the respondents expressed their strong agreement to three out of eight questionnaire items concerning how their writing skills and competence were promoted by the use of project-based learning in writing lessons, including an increase in writing test scores ($M = 4.57$; $SD = .41$), enrichment of background knowledge for writing ($M = 4.54$; $SD = .43$), and enrichment of content knowledge for writing ($M = 4.51$; $SD = .32$). In addition, the respondents in the current study also affirmed the use of project-based learning activities as the reason explaining the students' improvement in others aspects of writing skills and competence. The respondents stated that their vocabulary knowledge ($M = 4.45$; $SD = .51$), grammatical knowledge ($M = 4.41$; $SD = .49$), writing cohesion ($M = 4.32$; $SD = .50$), writing speed ($M = 4.27$; $SD = .43$), and writing accuracy ($M = 4.16$; $SD = .40$). All the improvements in these aforementioned aspects explained the students' enhanced writing skills that were reflected by the increase in test score. Conclusively, the recognition of the benefits of project-based learning to the students' writing skills and competence led to the students' positive perception of project-based learning.

Finally, the overall perception of using project-based learning of the students was investigated by two questionnaire items (item 21 and item 22). Descriptive statistics of the two items were presented in Table 4.8.

Table 4.8: Students' intention to use project-based learning

Students' intention to use project-based learning	M	SD	Ranking
21. I will be more engaged in writing activities with the use of project-based learning in the future.	4.53	.59	1
22. I will encourage my peers to actively participate in writing activities with use of project-based learning.	4.50	.42	2

Note: M – Mean; SD – Standard Deviation

It was reported in Table 4.8 that owing to the students' perception of the positive impacts of project-based learning on learning environment, learning motivation, and writing skills the students strongly agreed that they would more actively participate in writing activities with the use of project-based learning in the future ($M = 4.53$; $SD = .59$) and that they would encourage their classmates to engage to writing activities ($M = 4.50$; $SD = .42$). In sum, the results collected from the questionnaire indicated that the students had positive perceptions towards the use of project-based learning because of its impacts on the learning environment, learning motivation, and writing skills. To supplement data collected from the questionnaire, the researcher analyzed data collected from the teacher interview that was presented in the next section.

4.1.2.2 Results from teachers' semi-structured interview

Regarding teacher semi-structured interviews, three open-ended questions were administered to four English teachers (T) with reference to the improvement in the learning environment, students' motivation, and enhanced writing skills. Specifically, all four interviewed questions affirmed that the changes in their role during writing lessons promoted the flexibility of the learning environment. T1 stated: *"Now I teach as a facilitator during the writing projects rather than a supervisor"*, which explained that she had employed new teaching techniques and materials with the use of projects to create a flexible learning environment.

Accordingly, T4 also affirmed:

"During the projects assigned to my students in writing lessons, I gave my students the opportunities to explore. My role was to lead my students to select the topics of projects, consult the students during the stages of projects, set the benchmarks for evaluation, and discuss the challenges encountering the students, and consult them with the solutions."

T2 and T3 also admitted that the student-centered approach employed by them during the writing lessons with the adoption of project-based learning changed their role from supervision to facilitator and focused on students, resulting in the enhancement of learning environment flexibility.

Moreover, in the interviews, the teacher respondents also explained how the use of project-based learning boosted their students' motivation. It was believed by the teacher participants that the employment of project-based learning generated specific benefits for the students. The motivation was one of the major benefits mentioned by the

English teachers. In more detail, T1 explained: *"The projects assigned to the students in writing lessons enabled them to work in group with their peers, making them become more motivated"*, emphasizing the positive impacts of project-based learning on students' motivation in learning writing. T2 also expressed their opinion of how the students' learning motivation was enhanced by the employment of project-based learning by stating:

"My students became more interested when they got engaged with their classmates in project activities. I can feel that my students have been learning in a more interactive and engaging now."

Additionally, the improvement in learning motivation was also mentioned by T3 as a prevalent benefit of the use of project-based learning in writing learning and teaching. She emphasized:

"Sometimes students had to deal with the complex projects which forced them to work in group with their classmates to be to contribute better, that engages them and fosters their motivation."

Finally, T4 also agreed:

"Of course, my students are more motivated in the lessons with projects; I can sense it in my classroom."

Finally, the English teachers also affirmed the benefits of projects on students' writing skills. Three participants mentioned the increase in test scores of writing as the positive impact of project-based learning on students' writing skills; for example, T2 clarified:

"I employed projects in writing lessons in the last semester; the results were so amazing. More than two-thirds of students earned an increase in writing test scores. Particularly, several students experienced three scores increase on the test."

The respondents also mentioned the enhancement in several writing aspects as the result of using project-based learning. T1 stated: *"The involvement in different projects in different fields enriched my students' knowledge, vocabulary and grammar facilitated them to complete their writing tasks more effectively."*

T4 admitted that:

"I can see the significant improvement in the way how my students used vocabulary, and grammatical patterns to create good writing. The accuracy and cohesion of writing were also substantially improved. Accordingly, they got good marks for their writing."

To sum up, the teacher participants agreed that the use of project-based learning posed many benefits such as improving students' skills, promoting a learning environment, enhancing their collaboration and increasing their motivation. These benefits lead to their students' positive perception towards the use of project-based learning.

4.2. Discussions

Results collected from the tests, questionnaires and interviews revealed that the use of project-based learning generated positive impacts on students' writing skills measured by the increase in test scores and that the students had a positive perception towards the use of project-based learning to promote students' writing performance. Firstly, descriptive statistics and results of the sample t-test indicated that there was a statistically significant difference between the writing pre-test and post-test scores of students after 12 weeks of using project-based learning. This finding implied the positive impacts of project-based learning on students' writing skills. Along the same line, the studies by Huang (2015) and Shin et al. (2018) revealed similar findings. Huang (2015) performed a quasi-experimental study with 80 high school students to understand whether the use of project-based learning promoted students' writing skills or not. 80 students were assigned into two groups, a control and an experimental group with 40 students for each. Pre-test and post-test were performed with two groups before and after using projects in teaching writing to the students in eight weeks. Results affirmed that the increase in test scores was explained by the use of project-based learning. Similarly, Shin et al. (2018) also examined the effects of project-based learning on students' learning competence. The positive effects of project-based learning were evident in the results, where the mean of post-test was significantly higher than that of pre-test.

Accordingly, the current study identified the students' positive perception towards the use of project-based learning to promote students' writing skills through the analysis of questionnaires and interview results. The study concluded that the students' positive perception was explained by their recognition of the benefits of project-based learning to the learning environment, learning motivation, and overall writing skills. The students and teachers affirmed that through the relevant content and collaboration in projects the teachers could promote the flexibility of the learning environment, resulting in students' enhanced motivation and writing skills. This finding is supported by previous studies by Ho (2014), Albino (2017) and Shin et al. (2018). Ho (2014) argued that as students had to complete projects, they were required to use their linguistic knowledge in combination with their interaction and communication skills, e.g., self-correction, rephrasing, repetition and so on to communicate their meanings. These could be expected to help learners become more fluent and cohesive in their writing. Moreover, after the students used their language resources to express meanings, they were exposed to more language exercises. This gave them more opportunities to focus on linguistic forms that were already familiar to them, which ensured that the students did not develop their fluency at the expense of the accuracy of their writing. The research finding by Ho (2014)

also revealed that students admitted that interesting, collaborating, and challenging tasks in projects enhanced their learning motivation while the student-centered approach boosted the flexible learning environment. These findings are parallel with those of Albino (2017) and Shin et al. (2018). who found that students improved their writing skills in terms of vocabulary, grammar, accuracy, cohesion and fluency after experiencing These benefits of project-based learning resulted in the students' positive perception towards project-based learning.

Conclusively, it can be concluded that project-based learning made a significant contribution to the improvement in the students' learning environment, motivation and writing skills that resulted in their positive perception towards the use of project-based learning.

5. Conclusions and Implications

5.1 Summary of key findings

Writing skill is one of the four basic skills that EFL learners have to practice and nurture to gain high language proficiency. However, achieving high writing skills is not easy for students, particularly secondary students. Students tend to encounter a number of issues such as lack of vocabulary, insufficient knowledge of grammar, lack of learning motivation, and so on to produce effective writing pieces. At Phan Tay Ho Secondary School, Ho Chi Minh City, Vietnam, a preliminary study revealed poor writing performance of Grade 9 students; they encountered various difficulties and barriers preventing students from improving their writing competence. A number of teaching techniques and pedagogies have been adopted by English teachers at the school to enhance students' writing skills and performance. Previous studies reveal that project-based learning is an effective method for the enhancement of students' writing performance through promoting the learning environment, students' learning motivation, engagement to learning, enriched background knowledge, and so on.

Accordingly, with the efforts to promote Grade 9 students' writing competence in the current study, the researcher attempted to perform action research to measure the effects of using PBL on students' writing performance and their perceptions towards the use of PBL in writing lessons. The researchers collected and analyzed data to answer two predefined research questions, including: 1) To what extent does project-based learning affect 9th Grade students' writing performance? and 2) What are 9th Grade students' perceptions of project-based learning through learning writing? In response to research aims, objectives, and questions, the researcher adopted mixed methods with the use of quantitative and qualitative approaches. While pre-test and post-test were adopted to collect quantitative data to measure whether the use of PBL promoted students' performance after action research interventions, student questionnaires and teacher interviews were respectively used to collect quantitative and qualitative data of students' perceptions of using PBL to promote their writing performance. 100 Grade 9 and four in-

charge English students were selected as research samples. Overall, the analysis of research data reveals the following findings:

- 1) Descriptive statistics and results of sample *t*-test indicated that there was a statistically significant difference in writing test scores of students, (pre-test: $M = 6.95$, $SD = .69$; post-test: $M = 7.99$, $SD = .55$; $t(29) = -7.70$, $p = .000$), implying that the use of project-based learning generated positive impacts on students' improvement in writing proficiency.
- 2) Data collected from the questionnaire indicated that students expressed their positive perceptions towards the adoption of project-based learning to promote students' writing competence owing to 1) the enhancement of learning environment with flexibility, motivating atmosphere, student-centered learning, and collaborative learning environment; 2) improvement in learning motivation with the their expectation to improve writing skills, higher test scores, needs to gain interesting knowledge gained from the lessons with projects, the enjoyment of working with classmates in projects, the improvement in the relationship with their classmates through cooperative activities in writing projects, and the accessibility to more authentic materials in writing projects, the relevance of contents of writing projects to their proficiency and the challenges of writing projects; 3) the positive impacts of PBL on students' writing skills with reference to writing test score, enrichment of background knowledge for writing, enrichment of content knowledge, improved vocabulary knowledge, grammatical knowledge, writing cohesion, writing speed, and writing accuracy.
- 3) Data collected from teacher interviews also revealed that the use of project-based learning posed many benefits such as improving students' skills, promoting the learning environment, enhancing their collaboration and increasing their motivation. These benefits lead to their students' positive perception towards the use of project-based learning.

Based on the research findings, the implications for the use of PBL in writing teaching and learning are proposed in the next section.

5.2 Implications

The current study reveals that the use of PBL is useful to improve students' writing performance which results in students' positive perception towards the use of PBL. Therefore, it is recommended that the textbook and curriculum designers and teachers should integrate PBL in teaching writing to students. Specifically, it is recommended that PBL should be incorporated into textbook contents and curriculum as one of the major methods for teaching writing. Tasks and projects should be used in each lesson of writing to get the students to be familiar with how to perform tasks and projects assigned by English teachers to obtain their learning objectives. Furthermore, it should be noted that to ensure the effectiveness of PBL textbooks and curriculum designers develop a guide for how to conduct tasks at the beginning of the textbook.

From the perspective of English teachers, they should take the role of a facilitator of writing classes rather than supervisors in writing lessons with the use of PBL. The facilitating role of the teacher will generate a flexible, encouraging learning environment for the students with the use of projects to improve students' writing competences. Furthermore, students expressed their preferences for projects with group work because they enjoyed collaborative learning to promote the relationship with their classmates. Therefore, it is recommended that English teachers should encourage group work on projects to enhance students' motivation to engage in PBL writing lessons. Finally, because students' positive perception towards PBL resulted from the increase in test scores and improved writing skills. Hence, it is suggested that tests should be regularly performed to measure the effects of PBL on students' writing skills. If students are aware of the benefits of PBL, students will actively participate in PBL writing lessons.

5.3 Limitations

Although the current study generated significant research findings concerning the impacts of using PBL on students' improvement in writing performance and skills and students' perception, there are several limitations of the current study. Firstly, the samples in the current studies were relatively homogeneous in their background (Grade 9 students with similar social and language backgrounds), the results findings may be not valid for other groups of students with different backgrounds. Secondly, under the scope of the study, the intervention was relatively short, and the research findings may not fully reflect the impacts of using PBL on students' improvement in writing performance and skills.

5.4 Suggestions for further studies

It is suggested that other researchers who are interested in exploring the effects of using PBL on students' improvement in writing performance and skills may diversify the samples in their further studies to improve the validity, reliability, and replicability of research findings. Furthermore, a longer intervention (four months) can be employed by the researchers to strengthen and affirm the results from previous studies concerning the positive impacts of using PBL on students' improvement in writing performance and skills.

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Conflict of Interest Statement

The author declares no conflicts of interest.

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