

## THE EFFECT OF PROBLEM BASED LEARNING AND PERFORMANCE ASSESSMENT ON STUDENTS' READING AND WRITING COMPETENCIES

I.P Suyoga Dharma<sup>1</sup>, AAIN. Marhaeni<sup>2</sup>, IG. Budasi<sup>3</sup>

Program Studi Pendidikan Bahasa, Program Pascasarjana  
Universitas Pendidikan Ganesha  
Singaraja, Indonesia

e-mail: [suyoga.dharma@pasca.undiksha.ac.id](mailto:suyoga.dharma@pasca.undiksha.ac.id)  
[agung.marhaeni@pasca.undiksha.ac.id](mailto:agung.marhaeni@pasca.undiksha.ac.id)  
[gede.budasi@pasca.undiksha.ac.id](mailto:gede.budasi@pasca.undiksha.ac.id)

### Abstrak

Studi eksperimen ini bertujuan untuk menginvestigasi pengaruh pembelajaran berbasis masalah dan asesmen kinerja terhadap kompetensi membaca dan menulis siswa kelas sepuluh SMAN 1 Mengwi pada tahun ajaran 2011/2012. Penelitian ini menggunakan rancangan 2x2 faktorial. 96 siswa dilibatkan sebagai sampel penelitian. Mereka dipilih dengan teknik sampling acak. Data kompetensi membaca dan menulis dikumpulkan melalui tes essay. Data yang diperoleh dianalisis dengan *Analysis Varian Multivariat* (MANAVA). Temuan penelitian ini adalah 1) pembelajaran berbasis masalah berpengaruh secara signifikan terhadap kompetensi membaca dan menulis siswa yang terjadi secara simultan dan terpisah, 2) asesmen kinerja berpengaruh secara signifikan terhadap kompetensi membaca dan menulis siswa yang terjadi secara simultan dan terpisah, 3) terdapat interaksi signifikan antara model pembelajaran dan tipe asesmen terhadap kompetensi membaca dan menulis yang terjadi simultan dan terpisah, 4) tidak terdapat interaksi signifikan antara model pembelajaran dan tipe asesmen terhadap kompetensi membaca siswa, 5) terdapat interaksi signifikan antara model pembelajaran dan tipe asesmen terhadap kompetensi menulis siswa.

Kata-kata kunci: pembelajaran berbasis masalah, asesmen kinerja, kompetensi membaca, kompetensi menulis

### Abstract

This experimental study aimed at investigating the effect of Problem Based Learning and Performance Assessment on reading and writing competencies of the tenth grade students of SMAN 1 Mengwi in the academic year 2011/2012. This research applied 2x2 factorial design. 96 students were selected as sample through random sampling. Data of students' reading and writing competencies were collected by using essay tests. The students' answers were scored by using analytical scoring rubric. The acquired data were analyzed statistically by *Multivariate Analysis of Variance* (MANOVA) at 5% significance level. This research discovers: 1) there is a significant effect of Problem Based Learning which occurs simultaneously and separately on students' reading and writing competencies, 2) there is a significant effect of performance assessment which occurs simultaneously and separately on students' reading and writing competencies, 3) there is a significant interaction between teaching model and assessment type on students' reading and writing competencies which occurs simultaneously, 4) there is no significant interaction between teaching model and assessment type on students' reading competency, and 5) there is a significant interaction between teaching model and assessment type on students' writing competency.

Keywords: Problem Based Learning, Performance Assessment, reading competency, writing competency

## INTRODUCTION

Students' competency is a problem which is still faced by the National Education of Indonesia. The students' competency is the "estuary" of the long and complex process encountered by the students in learning for a range of time. Many perception still regard competency as the students' result of learning in answering achievement or cognitive test. Instead, competency is not just cognitive, but also psychomotor and affective (*Undang-Undang No. 20 tahun 2003 tentang SISDIKNAS*). Operationally, competency covers knowledge, skill, and values.

In the context of foreign language instruction, i.e English, students' competency is how the students can communicate by using English. It is based on the nature of the language itself as a tool for communication. Depdiknas (2003) states that language has central role in intellectual, social, and emotional development.

To construct students' competency in English, the teachers should direct the English instruction to constructivist paradigm viewing that knowledge construction occurs through individual operation (Piaget in Elliot et al., 1996) and social interaction (Vygotsky in Elliot et al., 1996). The students must be given ample opportunity to participate actively during learning process.

Besides the area of learning process, the role of assessment can not be ignored. It is because there is a close relationship between learning and assessment context (Gagne et al., 2005). The assessment method should be directed to be able to measure students' competency covering three domains, namely: cognitive, affective, and psychomotor. Here, the assessment can be directed to the implementation of authentic assessment which attempts to measure performance in real-life contexts (McAlpine, 2000).

However, the condition in real situation is on the contrary. The paradigm of constructivist and authentic assessment are not implemented well yet. It is based on the result of empirical study through pre-observation done in SMAN 1 Mengwi. Teaching reading was still dominated by explaining materials (genre) and translating text. Then, the students were assigned to answer the questions relating to the text. The students worked individually. Next, the answers were discussed by the teacher. In assessing students' reading, *multiple-choice test*, *matching*, *true-false* and sometimes *essay tests* were used. It seems that the test types just measure students' cognitive.

Meanwhile teaching writing was done after reading. Here, the teacher explained again the concept of genre to make the students get deeper understanding. Then, the students were assigned to write genre. To score students' writing, a rubric was used. Theoretically, assessing students' writing by rubric is good. However, it was not done ideally. The teacher just assessed the students' writing from linguistic aspects, such as: grammatical structure, vocabulary, spelling, and mechanic. It was done because the working time of the teachers. In one week, the teacher should teach 24 hours. Since English is taught 5 hours in a class, the teacher should teach 5 classes. It can be imagined if in the class consists of 30 students. As the result of this condition, 80% of the students got score less than 70 for reading and 76% of the students got score less than 70 for writing in pre-test given by the researcher. These results were absolutely dissatisfied. It made teaching model and assessment type used by the teacher should be reviewed again.

By analyzing the instruction and assessment in reading and writing, it is expected that the teacher should be creative in designing instruction and assessment in English, especially, for

reading and writing skills. The creative language instruction can be reflected through (1) giving mental exercise (*minds-on*) and performance exercise (*hands-on activities*) and (2) inserting real-life problems in learning context. Meanwhile creative assessment is reflected through (1) the measurement of multi aspects of learning, (2) the collaboration of students and teacher in assessing, and (3) process and product oriented. The features of creative instruction and assessment mentioned are similar to the features of *Problem Based Learning* (PBL) and *Authentic Assessment*.

Problem Based Learning (PBL) is teaching model that uses problem scenarios to encourage students to engage in the learning process (Savin-Maden and Major, 2004). The problems are ill-structured which is fuzzy, unclear, and not yet identified (Fogarty, 1997). It directs the students to actively identify and understand the problems. It guides the students to be active in constructing knowledge by understanding the problems in which then they can give solution on the problems. This active participation makes students' critical and creative thinking develop well.

PBL is based on the principles of constructivist (Savery, 2006; Wilson, 2007;). It views that children construct their knowledge actively by interacting with social environment (Elliott et al., 1996). In addition, Celce-Murcia (2001) states that knowledge is not only transmitted to learners from teachers or books, but also that both meaning and knowledge can be collectively by learners or by learners and teachers. So, in the context of language learning, the students should be involved actively by demonstrating their knowledge during teaching and learning process. Here, the students can interact with their friends or teachers in constructing their knowledge. PBL is considered as the appropriate learning method for the modern learning paradigm. It is so since the students are brought to the real problems. Here, the students' sensitivity is challenged to understand the problem and to give solution for the problem.

In the context of teaching English, problems can be rooted from linguistic and content (cognitive) problems. It leads teaching language is not merely about grammatical structure, but also content of learning. Besides that, PBL provides ample chance for students to perform their English actively and to integrate language skills. So, when PBL is applied in language learning, linguistic and content of learnings are integrated.

In terms of assessment, authentic assessment is "a new trend" in language learning. O'Malley and Valdez Pierce (1996) states that authentic assessment serves to diagnose students' knowledge, to monitor students' progress, and to gain authentic information of students' performance. They lead the teachers to provide feedback for the students' learning. Determining goals of language instruction is the first step to be understood and established. It influences criteria to be used in assessing. So, language learning goals can be assessed validly, holistically, and meaningfully.

If the rules of authentic assessment are connected to reading and writing skills, it is mutually related. The skills train the students to demonstrate their knowledge. In reading which needs the students to understand text, the students' strengths and weaknesses can be diagnosed. It leads the teachers to give appropriate feedback for the students' knowledge development. After the feedback is given, the students' progress can be monitored. From here, the teacher know whether the feedback is maximized or not by the students. In writing skill which expects the students to produce pieces of writing, the same thing as reading can be done. Here, the authentic assessment rules can be seen more clearly than when the students read.

Authentic assessment has some types (read O'Malley and Valdez Pierce, 1996). However, here performance assessment (PA) is selected because PA has been implemented in real situation but it faces problem in implementation. Here, PA is modified in which both teachers with students assess students' writing collaboratively. The students are formed

into heterogeneous groups which mutually assess the members' writing with the checklist provided. The teacher just checks the validity of students' assessment and add correction if it is needed. It can reduce the teacher's work in assessing students' writing. Through this way, it is expected the purpose of PA can be achieved maximumly.

Based on the previous explanation about PBL, PA, reading, and writing competencies, the problems that could be analyzed were:

- Is there any significant difference in reading and writing competencies which occurs simultaneously and separately between the students taught with Problem Based Learning and those taught with the Conventional Model?
- Is there any significant difference in reading and writing competencies which occurs simultaneously and separately between the students assessed with Performance Assessment and those assessed with the Conventional Assessment?
- Is there any interaction effect of the implementation of teaching model and assessment types on students reading and writing competencies which occurs simultaneously and separately?

## METHOD

To administer this research, *Posttest Only Control Group* with *2x2 factorial design* was applied. 96 tenth graders of SMAN 1 Mengwi were selected as the sample. They were selected through random sampling. Through lottery, class X.5 was taught by PBL and assessed by PA, X.6 was taught by conventional method and assessed by PA, X.8 was taught by PBL and assessed by CA, and X.9 was taught by conventional method and assessed by CA. Treatment was done for 12 meetings followed by posttests for both skills. Then, analytical scoring rubric was used to give score. The data analysis involved descriptive and inferential analyses. Descriptive analysis aims at describing the data by measuring mean. Meanwhile, inferential analysis aims at

testing the hypothesis. Inferential analysis was done by using Two-Way MANOVA

## FINDING AND DISCUSSION

The summary of descriptive analysis is presented in the Table 1.

Table 1

source	Mean	
	Reading	Writing
PBL	83.73	90.27
CM	78.88	82.29
PA	83.88	91.46
CA	78.73	81.1

Based on the Table 1, it is concluded that (a) the students' reading competency taught by PBL (83.73) is higher than those taught by using conventional model (78.88), (b) the students' writing competency taught by using PBL (90.27) is higher than those taught by using conventional model (82.29), (c) the students' reading competency assessed by using PA (83.88) is higher than those assessed by using conventional assessment (78.73), and (d) the students' writing competency assessed by using PA (91.46) is higher than those assessed by using conventional assessment (81.1).

Next is hypothesis testing by using two way MANOVA. The summary of the calculation is presented in the Table 2.

Table 2 The Summary of MANOVA

Source	Sig ( $\alpha=0.05$ )	Note
Model	0.000	Significant
Assessment	0.000	Significant
Model*Asses sment	0.000	Significant
Model (reading)	0.006	Significant
Model (writing)	0.000	Significant
Assessment (reading)	0.003	Significant
Assessment (writing)	0.000	Significant
Model*asses sment (reading)	0.403	Insignificant
Model*asses	0.014	Significant

ment  
(writing)

---

Based on the Table 2, it is concluded that (1) there is a significant difference in reading and writing competencies which occurs simultaneously between the students taught with PBL and those taught with conventional model, (2) there is a significant difference in reading and writing competencies which occurs simultaneously between the students assessed with performance assessment and those assessed with conventional assessment, (3) there is a significant interaction effect between the implementation of teaching model and assessment type on students' reading and writing competencies which occurs simultaneously, (4) there is a significant difference in reading competency between the students taught with PBL and those taught with the conventional model, (5) there is a significant difference in reading competency between the students assessed with performance assessment and those assessed with the conventional assessment, (6) there is a significant interaction effect of the implementation of teaching model and assessment type on students' reading competency, (7) there is a significant difference in writing competency between the students taught with PBL and those taught with the conventional model, (8) is a significant difference in writing competency between the students assessed with performance assessment and those assessed with the conventional assessment, and (9) there is a significant interaction effect of the implementation of teaching model and assessment type on students' writing competency.

Based on the drawn conclusions, briefly it can be known that PBL has significant effect on students reading and writing competencies which occurs simultaneously and separately. The same finding is also discovered by Widana (2010), Elizabeth and Zulida (2012), and Othman and Shah (2013). Widana (2010) proves that the students' ability in English debate taught with PBL is higher than those

taught with conventional method. This finding implies that teaching debate is better to be done with Problem Based Learning because it can strengthen the students' critical thinking. Posing problems to students leads them to analyze and to understand the problems so that they can construct knowledge.

Elizabeth and Zulida (2012) conducts a longitudinal, qualitative ethnography study of the implementation of PBL in one class over one semester. It discovers (1) students welcomed the PBL approach and the opportunity to take more responsibility for their learning and (2) the students developed a new awareness of their learning through exposure to hands-on learning and ongoing reflection on their learning in the course. It means that PBL gives create learning experiences for the students which makes the students have positive attitudes on their learning.

In writing skill, Othman and Shah (2013) discovers PBL group showed improvements in the post-writing test, that is, their essays were richer in terms of support and arguments for each point, while the non-PBL did not show much difference in their post-writing test. This indicates that students could still acquire the course content with minimal content instruction. PBL enables the students to explore informations which relates to the topic of their writing. the more information they explore, the more inspiration they have. It makes they have various ideas to be written.

This research and previous researches prove that PBL has positive effect on students' learning. This results need explanation and analysis on how PBL has better effect on students' reading and writing competencies than conventional model. Here, analysis of theory and empirical finding during implementation are used.

PBL is based on constructivist theories of learning which stress learners' need to investigate their environment and construct personally meaningful knowledge (Arends, 2004). Reading is a receptive skill where searching meaning of texts as the concerned. When PBL is applied in teaching reading, the students have ample

chance to do it. Through exercises and practices to analyze and to answer the problems and questions, the students actively construct their knowledge and understanding about the text. Here, the students' background knowledge are stimulated so that they think critically. It makes students' knowledge is dynamic.

The implementation of PBL is started by problems that are ill-structured, open-ended, or ambiguous. An ill-structured problem is fuzzy, unclear, or not yet identified. It is often a situation that is confusing and complex with a number of interrelated concerned (Fogarty, 1997). In addition, the students are organized to work in small groups (Arends, 2004). In reading, it is started by posing linguistic problems on the text. Here, grammatical structure, mechanic, and spelling mistakes are created in the text. The students are assigned to find the mistakes. Then, the students should give solution or the correct one. The students can search information from various sources. After linguistic problems are successfully solved, it is continued to pose content problems. It aims at stimulating the students' schemata. The problems on the levels of comprehension, analysis, synthesis, application, and evaluation about the texts are given to the students. It trains the students' critical thinking in understanding and giving solution on the problems.

In PBL, the students are organized into small groups learning. The group members must be heterogenous in term of level so that collaboration occurs among the group members. With the group members, they investigate the posed problems by defining the problems, gathering known facts, paraphrasing the problems, and generate solution by sharing and having discussion with their friends in group. It makes various information and point of views can be acquired so the problems are clear. When they are clear, creative solution can be proposed. It is expected that all group members should give contribution to finish the problems/assignment given.

After group investigation is finished, it is followed by classroom discussion. One group presents the problems and the solution in the front of the class. If the other

groups have different understanding and solution, they may ask and clarify their answers. Here, discussion occurs so that learning is interactive and interesting. The students do not only learn from their group members, but also from other groups members. It makes the students can view and understand the problems from various point of views. The learning condition created by PBL is appropriate to the components to be success in reading argued by Fielding and Pearson (1994). The components are (1) extensive amount of time in reading, (2) direct strategy instruction in reading comprehension, (3) opportunities in collaboration, and (4) opportunities for discussion on responses to reading.

In teaching writing, PBL also has significant effect on students' writing competency. writing is a productive skill where the students should produce something, in the context of this research is certain genre. This skill is taught after reading. In reading, the students has trained to respond on posed problems. The students answer them in essay or narrative form. It implies that the students' linguistic and content have been trained. In other words, the students have basic writing ability when reading is taught.

In writing, inspiration is needed to create ideas. Some problems are posed to the students. All problems are related to content or ideas. It expects to activate students' prior knowledge of what topic that they should write. Here, the students' imagination grows and develops. It is as the embrio of their writing. When the students are assigned to write, they can think critically and creatively on what and how they should write. The problems posed are as a bridge for the students to produce high writing product.

When collecting and making draft of writing, the students can share to their group members or from other friends. Collaboration among students occurs because they may face certain problems during writing. Here, low level students can ask to their higher level friends. And the higher level should be willing to help their friends. They also may have discussion in group and comment on their friends'

writing. If their friends do not give satisfy comments, the students can ask to the teacher. So that, the students can have feedback from their group member and teacher. It makes writing is accessible for writing.

Based on the explanation of learning condition created by PBL in reading and writing, it can be concluded that PBL creates critical and creative thinking. Working on ill-structured problems leads the students to actively investigate the problems. Here, interrelated knowledges are required so that the problems are clear and easy to be understood. High order thinking is really needed. By the time, the students can have critical thinking. Besides that, PBL is open-ended. It means that single correct answer is not required. It gives more chance for the students to give various answers. By critical and creative thinking, the students easily understand the materials learned.

The conclusion is supported by three researches done by Dult (1997), Ahern-Rindell (1999), and Duch, et al., (2002). Dult (1997) states that critical thinking can be improved by learning activity which is oriented on problem solving in real live. Ahern-Rindell (1999) discovers that problem solving activities occur by involving high mental activity and interaction among students which can improve their critical thinking. Meanwhile, Duch, et al (2002) find out that instruction which is problem and problem analysis orientation can develop students' critical thinking.

Another conclusion from the result of hypothesis testing on the main effect discovered that conventional model is inappropriate for teaching reading and writing. Conventional model of learning mostly emphasizing on translation and transferring knowledge from teacher to the students. It is mostly bilingual translation. By knowing the meaning of each word in the text, it is believed that the students can understand easily the text. To understand the genre learned, the teacher explains it, in term of social function, generic structure, and language features. The students listen to the explanation well to understand the text. Then, it is continued to analyzed example of text. Here, the students tend to

be passive. They mostly receive knowledge from the teacher and less oppurtunities to construct knowledge by themselves.

Conventional model is also featured by individual learning. The students are not organized into small groups. It creates high competition among students. Even though, sometimes the students share answer to their friends. If they face problems, they tend to keep them. Interaction among students are rarely found. It is usually interaction between students and teacher. so that, the students just have feedback from the teacher.

In teaching writing, the students are assigned to write genre. Here, the teacher gives freedom for the students to write. Before writing, the teacher reviews again the basic concept of genre. It starts from definition, social function, generic structure, and language features. If the students have difficulties, they may ask to the teacher. There is no sharing and discussion sessions among students. It is done to exercise the students to be self-regulated. So that they are accustomed to work alone which makes them to be more ready in examination.

Furthermore, it is also proven that performance assessment affects significantly on students' reading and writing competencies. The same finding is also discovered by Marhaeni (2005), Basmantra (2011), El-Kuomy (2009), Charvade, Jahandar, and Khodabandehlou (2012). Basmantra (2011) proves that performance assessment has significant effect on students' writing achievement of the students. It implies that performance assessment is better to be implemented in teaching writing than conventional assessment.

Marhaeni (2005) researches on the effect of Portfolio assessment and achievement motivation on students' writing ability. Portfolio assessment is a type of performance assessment. It is done on for the students who take writing class in IKIP Negeri Singaraja. This research discovers that portfolio assessment has positive effect on students' writing ability. It is argued that portfolio assessment is appropriate to the nature of writing as a process.

Meanwhile, Charvade, Jahandar, and Khodabandehlou (2012) investigate portfolio assessment as a performance assessment. Here, portfolio assessment is compared to traditional assessment types i.e. standardized test. This research discovers that the students in the portfolio assessment group outperformed the students in the control group in their reading comprehension ability. Finally the findings of this study suggest that portfolio assessment empowers students' reading comprehension ability. The implementation of portfolio assessment directs students to demonstrate their knowledge in learning exercises. Through the collection of the students' performance record, the teacher can monitor their students' learning.

EI-Koumy (2009) conducts a research on the effect of performance assessment on EFL students' basic and inferential reading skills. This research involves 64 first-year secondary school students in Menouf Secondary School for Boys at Menoufya Directorate of Education (Egypt) during the academic year 2006/2007. This research discovers that there was a statistically significant difference between the two groups of the study in the basic reading skills in favor of the control group and in the inferential reading skills in favor of the experimental group. These findings suggest that classroom performance assessment is less effective in improving secondary school EFL students' basic reading skills, but more effective in developing their inferential reading skills than traditional assessment. In light of these findings, the researcher recommends that a multi-dimensional comprehensive approach to classroom assessment is more likely to improve both the basic and inferential reading skills of intermediate-level EFL students.

This research and previous researches prove that Performance assessment has positive effect on students' reading and writing competencies. Here, theoretical and empirical analyses are required to explain how this type of assessment has better effect than conventional assessment.

Performance assessment assesses how students demonstrate their

understanding and application of knowledge and skills (Marzano, Pickering, and McTighe, 1993). It makes assessor can assess holistically the domains of competency, namely: cognitive, affective, and psychomotor. In the context of teaching reading, the students' understanding can be observed from their responses or answers. The cognitive level starts from comprehension, analysis, application, evaluation, synthesis, paraphrasing, and behaving on certain situation in the text. In answering, the students should answer in complete sentence(s). Here, linguistic knowledge which covers grammatical structure, vocabulary, spelling, and mechanic are also required. Briefly, the students' understanding and how they transform it into correct sentences are the focus of students' demonstration or performance knowledge in reading.

The same as reading, the students also demonstrate their knowledge in writing. Here knowledge of the world reflected on ideas and its organization and linguistic are required. It is because the students should produce certain type of genres in writing. Writing is more complicated than reading because the students should create writing. To do it, the writer must have many sources for ideas, understand, organize, and transfer them into correct linguistic rules.

When performance assessment is implemented, it concerns on assessing students' demonstration of knowledge during learning process and product of learning (Nitko, 2001). It serves to monitor and diagnose students' performance. By concerning process and product, the students have ample feedback during their learning. In the context of assessing reading competency, it uses to analyze the students' answers. At the first meeting, the students might have problem in answering with complete sentence. Here, the teacher and the students' peer may give correction and help the students to make the correct one. In the next meeting, the students have difficulty in summarizing or evaluating the text. Here, the teacher and their friends may give correction. This condition leads the students to have feedback from both their friends and teacher. Feedback itself is a factor which makes learning to be fast,

easy, and accessible for the students learning (Astin, 1993). From the feedback, the students can know their weaknesses so that they can make improvement soon.

In the context of teaching writing, feedback is very essential for the students. The students need it significantly in editing and proofreading stage. It is impossible that the students can produce good writing at once. Giving feedback during the stages leads the students to know earlier their weaknesses. By knowing them, the students can learn and aware their mistakes so that they do not make the same mistakes again in the future. As the result, the student can produce high quality writing product.

Performance assessment consists of performance task and scoring rubric (Nitko, 2001). The rubric consists of dimension and criteria which have to be mastered in learning, in this context is reading and writing. It gives guidance on what the students should achieve in reading and writing. Socializing and training the students on how to use rubric is the first step which has to be done. When they understand the criteria clearly, they are able to use the rubric. The use of rubric can also keep the students focus in achieving reading and writing goals. So, the students is not out of tract during learning.

In reading, rubric is usually simpler than writing rubric. It is because the students just need to respond on the text given. So, the appropriateness of answers acquired with what answers expected by the question is more concerned. Linguistic aspects such as grammatical structure and spelling is considered less important. It just gets little score reading. However, it does not reduce the importance of the use rubric in reading. Rubric keeps the students to be focus to search information and construct meaning from the text so that they can answer the question given correctly.

In the context of teaching writing, rubric is felt its significance. It is because the students should produce writing products. It encounters complex processes starting from collecting ideas, organize them, and write them based on linguistic rules. The writing task commonly assigns the students to write paragraph or even an

essay. High order thinking is needed to create deep and large ideas to organize into well grammatical structure sentences. The students are also required to put transitional signals so the writing is unite and coherence. This complex writing needs rubric which covers analytical parts of writing. It can give pictures on what they should do in writing and how they should write to meet the writing goals.

The conditions is different from conventional assessment. This type of assessment just focus on the product of learning. The process of learning is less concerned. In reading, it is characterized by the used of paper-pencil test focusing on multiple choice test, matching, and filling the blank. The students just need to response by crossing the options provided. Here, the students can not demonstrate their knowledge as in performance assessment. So, this assessment just measure students' cognitive domain.

Since it is done at the end of learning, less feedback is acquired by the students. The feedback is just given for students' product. It is usually in the form of score that the students acquire. There is no notes and comments on the mistakes made by the teacher. Except in writing, scratching is found on the misspelling, capitalization, and grammatical structure. It seems that the feedback is late to come. If the students get feedback earlirer, the students might make improvement immediately.

In conventional assessment, there is no scoring rubric provided for the students as guidance in their learning. Here, the students just answer without knowing what aspect of their answer which is scored. Particularly in writing, scoring rubric is really needed. It keeps the students' focus on what they should write and how their works are assessed.

Lastly, it is found that there was a significant interaction between teaching model and assessment type on students' reading and writing competencies which occurs simultaneously. It is concluded that PBL and Performance assessment are good combination to be implemented in learning, particularly in reading and writing skills. The students taught by using PBL

and assessed by performance assessment get the highest score in reading and writing.

Morison et al., (2007) argue that the problem solving process is suitable to be assessed with performance assessment. It helps the teacher to diagnose what problems that students face during investigating the posed problems. By knowing them, the teachers can lead the students to solve the problems. Next, the students can learn from the proposed solution. It makes them do not have difficulties if they face the same problems later.

Reading and writing are on going process in constructing meaning. It is started by understanding the contents of learning. PBL leads the students to understand the content (ideas) by activating the students schemata. Then, performance assessment reports holistic information on the students understanding process and its product of understanding. Here, in reading is their answers about the text and pieces of writing in writing skills. When the students know their strengths and weaknesses, they can improve their competency later.

Further analysis on the simple effect, it was discovered that insignificant interaction occurs in reading skill, but significant interaction occurs in writing skill. It is predicted as their different nature. Reading is receptive skill, but writing is productive skill. In writing, the students should produce pieces of writing. It needs teaching model and assessment type which can monitor their performance step by step. With teaching model which can stimulate their background knowledge and assessment which can guide to organize and put them into words, the students can produce high quality writing. It is different from reading in which the students should response writer's ideas. Here, the teaching model has more significant role than assessment because the students construct understanding from the writer's ideas firstly.

## CONCLUSION AND SUGGESTION

Based on the results of hypothesis testing, it is concluded that (1) there is a

significant effect of Problem Based Learning which occurs simultaneously and separately on students' reading and writing competencies, 2) there is a significant effect of performance assessment which occurs simultaneously and separately on students' reading and writing competencies, 3) there is a significant interaction between teaching model and assessment type on students' reading and writing competencies which occurs simultaneously, 4) there is no significant interaction between teaching model and assessment type on students' reading competency, and 5) there is a significant interaction between teaching model and assessment type on students' writing competency.

Based on the findings, four suggestions are recommended, namely: (1) the English teachers should apply PBL in reading and writing, (2) PA should be used as alternative assessment in reading and writing skills, (3) in assessing process, the teachers should invite the students in assessing process, and (4) for the other researchers, it needs further researches to find out why the interaction does not occur in reading skill.

## REFERENCES

- Ahern-Rindell, A.J.1999. Applying Inquiry-Based and Cooperative Group Learning Strategies to Promote Critical Thinking. *Journal of College Science Teaching*.28(3):203-208
- Anderson, Orin W and Krathwohl,David R.2001. *A Taxonomy for Learning, Taching, and Assessing*. New York: Addison Wesley Longman Inc.
- Arends, Richard I.2004. *Learning to Teach*. New York: McGraw-Hill
- Astin, Alexander W.1993. *Assessment for Excellence : The Philosophy and Practice of Assessment and Evaluation in Higher Education*. USA: The Oryx Press
- Burrowes, P.A. 2003. "A Student-Centered Approach to Teaching General Biology that Really Works: Lord's Constructivist Model to Put Test".

- The American Biology Teacher*.  
65(7):491-501
- Celce-Murcia, Marianne.2001. *Teaching English as a Second and Foreign Language*. Boston: Heinle & Heinle
- Charvade, Mahshid Rostami., Jahandar, Shahrokh & Khodabandehlou, Morteza.2012. The Impact of Portfolio Assessment on EFL Learners' Reading Comprehension Ability. *English Language Teaching*. Vol 5. No 7. Published by *Canadian Center of Science and Education*
- Depdiknas.2003. *Kurikulum 2004 Standar Kompetensi Mata Pelajaran Bahasa Inggris*. Jakarta: Departemen Pendidikan Nasional.
- Duch, B.J., Allen, D.E., and White, H.B.2002. *Problem Based Learning: Preparing Students to Succeed in the 21st Century*. Availbale at <http://www.pondnetwork.org>. Retrieved on July 10th, 2013.
- Dult, B.W.1997. Coaching Winner: How Teach Critical Thinking. Available at <http://www.kcmetro.ccc.mo.us/longview/ctac/winner.htm>. Retrieved on July 10th, 2010.
- Elizabeth, M.A and Zulida, A.K. 2012. Problem-Based Learning: A Source Of Learning Opportunities In Undergraduate English For Specific Purposes. *The Journal of Social Sciences*. No 3 Vol 1. ISSN 2305-4557. Page 47-56
- El-Koumy, Abdel Salam Abdel Khalek.2009. The Effect of Classroom Performance Assessment on EFL Students' Basic and Inferential Reading Skills. *Suez Canal University*. Egypt
- Elliot,Stephen N. Kratochwill, Thomas R. Littlefield, Joan and Travers, John F. 1996. *Educational Psychology: Effective Teaching, Effective Learning*. Medison: Brown and Benchmark Publisher
- Fogarty, Robin.1997. *Problem Based Learning and Other Curriculum Models for the Multiple Intelligences Classroom*. United States of America:IRI/SkyLight Training and Publishing, Inc
- Fraenkel,J.R. and Wallen,N.E.2008.*How to Design and Evaluate Research in Education*. Second Edition. New york:Mcgrow-Hill Book Co.
- Gagne,Robert M. Wager,Walter W. Golas,Katharine C and Keller, John M.2005. *Principles of Instructional Design*. New York: Holt,Renehart and Winston,Inc
- Marhaeni. 2005. *Pengaruh Assessment Portfolio dan Motivasi Berprestasi dalam Belajar Bahasa Inggris Terhadap Kemampuan Menulis dalam Bahasa Inggris*. Unpublished Dessertation: Proram Pascasarjana Universitas Negeri Jakarta
- Marhaeni, 2007. *Self-Assessment in EFL Instruction: Why does It Matter*. Presented in the 55<sup>th</sup> TEFLIN International Conference. Jakarta. December 4<sup>th</sup>-6<sup>th</sup>.
- Marzano, Robert J., Pickering, Debra., and McTighe, Jay.1993. *Assessing Student Outcomes: Performance Assessment Using the Dimensions of Learning Model*. Association for Supervision and Curriculum Develoment: Virginia
- McAlpine,D.2000. Assessment and the Gifted. *Tall Poppies*, 25(1)
- Mislevy, Robert J and Knowles, Kaeli T.2002. Performance Assessments for Adult Education: *Report of a Workshop of Board on Testing and Assessment Center for Education*. National Academy Press: Washington, DC.
- Morrison, Gary R., Ross, Steven M., Kemp, Jerrold E and Kalman, Howard K. 2007. *Designing Effective Instruction*. USA: John Wiley and Sons, Inc
- Myer, J.1999. The Effect of Problem Based Learning. *The Interdisciplinary Journal of Problem Based Learning* 2(1) 9-20
- Nitko, A.J.2001. *Educational Assessment of Students*. New Jersey: Merrill
- Olson, Carol Booth and Land, Robert.2007. A Cognitive Strategies Approach to Reading and Writing Instruction for English Language Learner in Secondary School.

- Research in the Teaching of English Journal*. Volume 41(3). 269-303
- O'Malley, J.M and Valdez Pierce, L. 1996. *Authentic Assessment for English Language Learners*. New York: Addition-Wesly Publishing Company.
- Othman, Normala and Shah, Mohamed Ismail Ahamad. 2013. Problem-Based Learning in the English Language Classroom. *English Language Teaching*; Vol. 6, No. 3; 2013 ISSN 1916-4742 E-ISSN 1916-4750 Published by Canadian Center of Science and Education
- Reynolds, Cecil R., Livingsto, Ronald B., and Willson, Victor. 2010. *Measurement and Assessment in Education*. New Jersey: Pearson Education, Inc
- Salvia, J and Ysseldyke, J.E. 1996. *Assessment. 6<sup>th</sup> Edition*. Boston: Houghton Mifflin Company.
- Savery, J.R. 2006. Overview of Problem Based Learning: Definitions and Distinctions. In Ertmer, P.A., Macklin, A.S., Alper, A., Bodner, G., Duffy, T., Hmelo-Silver, C., Jonassen, D., O'Rourke, K., Savery, J., Watson, G., Woods, D., and Mong, C. (Eds). *The Interdisciplinary Journal of Problem Based Learning*, 1(1) 9-20. Accessed on December 5th, 2013. It is available at <http://www.isetl.org/conference/presentation.cfm+pid=600-23k>.
- Savin-Maden, Maggi and Major, Claire Howel. 2004. *Foundation of Problem-based Learning*. New York: Open University Press
- Widana, I Gede Eka. 2010. Pengaruh Model Pembelajaran Berbasis Masalah (PBL) dan Tingkat Kecemasan terhadap Kemampuan Berdebat dalam Bahasa Inggris Siswa Kelas XI IPA SMA Negeri 1 Kuta Tahun Pelajaran 2009/2010. Unpublished Thesis. Undiksha