The Impact of the Implementation of the PBL for EFL Interdisciplinary Study in a Local Thai Context

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Abstract

Can Problem-Based Learning (PBL) principles and practices be applied to language education, especially within an academic writing course? The answer to this question remains ambivalent to many language teachers and educators. This study describes how PBL principles are used as the fundamental basis of restructuring English as a foreign language (EFL) writing course, called Writing3, at a Thai university. The study also examines students' and teachers' perceptions as related to their learning experiences. The case study involves 182 English major students and 3 English teachers who participated in learning and teaching of an EFL academic writing course (Writing 3) in the first semester of academic year of 2012. Pre and post survey questionnaires (N=166) are used and the results are analyzed through a paired samples t-test to compare whether there is a significant difference in students' perception towards the benefits gained in their learning experience from the PBL process. The focused benefits gained in this case are motivation in learning, communication skills, collaborative skills, critical thinking, problem-solving and self-directed learning skills. Furthermore, triangulation between teachers' perception towards students' learning which was obtained from questionnaires, interviews, and students' final grade, also confirm that the PBL process used with the Writing 3 course yielded a positive impact on both students' and teachers' learning experiences.

Keywords: Proble-Based Learning, language education, English as a foreign language (EFL), PBL syllabus design for a local context

1. Introduction

Implementing Problem-Based Learning (PBL) has widely spread across many different educational fields and across many different cultures and countries. The reasons most practitioners and scholars have given a similar answer is because a paradigm shift has occurred in education where learners are at the center of learning. The teaching environment and classroom dynamic must be active and PBL provides opportunities to achieve this. The implementation of PBL varies in form and level depending on local contexts. Whether PBL is incorporated at a component level or in the entire curriculum, they are grounded in the same principles: cognitive, content, and social learning (Graaff & Kolmos, 2007). This study is one of many examples that advocate the positive impact of PBL implementation in a challenging local context. After a long journey of cultivating relevant knowledge and experience in a form of design based research, the result of this case study is the final indicator to deliberate the impact of the PBL implantation with language education in a Thai context. The paper describes how the course syllabus is reconstructed in order to allow spaces of PBL practice with 182 English major students and three English teachers. This particular case study aims to answer the following major research question and two subsidiary research questions:

Main question: What is the impact of implementing PBL with EFL interdisciplinary study in a Thai university context? **Sub-question 1:** What values and competences do the design and practice of PBL in EFL interdisciplinary study contribute to student learning outcomes?

Sub-question 2: What values do the practice of PBL organized studies contribute to the teachers' experience?

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2. Literature Review

2.1. PBL implementation in the field of English as foreign language learning (EFL)

The main purpose of teaching and learning a second and a foreign language has been shifted to assisting learners to achieve the communicative competence (Hymes, 1972; Canale &Swain 1980). Acquiring and achieving communicative competence means to be able to function or apply knowledge and skills beyond the classroom context and this requires knowledge, skills, and a positive attitude of learners. Recently, PBL has been implemented with the English as a second language (ESL) and English as foreign language (EFL) classrooms because of its common expected learning outcomes sync in with language learning: communication skills, collaborative and problem-solving skills, deep content learning and autonomous learning. Studies indicate that PBL aligns with language learning principles in which learners learn the target language by using it in a meaningful way to them. Previous studies of implementing PBL with ESL and EFL classes claim positive effects on both learners and teachers in terms of motivation, content learning, and practical skills (Mathews-Aydinli, 2007; Jiriyasin, 2011; Ng Chin Leng, 2009; Othman& Shah, 2007; Yusef, 2010). However, mostly the studies were conducted in a small scale which involved 10-80 participants. There are a few bigger scales (over one hundred participants) of study in implementing PBL in an EFL context. Results of these studies also confirm the positive effects on both teachers' and students' learning experiences; however, it is also emphasized that a large scale of PBL implementation cannot be accomplished without encountering many obstacles (Forrester & Chau, 1999; Hallingger, Blackwood, & Tannathai, n.d.).

2.2. Design elements of PBL syllabus: in consideration of local contexts

As of present the implementation of PBL has been done in different disciplines, at different levels, in different countries or cultural contexts, and in different forms or modes. A variety of PBL implementation has been accepted due to the sensitivity of curriculum designers and researchers towards the diversity of the existing local cultures. This is because there is a belief that culture strongly influences curriculum design, teaching and learning practices. As many PBL experts all seem to agree that one form of PBL does not work with all contexts, but it must be modified and redesigned to suit each particular context (Kolmos, Graaff, & Du, 2009; Savin-Baden & Major, 2004; Barrett, 2005). As Savin-Baden and Major (2004) recommend that there are many elements and levels of the local cultural aspect to consider when implementing PBL (change), ranging from national, institutional, disciplinary, and individual cultures. Besides the cultural issue, an alignment between the philosophical principles underpinning PBL and four major elements of curriculum design (learning outcome, content and material, learning and teaching method, and assessment) must be considered when redesigning a PBL course or curriculum. These elements are taken into a serious thought and consideration in restructuring the PBL syllabus for Writing 3 course which offered in the first semester of the academic year 2012.

3. Restructuring an EFL Writing Course (Writing 3)

Individual writing activities have been preferred and popularly used as a part of teaching and learning writing for many years, especially in an EFL context. Writing 3 is compulsory for English major students at Mae Fah Luang University. In the previous semesters writing activities were individual based and focused on a final product, which was an academic paper. Though writing process has been used to foster students' learning, complaints from both teachers and students regarding the correlation of the final grade and learning process has continuously been the issue of concern. The aim of implementing PBL into this learning scenario is to at least minimize these concerns and further enhance students' academic knowledge and practical skills. As a result, the course syllabus of Writing 3 was redesigned based on alignments between the PBL principles, the local cultural context and the existing syllabus which including learning outcome, content and material, learning and teaching method, and assessment. Furthermore, in reconstructing the course, three major pillars (English communicative competence, PBL process, and discipline content) are placed in consideration for revising the new course objectives of the modified PBL semester module for the EFL Interdisciplinary Study. The PBL practice in this case is called embedding PBL into a research project. The following steps were applied in reconstructing the course.

- 1. Learning outcomes of PBL subjects and the research project must be first clarified.
- 2. Lectures should be interactive, supported by stimulus activities, and serve the research project.
- 3. Research themes must be open-ended and lead to innovative learning. The themes must be posed at the very beginning of the semester, by the PBL supervisor team.
- 4. Research topics and research questions must be within the premise of real-life problems, meaningful to learners, and relevant to the content of the PBL subjects. They must be formulated by students.
- 5. The research topics must allow multiple research methods and multiple findings.
- 6. PBL process requires feedback and deadline.
- 7. Students are also required to acquire peer and self- assessment skills by attending an intensive workshop and continue to practice peer and self assessment throughout the semester.

The following figure also illustrates the relevant elements to be considered when designing and implementing PBL.

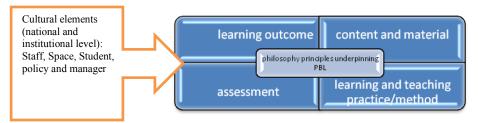


Figure 1. Elements influence the design of the PBL syllabus

The objectives of the course are reformulated based on the elements presented in figure 1, details as follows:

- 1. Developing concepts of conducting a research project.
- 2. Practicing the research process by locating resources and efficiently utilizing the resources, formulating research questions, investigating the research topic and processing drafts and revisions of research papers.
- 3. Practicing the PBL process by contributing in collaborative learning, autonomous learning, peer and self-assessment in order to complete the research project.
- 4. Writing an effective abstract and an academic paper.
- 5. Developing editing skills.
- 6. Developing oral presentation and communication skills.

The new approach to learning Writing 3 also involves redistribution of the following elements of the course: content and learning activities, time allocation, and assessment. First, is the modification and redistribution of the course content, learning activities, and learning materials focusing on the process of academic writing rather than the product. In addition to the content of academic writing, PBL principles and processes are introduced to students in the form of workshops. Consequently, lecture time is reduced and is made to be interactive by emphasizing content discussion and knowledge sharing among learners. Before the lecture sessions, students are required to study materials so that they can question what they do not understand and share what they do understand during the sessions. Second, is the modification and redistribution of allocated time for different learning activities. The major change is that lecture time is minimized to 15 hours over a semester or 1/3 (total 45 hours) of total allocated contact hours, as compared to the previous course time which gave all 45 contact hours to lecture time alone. The remaining lecture time of the new approach was allocated to active hands-on workshops (12 hours) which require students to actively practice and share knowledge and skills. Furthermore, supervision time (18 hours) was also allocated and separated into two types. The first type is two formal seminar- supervisions which require every team and every section function in the same manner. Each formal seminar-supervision lasted about one hour per team and five percent of the total score was given based on the assigned rubric. The second type is informal meetings which are initiated by students, depending on the need of each team. Third, is the modification and redistribution of learning assessment. Forty percent of the total score is allocated to the PBL process which involves supervision and panel discussion (20%), PBL workshop (10%), and peer and self-assessment (10%). The other sixty percent is distributed to the academic writing products which involve written proposals (15%), two written drafts (35%), and a written abstract (10%). The figure below illustrates the redistributed time allocation of course activities throughout one semester.

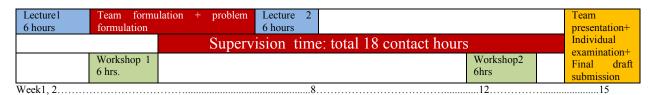


Figure 2. Activities and time allocation for the reconstructed course

4. Methodology

4.1. Participants and the setting

The newly designed PBL writing syllabus was implemented with 182 students and three teachers, including the researcher. The period of the implementation was June 2012- October 2012. However, collected data from pre and post surveys was from 166 students. Due twelve students were absent on the days pre-survey was administrated; therefore, post-survey was also collected only from those students who took pre-survey in June 2012. Furthermore, qualitative data was collected from two

teachers via individual semi-structured interviews. It is noted that even though the researcher took part in facilitating the learning process, the interviewed data excluded the researcher for the purpose of subjectivity.

4.2. Instruments and procedure

For the purpose of validity of the assessments of the impact of implementing PBL semester module for the EFL Interdisciplinary Study in which embedding PBL into a research project, the use of triangulation information is central to this study. Therefore, instruments used for data collection for this case study consisted of the following:

- 1. Student questionnaire which consists of Likert scale survey in forms of pre and post surveys (25 items) and open-ended questions (5 items).
- 2. Teacher questionnaire which consists of 1) Likert scale (20 items); this part is for the teachers to assess students learning, and 2) open-ended questions for the teachers to reflect on the practice of PBL in their context (5 items).
- 3. Teacher interview in the form of an individual semi-structured interview
- 4. Students' grades (based on a scale of 100%, the range from A-F grades, were also used to assess students' performance in accordance to the objectives and the grading criteria of the course.

5. Findings and Analysis

The analysis of data from different sources is based on 1) A paired samples t-test to compare the results of pre and post surveys from students' self assessment (N=166); 2) content analysis is used with qualitative data; and 3) a summary of teachers' perception towards their students' learning from Linkert scale questionnaire and a summary of individual semi-structure interviews from two teachers; and 4) students' final grade. The findings and the analysis of each element are as follows.

5.1. Result of pre and post survey questionnaire from 25 items of student questionnaire

A paired samples t-test was conducted to compare the before and after self rating of students on: 1) the overall self assessment on the overall learning outcomes; 2) level of motivation; 3) level of collaboration; 4) level of PBL process in practice; 5) level of self-directed learning; 6) level of communication skills; 7) level of utilization of peer assessment; and 8) level of critical thinking skill.

Table 1. Statistical result from Paired samples t-test

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Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair	AVERPRE	3.3694	166	.58723	.04558
1	AVERPOST	3.8484	166	.75289	.05844
Pair	MOTIPRE	3.3052	166	.61454	.04770
2	MOTIPOST	3.7390	166	.69447	.05390
Pair	COLLPRE	3.4895	166	.62967	.04887
3	COLLPOST	3.9111	166	.83258	.06462
Pair	PBLPRE	3.4596	166	.57145	.04435
4	PBLPOST	3.9045	166	.70818	.05497
Pair	SDLPRE	3.4930	166	.66321	.05148
5	SDLPOST	3.8323	166	.83252	.06462
Pair	COMPRE	2.7972	166	.77048	.05980
6	COMPOST	3.7510	166	.84939	.06593
Pair	PEERPRE	3.3976	166	.71461	.05546
7	PEERPOST	3.8855	166	.76406	.05930
Pair	PRE21	3.38	166	.701	.054
8	POST21	3.91	166	.769	.060

Paired Samples Test

			Paire	d Differences					
				Std. Error	95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	AVERPRE - AVERPOST	4790	.78268	.06075	5990	3591	-7.886	165	.000
Pair 2	MOTIPRE - MOTIPOST	4337	.55106	.04277	5182	3493	-10.141	165	.000
Pair 3	COLLPRE - COLLPOST	4217	.87423	.06785	5557	2877	-6.215	165	.000
Pair 4	PBLPRE - PBLPOST	4449	.82124	.06374	5708	3191	-6.980	165	.000
Pair 5	SDLPRE - SDLPOST	3394	.82957	.06439	4665	2122	-5.271	165	.000
Pair 6	COMPRE - COMPOST	9538	1.06547	.08270	-1.1171	7905	-11.534	165	.000
Pair 7	PEERPRE - PEERPOST	4880	.97383	.07558	6372	3387	-6.456	165	.000
Pair 8	PRE21 - POST21	53	.977	.076	68	38	-6.994	165	.000

The statistical results of the SPSS can be interpreted and analyzed as follows:

- 1. Pair1 compares the average of all 25 items of pre-test (M=3.3694, SD=.58723) and post-test (M=3.8484, SD=.75289); t (165) = -7.886, p= .000 indicate that there is a significant difference between the overall result of the pre-test and the post-test.
- 2. Pair2 compares the average of the clustered motivation items (1, 14, 25). The result of pre-test (M=3.3052, SD=.61454) and post-test (M=3.7390, SD= .69447); t (165) = -10.141, p= .000 indicate that there is a significant difference between the pre-test and the post-test under the cluster of students' motivation. This means students' motivation in learning has increased after going through PBL process.
- 3. Pair3 compares the average of the clustered collaboration skill items (2, 4, 7, 12). The result of pre-test (M=3.4895, SD=.62967) and post-test (M=3.9111, SD=.83258); t(165) = -6.215, p= .000 indicate that there is a significant difference between the pre-test and the post-test under the cluster of collaboration skill. This means students' collaboration skill has increased after going through PBL process.
- 4. Pair4 compares the average of the clustered PBL process items (3, 5, 10, 19, 20, 21, 22). The result of pre-test (M=3.4596,SD=.57145) and post-test (M=3.9045, SD=.70818); t (165)=-6.980, p=.000 indicate that there is a significant difference between the pre-test and the post-test under the cluster of PBL process. This means PBL process is incorporated in teaching and learning of Writing3.
- 5. Pair5 compares the average of the clustered self-directed leaning skill items (6, 8, 9, 11, 13, 15). The result of pre-test (M= 3.4930, SD=.66321) and post-test (M=3.8323, SD=.83252);t (165)= -5.271,p= .000 indicate that there is a significant difference between the pre-test and the post-test under the cluster of self-directed learning skill. This means students' self-directed learning skill has increased after going through PBL process.
- 6. Pair6 compares the average of the clustered communication skill items (16, 17, 18). The result of pre-test (M=2.7972, SD=.77048) and post-test (M=3.7510,SD=.84939); t(165)= -11.534, p= .000 indicate that there is a significant difference between the pre-test and the post-test under the cluster of communication skill. This means students' communication skills have increased after going through PBL process.
- 7. Pair7 compares the average of the clustered peer and self-assessment items (23,24). The result of pre-test (M=3.3976, SD=.71461) and post-test (M=3.8855, SD=.76406); t (165) = -6.456, p= .000 indicate that there is a significant difference between the pre-test and the post-test under the cluster of peer and self-assessment. This means students have strongly taken part in peer and self-assessment, as stated in the course objective.
- 8. Pair8 compares students' critical thinking skill. The result of pre-test (M=3.38, SD=.701) and post-test (M=3.91, SD=.769); t (165) = -.6.994, p= .000 indicate that there is a significant difference between the pre-test and the post-test on students' critical thinking skill. This means students perceive that PBL process used with Writing3 course has encouraged and increased their critical thinking skill.

5.2. Result of teacher assessment on students' learning

The teachers' perception towards their students' learning development, rating Likert scale, can be summarized as follows.

- 1. Both teachers agreed that their "students have made progress in the development of collaborative skills and self-directed learning skills" once PBL process is incorporated into their teaching and learning contexts. This indicates that the PBL process has raised their motivation in learning through working on the research project collaboratively.
- 2. Both teachers also agreed that practicing PBL has helped their "students exhibit the development of their commutation skills which including both English writing and speaking or presentation skills."
- 3. Both teachers also agree that PBL implemented in their classroom contexts "has enhanced their students' (deep) learning content."

5.3. Qualitative data from 2 teachers completed open-ended questionnaire questions (a reflection notes)

The result from this part comes from the response to reflective questions by two English teachers. Item 1 asked teachers to give a description of PBL practice in their contexts. Teacher 1 stated that existing problems and potential problems were used as the first step to drive students' learning. Students were encouraged to be aware of those problems. Then students began to look for ways to deal with the problems by searching knowledge/information to help them cope with the problems. Along the way students learned new knowledge from the subject content itself (lectures) and from their working process. Consequently, they learned about themselves, as well as learning to solve the problems. Similarly teacher 2 stated that the focus of student research projects, which emphasized the PBL process, was on students' interests and collaboration. First, students were asked to think about a problem or a concern related to their context. Students chose team members on their own. Together they planned and went through the research process and the PBL process. Along the process, practical skills were practiced such as analytical thinking, problem-solving, reading, note taking, communication, collaboration, and evaluating information and their own learning. Item 2 asked teachers to share and point out challenges and difficulties that they or their students encountered during the implementation period. Teacher 1 expressed that her students were confused in the beginning. "They did not have a clear direction in their learning and they seemed to be frustrated with managing ideas and information." However, after a few

meetings or consultations they began to be able to shape up their ideas and directions in learning "by mid-semester, they seemed to be clear in their work and its process." Teacher 2 responded that "it is difficult to maintain and balance an appropriate role as a PBL supervisor; when not too control of students' work and when to step in. The second challenge was how to monitor students' work process in terms of being fair and equal in their team contribution. Lastly, time demands were a big issue because PBL process requires a lot of time. I realized that being a PBL facilitator requires more that the academic and the teaching skills." The last item of the open-ended questionnaire asked teachers to share the best experience or the advantages of implementing PBL in their context. Teacher 1 expressed that "I feel that students were proud of themselves after realizing that they can learn be themselves, tackled problems by themselves, and gained new knowledge by themselves." She further pointed out that "this approach allows students to see their own potentials and I also have learned new things from working alongside the students as well." Teacher 2 also responded similarly on this item, as she stated that "the best experience was that students got to maximize their learning. They learned through self-discovery and hands-on experience. It is a realistic learning approach and students learned to work with other. As a teacher, I also learned about strengths and weakness of each individual student."

5.4. Result of teacher interviews

In the first semester of academic year 2012, these two interviewees fully participated in the PBL process used with Writing 3 course. The general description of how the PBL process started was that from the first week of the semester students started to formulate their thoughts and the topic of their interests. Lectures of needed content were given during week 1-8 along with 2 workshops which focused on PBL process and team management. In week 4-5 most teams must have team proposals in place. The supervisions began from week 5 on. There were 6 sections and every section followed the same protocol of learning and facilitating. Supervision sessions were essential in the context of the Writing 3 course. Two formal supervisions were mandatory where every member must take an active role in presenting their part and asking questions that were useful for their research projects. The interview data revealed that both English teachers have had sufficient teaching experience. The first teacher has eleven years of teaching experience and has been involved in project-based learning, but not exactly problem-based learning. The second teacher has twenty years of teaching experience and claimed that PBL principles have been used with some of her master students because the master project used research process to facilitate students' learning, but students worked individually. First, both teachers were asked to describe the essential characteristics and process of PBL. The first teacher stated that "in my opinion, PBL must start with problem first. Students will learn from two channels which are from the content of the course and from their own experience." In terms of team formulation, both teachers stated that their students chose their own team members based on common interests and personal friendships. Team size was in the range of 2-6 members. As for the size of team the second teachers expressed that "I prefer very small team because smaller is better in terms of team management and collaboration". In the next question, both teachers were asked to give opinions on advantages of PBL implementation in their context. They both agreed that PBL helps students learn content in a meaningful way to them because the topics of their study are from their own interests. Their practical skills have also improved in communication, collaboration, and autonomous learning, as one teacher stated that "in PBL process students learn by themselves with guidelines". The third question then asked the teachers to give opinions on disadvantages of PBL implementation in their context. One teacher said that "Both teachers and students must be ready for the change, otherwise it can go wrong." Another teacher stated that "Group work, which is a part f PBL process, can result in free riders". The last question asked the teachers to give opinions on good characteristics of PBL supervisors. Both of them agreed that having academic quality and knowing your discipline is very important. In addition, PBL supervisors must be open-minded to problems and students. One teacher further stated that PBL facilitation is more than just going to the classroom and giving lectures, but being a PBL supervisor "requires devotion of time, effort and patience".

5.5. Result of students' final grade

Table2. The final grades of 182 students

Section	#Ss	A	B+	В	C+	С	D+	D	F	I	M
1 Prarthana	28	-	2	5	10	8	3	-	-	-	-
2 Prarthana	22	-	-	5	8	7	2	-	-	-	-
3 Jintana	31	-	3	6	9	8	3	1	-	-	1
4 Sasima	35	-	1	7	10	8	7	2	-	-	-
5 Jintana	34	-	10	5	6	9	2	2	-	-	-
6Sasima	32	-	-	4	11	8	6	2	0	1	-
Total	182	0	16	32	54	48	23	7	0	1	1

The result of the students' final grades reflects the effectiveness of students' learning to some extent. Grade distribution of each section shows result in the same direction. Grade distributions of the six sections indicate the consistency of the assessments used with the course's learning activities. The teachers of this course all agree and advocate that the overall grade distribution of

this course reflects the actual quality of students' performance and product required by the course objectives. It is also assured that the grade distribution of the whole course which consists of six different sections reflects the actual performance of students at the same standard because these teachers are considered highly professional and are the strictest teachers in the department. How these teachers have worked together closely (collaborative teaching) on facilitating and assessing their students' learning throughout the semester also contribute to quality assurance of grading of this academic writing course.

5. Discussion and Conclusion

The overall result of this study indicates that implementing PBL with language education, particularly in an EFL setting, yields many benefits to both learners and teachers. The results from different sources, triangulation method, show that both teachers and students highly appreciate PBL process because it has helped them in discovering their learning potential and gaining values and benefits from concrete to abstract elements as learners. Students express that their motivation, knowledge and skills have tremendously improved. To support students' perspective, teachers also rate the satisfaction level on students' learning progress and performance high. It can be pointed out the obvious values gained in this case study are communication skills, including both oral and written, and both in their target language and native language (language benefit). Moreover, collaborative learning, self-directed learning, motivation and critical thinking skills are also obviously enhanced respectively. This can be claimed that implementing PBL in this context was quite successful in terms of enhancing the learning experiences of both students and teachers positively and effectively. Despite gained benefits, it is also acknowledged that PBL process has brought frustration and more hard work to both students and teachers. Though the majority of students appreciate the new approach to learning and have gained benefits in this case study, there is still a concern that some students may be left behind. Having a strategy ready in hand to deal with this situation is highly recommended. As for challenges of being PBL facilitators is that it requires so much more work and professionalism from the teachers; they must be actively involved in the learning process and perform beyond just giving lectures in front of the class. As PBL facilitators are put into new roles and in constant learning mode; therefore, having a mindset for changes and openness to changes in learning philosophy, roles of each agent, and educational goals are also huge challenges for teachers. The experience of assisting the whole process of PBL implementation in this case has confirmed that PBL with a suitable modification for each local context is viable alternative educational strategy to transform a passive learning environment into an active learning environment.

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References

Barrett, T. (2005). Understanding Problem-Based Learning. In T. Barret, I. Mac Labhrainn, & H. Fallon (Eds.). *Handbook of Enquiry & Problem Based Learning* (pp.13-25). Galway: CELT.

Canale, M. & Swain, M. (1980). Theoretical Base of Communicative Approaches to Second Language Teaching and Testing. Applied Linguistics, 1(1), 1-47.

Forrester, V. & Chau, J. (1999). Current Developments in Problem Based Learning within the Hong Kong Institute of Education. In J. Marsh (Ed.) *Implementing Problem Based Learning Project: Proceeding of the First Asia Pacific Conference on Problem Based Learning* (pp.201-208). Hong Kong: The University Grants Committee of Hong Kong, Teaching Development Project.

Hallinger, P., Blackwood, A., & Tannathai, P. (n.d). Implementing Problem-based Learning in Thai Higher Education: A case Study of Challenges and Strategies. Retrieved December 23, 2012 from http://philiphallinger.com/old-site/papers/pbl/PBL Thailand.pdf

Hymes, D. (1972). On Communicative Competence. In J. B. Pride & J. Holmes (Eds.). Sociolinguistics (pp. 269-293). Harmondworth: Penguin.

Jiriyasin, T. (2011). Enlivening EFL Discussion Classroom with Problem-based Learning Approach. Retrieved November 17, 2012 from http://www.culi.chula.ac.th/e-journal/2011/tanisaya.pdf

Kolmos, A., Graff, E. de., & Du, X. (2009). PBL-Diversity in research questions and methodologies: Research on PBL practices in engineering education. Rotterdam: Sense Publishers.

Kolmos, A. & Graaff, E. de. (2007). Process of Changing to PBL. In E.Graaff & A. Kolmos (Eds.), Management of Change: Implementation of Problem-Based and Project-Based in Engineering. (pp.31-43). The Netherlands: Sense Publishers.

Larsson, J. (2001). Problem-Based Learning: A possible approach to language education? Retrieved December 10, 2012 from http://www.nada.kth.se/jla/docs/PBL.pdf

Mathews-Aydinli, J. (2007). Problem-Based Learning and Adult English Language Learners. Retrieved November 17, 2012 from http://www.cal.org/caela/esl_resources/briefs/Problem-based.pdf

Ng Chin Leong, P. (2009). The Power of Problem-based Learning (PBL) in the EFL classroom. Polyglossia, 16, 42-48.

Othman, N. & Shah, M. I. A. (2007). Language Acquisition Using the Problem-Based Learning Approach. Retrieved November 20, 2012 from http://www.docstoc.com/docs/32316412/Language-Acquisition-Using-the-Problem-Based-Learning-Approach

Savin-Baden, M. & Major, C. H. (2004). Foundation of Problem-based Learning. New York: Open University Press.

Yusuf, F. N. (2010). Benefiting Problem-Based Learning to (Re) vitalize Students' Academic Writing. Retrieved November 23, 2012 from http://file.upi.edu/Direktori/FPBS/JUR_PEND_BAHASA_INGGRIS/197308162003121-FAZRI_NUR_YUSUF/Kumpulan_artikel--ppt/Paper_Problem-Based Learning.pdf