THE EFFECTIVENESS OF PROJECT BASED LEARNING AND PROBLEM BASED LEARNING FOR TEACHING BIOGRAPHY TEXT WRITING TO HIGHLY AND LOWLY MOTIVATED STUDENTS

Meike Imeda Wachyu  
meikeimelda@gmail.com  
Semarang State University  

Dwi Rukmini  
wiwidwirukmini@yahoo.com  
Semarang State University  

Received: 20 June 2015. Revised: 10 August 2015. Accepted: 25 August 2015

ABSTRACT
The aims of this study were (1) to find out the effectiveness of using project based learning compared to problem based learning to teach writing biography texts to highly motivated students, (2) to find out the effectiveness of using project based learning compare to problem based learning to teach writing biography texts to lowly motivated students, (3) to find out the effectiveness in teaching writing biography texts through control group to highly motivated students, (4) to find out the effectiveness in teaching writing biography texts through control group to lowly motivated students. (5) to explain the significant difference between students high motivation in writing competence and students low motivation in writing competence taught using project based learning compared to problem based learning. (6) to explain the interaction between learning models, students’ motivation, and writing biography texts.

Keywords: Writing; Project Based Learning; Problem Based Learning; Biography Texts

How to Cite: Wachyu, M.I. and Dwi Rukmini. 2015. The Effectiveness of Project Based Learning and Problem Based Learning for Teaching Biography Text Writing to Highly And Lowly Motivated Students. Language Circle: Journal of Language and Literature, X/1.

INTRODUCTION
In Indonesia, English language teaching and learning has been implemented in schools’ curriculum. The Indonesia Government has nationally implemented the competency based curriculum (KBK) of English subject for senior high school since 2004. Right now the ministry came with a new concept of school curriculum 2013. In 2013 curriculum, English language teaching and learning is developed by adopting school based curriculum where the goal of teaching and learning English is the students are expected to be able to communicate in spoken and written language (Agustien, 2013: 42).

English for communication purposes integrated all four macro skills. The students of Senior High School are focused on mastering four language skills: listening, reading, speaking and writing. Listening and reading are receptive skills while speaking and writing are productive skills (Harmer 2004: 60). All of the skills are to be improved in the process of teaching and learning English.
In the process of teaching and learning English, writing is the most difficult and complicated language skill to be learned almost by the students in every level of education. The students have to organize ideas, produce meaningful and structured sentences. There are various stages in writing should be done by the students such as drafting, reviewing, redrafting and writing. Helmi in Dewi (2014) defines several problems that are mostly faced by students in writing, they are: (1) Limited vocabulary, (2) Difficult in organizing to write about something, (3) No motivation to write, and (4) lack of confidence in grammar to write.

Based on my own detailed-observation, in State Senior High School 2 Indramayu, some of teachers still used teacher-oriented approach, where the teachers only focused on their explanation without considering the students’ understanding. The students did not understand what the teachers explain. It can be seen from the mean score of English in midterm test of the first semester tenth grade 2014/2015 is 2.00 (65.00) and the mean score in final test is 1.00 (60.00), while the standardization score in State Senior High School 2 Indramayu is 2.66 (75.00) (Ministry Instruction No. 104 Section 9 Verse 2) it can be concluded that the students’ achievement is low. There are many factors causing low student’s achievement, such as learning motivation, teaching learning methods, etc. The first factor is motivation. Motivation influences the success of learning and teaching progress. Increasing and directing motivation is one of the teachers’ responsibilities. They try to ensure that motivation is engendered as a result of a good rapport for the students.

The second factor causing low students’ achievement is teaching learning method. The teacher should have the competencies: pedagogical competence, personal competence, professional competence and social competence. As mentioned in PP No. 19 tahun 2005 tentang Standar Nasional Pendidikan pasal 28 (3) menyatakan bahwa seorang guru harus memiliki kompetensi sebagai berikut: kompetensi pedagogic, kompetensi kepribadian, kompetensi professional dan kompetensi sosial. One of the competences is the pedagogical, the ability of the teachers to determine and to design learning methods in their teaching to become a qualified teacher. The quality of language teaching will improve if teachers use the best available approaches and methods. (Richards & Rodgers 2007:15). Good teaching is regarded as correct use of the method and its prescribed principles and techniques.

Based on the background above, it is important for the teachers to make the various teaching model. The teachers are free to use an approach that is relevant to the student. The students are expected to learn through “experiencing” not by “memorizing” the subject matter in their learning. The theories of scientific approach suggested in curriculum 2013 constitutes the students not only to learn the knowledge by memorizing it but also to construct the knowledge through several inquiry steps such as observing, questioning, experimenting, associating, communicating (Kajian Standar Proses Kurikulum 2013:3). Scientific approach in English language teaching can be realized through several techniques; problem based learning, project-based learning and discovery learning.
There are several techniques can be implemented in language teaching from Piaget it leads to problem based learning and from Vygostsky it leads to project based learning. Regarding this, the implementation of two approaches suggested in scientific approach that emphasizes the process and content of writing, which was discovered by Klein (2009:8) projects build on authentic learning tasks that engage and motivate students, middle school is an ideal time to integrate project-based learning. Projects encourage students to encounter, and struggle with, important and “big” ideas.

State Senior High School 2 Indramayu is one of the pilot school project 2013 curriculum which have implemented 2013 curriculum for three semesters should continue the 2013 curriculum. The documents, such as the syllabus and the supporting materials were provided by the ministry office in Jakarta. The syllabus containing the target competencies and the curriculum was supposed to be developed by the schools. According to the curriculum in State Senior High School 2 Indramayu, writing in the tenth graders student is taught into 3 kinds of texts, there are: recount, narrative, and descriptive. In this study the researcher used writing biography texts as one of the types recount texts to be analyzed.

On my preliminary observation in State Senior High school 2 Indramayu, there were still many students who have difficulties in writing. The problems are caused by several things. They are limited vocabulary, difficulty in organizing to write about something, no motivation to write, and lack of confidence in grammar and inappropriate models used by the teachers to teach the materials.

Based on the background above, this study attempted to address the following statements of the problem: 1) How effective is project based learning compared to problem based learning to teach writing biography texts to highly motivated students? 2) How effective is project based learning compared to problem based learning to teach writing biography text to lowly motivated students? 3) How effective is teaching writing biography texts through control group to highly motivated students? 4) How effective is teaching writing biography texts through control group to lowly motivated students? 5) How significant is the difference between students with high motivation writing biography texts and students with low motivation in writing biography texts taught by using project based learning compared to problem based learning? 6) Is there any interaction between variables for the students with high motivation in writing biography texts and students with low motivation in writing biography texts taught by using project based learning compared to problem based learning?

Writing is one of productive skills in language learning (Harmer 2007:246). Writing is viewed as the process of gathering ideas and working with it until they are presented in a manner that is polished and comprehensible to the reader, it is the combination of process and product (Linse, 2006; Harmer 2007; Sokolik, 2003). The competency in writing requires the students to be able to express meaning in short functional text and simple essay acceptable in real context.
Teacher has played an important role in writing. He or she asks students to write many numbers of topics and then assess the information content in the message. The clarify of the message conveyed the mechanics of writing such as spelling, capitalization, punctuation, grammar, content and meaning (Glazer and Brown, in O’Malley 1993:136). Another view states that writing integrated two components, such as: cognitive and linguistic components. Cognitive components include process how writers use their knowledge to construct meaning through words. The meaning is indicated from clearness of ideas that can make the reader grasp the points of writing. Meanwhile, linguistics components, which involve the writing mechanism, support the ideas in order to construct the whole intended meaning.

To encourage process writing, teacher can model the selection of topics or writing process itself. Three stages of the writing process are: (1) Pre writing, or motivation, discussion, and concepts development. The students can formulate the topic before writing, (2) writing, which takes place in classroom or at home so students can rely on both teachers and students for feedback and support, (3) post writing, in which students share their writing other, read aloud what they have written, or exchange writing with other students (Gebhard, in O’Malley 1983:139).

Scientific approach is an approach that is newly introduced in 2013 curriculum. In the teaching and learning process, scientific approach offers several steps such as observing, questioning, experimenting, associating, communicating (Kemedikbud 2013:3). Scientific approach in English language teaching can be realized through several techniques; problem based learning, project-based learning and discovery learning (Arends, 2008: 46) those techniques are expected can be implemented in English teaching in order to make the students achieve the learning activity by scientific approach. Agustien as cited by Hapsari (2014) presents that 2013 curriculum suggests scientific approach moreover, steps suggested by 2013 curriculum principals in teaching all subject, including Language subject. It is also similar to genre based approach which was applied in the previous curriculum.

The fundamental theories of scientific approach in this study proposed from Vygotsky and John Dewey (Arends, 2008:47). Vygotsky states that learning happens when the student works or learn to handle the task that never learnt before. Those tasks are still in their capability range or so called in zone proximal development (ZPD) located between the levels of children’s development. It is also known as the ability of problem solving. John Dewey encourages teachers to engage students in a variety of problem-oriented projects and help them investigate the important social and intellectual issues. (Arends, 2008:46)

Project based learning is one of the learning models that can be used by the teachers through scientific approach. Students do not only get the knowledge but also gain the skills and attitudes needed in later life. When learning to use the project-based learning model, students can practice inductive reasoning. As one of the model of scientific approach, project-based offers several steps such as observing, questioning, associating, experimenting, and networking. (Education and Culture Minister Act No. 65 Year 2013).
In this project-based learning, students do active learning by observing, questioning, associating, experimenting, and networking. They are really active through physical activities, as well as minds on through the activities of thinking/mentally. Project-based learning is an instructional method centered on the students. They learn best by experiencing and solving real world problems. Klein (2009:9) states that Project-based learning is the instructional strategy of empowering learners to pursue content knowledge on their own and demonstrate their new understandings through a variety of presentation modes.

Vygotskyin Arends (2008:47) states that learning happens when the students works or learn to handle the task that never learnt before. Those tasks are still in their capability range or so called in zone proximal development (ZPD) located between the levels of children's development. It is also known as the ability of problem solving. In problem-based learning classrooms, the teacher acts as a coach for or facilitator of activities that students carry out themselves. The teacher does not simply present information or directly control the progression of work. Instead, the teacher provides students with appropriate problems to work on, assists them in identifying and accessing the materials and equipment necessary to solve the problems.

From the explanation above problem based learning (PBL) serves contextual, authentic and meaningful problem to the students (Arends, 2008:41). The students learn to solve the problem in real world situation. To help students work on the given problem, teachers should make available a variety of resources. Some people might consider project based learning similar to problem based learning. Nevertheless, Moursund as cited by Sawitri (2012) states that project based learning constitutes a broader category of instruction than problem based learning. While project may address specific problem, it can also focus on areas that are not problem. A key characteristic of project based learning is that the project does not focus on learning about something but focuses on doing something.

The texts that are expected to be mastered for students in senior high school grade ten, such as recount text and descriptive text. As stated on syllabus of 2013 curriculum in basic competency point 3.9 Menganalisa fungsi social, struktur teks, dan unsur kebahasaan pada teks Recount sederhana tentang pengalaman/ kejadian/ peristiwa, sesuai dengan konteks penggunannya. Analyzing the social function, text structure and linguistic features in recount texts in form of people experience according to the use of the context. In the next point 4.14 Menyusun teks recount lisan dan tulis sederhana tentang pengalaman/ kegiatan/ kejadian/ peristiwa, dengan memperhatikan fungsisosial, strukturteks, dan unsur kebahasaan, secara benar dan sesuai dengan konteks (making the recount text in form of people experience)

In recount text, the students are expected to be able to write their past experiment by learning recount. It can be their personal diaries, letters and biographies. Even though recount text had been studied since junior high school, sometimes students had problems in writing recount text. Recount
text provides information about what it happened, when it happened, where it happened and who was involved. Recount has a social function to retell events for the purpose of informing or entertaining the reader. According to Sudarwati (2013:197)

According to Sudarwati (2013:197), the types of recount are: (1) Personal Recount, This usually retells an event that the writer was personally involved in. (2) Biography Recount, this usually retells accounts of a person's life. (3)Factual Recount, this records an incident, e.g. a science experiment, police report. (4) Imaginative Recount, the writer writes an imaginary role and giving details of events in the recount, e.g. a day in the life of a pirate; a story of a mango tree. (5) Historical Recount, this retells historical events in the past.

The characteristics of recount text (Sudarwati 2013: 203) are listed below. A recount text has a social function of retelling events for informing or entertaining. It is organized chronologically and is built of three elements. (1) Orientation: tells who were involved in the story, when, where, and why the story happened. (2) Events: tells what happened in chronological order. (3) Re-orientation: concludes the experience. Language features of recount are (1) the use of nouns and pronouns, (e.g. David, we, her), (2) the use of action verbs (e.g. went, run, played), (3) the use of past tense (e.g. we went for a trip to zoo), (4) the use of time conjunction (e.g. that, first, next, then), (5) the use of adverbs and adverbs of phrases (e.g. in my house, two days ago, slowly), (6) the Use adjectives (e.g. beautiful, slow). A recount text has logically sequenced stages. Supporting students to order their thoughts chronologically and develop circumstances will assist them to produce recount texts.

Biography text is one of the types recount texts. Biography presents a subject’s life story, highlighting various aspects of his or her life, the details of experience and event of the analysis of personality (Sudarwati2013:193). A biography also portrays a subject's experience of these events. Biographical works are usually non-fiction, but fiction can also be used to portray a person's life. The purpose of a biographical recount is to inform by retelling past events and achievements in a person’s life.

**METHODOLOGY**

The research design that used in this study is factorial design because it has two independent variables. According to Cohen (2007:280) factorial design is used when study has two or more independent variables acting on the dependent variable. Shuttle (2009: 1) also states that factorial design is often used by scientist wishing to understand the effect two or more variables upon a single dependent variable. It can be used to identify the simultaneous as well as separate effects of independent variables states (Tuckman1978: 136) so later, it will be known how one of the variable interact with others. This study is a quasi-experimental research uses purposive random sampling technique and factorial design, since it uses more than one independent variable (project based learning or problem based learning and motivation).

Meanwhile, in experimental design, a researcher randomly chooses two groups, they are the experimental or control group, and administers a pre- and post-treatment test (Nunan, 1992: 27). Factorial design,
known as the development of experimental design, is a design used by adding a new independent variable, called as moderator variable (Saleh, 2011: 24). In this design, before the treatments, the writer gave pretests to both control and experimental groups are given to know the initial condition or the real achievement of each student in both groups. Then, the control and the experimental groups were given treatments. The control group was taught by using project based learning, while the experimental group was taught by using problem based learning. After giving the treatments to the control and the experimental groups, the writer gave posttest to both groups.

The population of this research was the tenth graders of State Senior High School 2 Indramayu. The samples of this research were 34 students of X MIA 2 (17 highly motivated students) and 34 students of X MIA 3 (17 highly motivated students and 17 lowly motivated students). The two classes got same subject matter based on the same curriculum, the same level and was not classified on rank. They were taken through purposive sampling technique.

There were three kinds of variables in this research. They were independent variable, dependent variable, and moderator variable. Independent variable is a variable which influences the other variable (Darmadi, 2013: 19). In this research, the researcher used project based learning and problem based learning models as independent variables. Dependent variable is a variable which is influenced by the other variable (Darmadi, 2013: 19). The dependent variable in this research was writing skill. Moderator variable is a variable which influences the relationship between dependent variable and independent variable, so it is also called as the second independent variable (Darmadi, 2013: 19). The moderator variables in this research were highly and lowly motivated students.

The main instruments used in this research were pre-test and post-test. Before doing the experiment, the researcher decided the experimental and control group. Class X Mia 3 was chosen as control group and class X Mia 2 was chosen as experimental group. In choosing the two classes, the researcher also considered the last writing test which has the same language feature with recount text, using past tense; that is narrative text. In deciding the two classes for the research, the researcher chooses the classes which were parallel-balance by having normality and homogeneity test of the last writing test. The two classes were considered for similar characteristics or homogeneity.

RESULTS AND DISCUSSION
Paired Samples T-test of Experimental Group for Highly Motivated Students. From the table of paired samples T-test, it could be seen that the significant value was 0.000 with the degree of significance (α) = 5% (0.05). It indicated that 0.000 < α = 0.05. Further, it could also be seen that \( t_{\text{count}} > t_{\text{table}} \) (0.05/11) or 9.487 (negative was ignored) > 2.200. Therefore, \( H_0 \) was rejected and \( H_a \) was accepted. It could be concluded that there was a significant result of using project based learning model to teach writing of biography texts to highly motivated students. In other word, project based learning model was effective to teach
writing of biography texts to highly motivated students in experimental group.

Paired Samples T-test of Experimental Group for Lowly Motivated Students. From the table of paired samples T-test above, it could be seen that the significant value was 0.000 at the degree of significance (\(\alpha\) = 5% (0.05). It indicated that 0.000 < \(\alpha\) = 0.05. Further, it could also be seen that \(t_{\text{count}} > t_{\text{table}} (0.05)(11)\) or 9.929 (negative was ignored) > 2.200. Therefore, \(H_0\) was rejected and \(H_a\) was accepted. It could be concluded that there was a significant result of using project based learning model to teach writing of biography texts to lowly motivated students. In other word, project based learning model was effective to teach writing of biography texts to lowly motivated students in experimental group.

Paired Samples T-test of Control Group for Highly Motivated Students. From the table of paired samples t-test, it could be seen that the significant value was 0.000 with the degree of significance (\(\alpha\) = 5% (0.05). It indicates that 0.000 < 0.05. Furthermore, the table shows us that \(t_{\text{count}} > t_{\text{table}} (0.05)(11)\) or 7.003 (negative was ignored) > 2.200. Therefore, \(H_0\) was rejected and \(H_a\) was accepted. It could be concluded that there was a significant result of using problem based learning model to teach writing of biography texts to highly motivated students. In other word, problem based learning model was effective to teach writing of biography texts to highly motivated students in control group.

Paired Samples T-test of Control Group for Lowly Motivated Students. From the table of paired samples T-test, it could be seen that the significant value was 0.000 with the degree of significance (\(\alpha\) = 5% (0.05). It indicated that 0.000 < \(\alpha\) = 0.05. Furthermore, it could also be seen that \(t_{\text{count}} > t_{\text{table}} (0.05)(11)\) or 11.687 (negative was ignored) > 2.200. Therefore, \(H_0\) was rejected and \(H_a\) was accepted. It could be concluded that there was a significant result of using problem based learning model to teach writing of biography texts to lowly motivated students. In other word, problem based learning model was effective to teach writing of biography texts to lowly motivated students in control group.

The Significant Calculation of Control and Experimental Groups for Mixed High and Low Motivated Students. From the table of paired samples T-test, it could be seen that the significant value was 0.017 with the degree of significance (\(\alpha\) = 5% (0.05). It indicated that 0.017 < 0.05. Therefore, \(H_0\) was rejected and \(H_a\) was accepted. It could be concluded that there was significant of students writing between students who taught by using project based learning (experiment) and those who taught by using problem based learning (control).

The Interaction between Project Based Learning and Problem Based Learning Models and Students’ Motivations. From the table of tests of between-subjects effects above, it could be seen that the significant value of biography texts writing in the control and experimental classes (MotivationTechnique) was 0.267 with the degree of significance (\(\alpha\) = 5% (0.05). It indicated that 0.267 > 0.05. Further, it could also be seen that \(F_{\text{count}} > F_{\text{table}} (0.05)(46)\) or 1.252 < 2.82. It could be concluded that\(Ho\) was accepted and \(Ha\) was rejected there was no significant interaction among learning models techniques, students’ motivations and writing of biography texts. In other word, there was no interaction project based
Meike Imelda Wachyu & Dwi Rukmini.
The Effectiveness of Project Based Learning and Problem Based Learning for Teaching Biography Text Writing to Highly and Lowly Motivated Students

learning and problem based in enhancing writing biography texts.

CONCLUSION AND SUGGESTION
From the results of data analysis, the writer draws some conclusions as follows: 1) project based learning model, implemented in the experiment, and problem based learning model, implemented in the control group, are effective to teach highly and lowly motivated students in writing biography texts, 2) There was a significant difference of using problem based learning and project based learning models to enhance writing of biography texts for both highly and lowly motivated students, 3) There was no significant interaction among learning models, students’ motivations and writing of biography texts.

For teachers. Teacher should consider the advantages of project based learning in biography texts writing and apply in the classroom. Teachers and students should consider the grammar intensively, especially for the use of past verb form. Furthermore, in teaching, a teacher also should consider the other factors of students’ psychology, such as motivation. It is done to have the effective teaching and learning process. As one of alternatives, project based learning technique can be used by the teacher in teaching biography text writing for highly and lowly motivated students.

For students. the students should be active in every teaching learning process to achieve the better results; In learning process students learn in depth investigation about certain topic. Project Based Learning using authentic, real-world project, based on a highly motivating and engaging question, task, or problem to teach students academic content in the context of working cooperatively to solve the problem. ” (Barel, Baron, Grant 2012)

For other researchers. the other researchers can find out the effectiveness of the two learning models to other language skills or based on the students’ backgrounds; the other researchers can use the similar method of study to find out the effectiveness of another kind of learning model with deeper and more complete results. For the next researchers, they may consider the other moderator variable to find the interaction between the techniques and the moderator variable since in this research, there is no interaction between the strategy and motivation. Hopefully, the other researchers may find more beneficial advantages for the teaching and learning process.

REFERENCES
Borich, G. Effective Teaching Methods7th Edition. The University of Texas Austin
Huang Kuo-shu.2012. Applying Problem-based Learning (PBL) in University English Translation Classes Chung Shan Medical University
Kemendikbud. 2014. Pedoman Umum Pembelajaran Bahasa Inggris SMA. Badan Pengembangan Sumber dayamanusia Pendidikandn Kebudayaan dan penjaminan Mutu Pendidikan Kementerian Pendidikan dan kebudayaan
Meike Imelda Wachyu & Dwi Rukmini.
The Effectiveness of Project Based Learning and Problem Based Learning for Teaching Biography Text Writing to Highly and Lowly Motivated Students

Krishnan, P. 2010. *The Effects of Think Quest Portal and Project Based Learning on English Learning*. Kuala Lumpur: University Teknologi Malaysia


Sawitri N.L.P 2012, *The Effect of ICT assisted Project Based Learning (PBL) and Learners Self Direction on Writing Competency of Sophomore Students of The International Bali Hotel*. Ganesha University.


