

**EFFECTIVENESS OF THE PROJECT-BASED LEARNING IN DEVELOPING
ENGLISH COMMUNICATIVE PROFICIENCY OF THAI FIRST YEAR STUDENTS
IN THE QUALITY ASSURANCE NETWORK OF PRIVATE INTERNATIONAL
HIGHER EDUCATION INSTITUTIONS**

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ABSTRACT

This research aimed to investigate results of application of the project-based learning (PBL) to develop Thai students' English communicative proficiency. It was a quantitative research involving 364 participants who were first-year students in the quality assurance (QA) network of Thai private international higher education institutions and took part in PBL activities for 1 year.

Data collection instrument was a questionnaire. The statistics used were mean, standard deviation (SD) and multiple regression analysis.

Results of data analysis showed that

- 1) As regards result of the overall learning, it was found to be at a high level. Each project activity was likewise found to be at a high level as well, with community activities management attaining the highest level of learning.
- 2) With respect to effect on English communicative proficiency, it was found to increase to a high level. Each language skill was also found to increase at a high level, especially the reading skill.
- 3) As for all the 8 PBL activities used in the study (i.e. project design, literature review for project outline writing, community activities management, project evaluation, improvement and development according to the plan, report preparation, presentation of one's own work, and critique of other people's work) they together predicted the effect on the development of English communicative proficiency as a whole at 64.90%, with a statistical significance at the .01 level. Presentation of one's own work and critique of other people's work were found to have a significant overall effect on the development of English communicative proficiency.

Keywords: project-based learning, English communicative proficiency, Thai private international higher education institutions

Background

Project-based learning (PBL) is a learning method in which the teacher encourages students to actively engage in real-world and personally meaningful activities. Students will acquire more knowledge from engagement, listening, observation from experts, exchanging views and collaboration with other people. That will lead to creation of new knowledge in the form of a final report consisting of project process, activities and outcomes (Strobel & Van, 2009; Yoelao, 2014).

In general, a project is a new interesting learning activity (Ribe & Vidal, 1993). When applied as a learning management strategy, it can increase students' motivation, help them understand better, increase their learning skills and achievement. Therefore, there has been an increasing use of PBL in teach management (Crane, 2015).

PBL has also been used to develop students' English proficiency (Srikrai, 2008; Simpson, 2011; Puncreobutr, 2014; Supe & Kaupuzs, 2015; Ballantyne, 2016), especially Thai students who learn English as a foreign language and most of them have relatively little English language skills proficiency (Kirkpatrick, 2012; Ballantyne, 2016).

PBL is one of the most effective teaching and learning techniques used in various English subjects in developing countries or countries where English is used as a second or foreign language, as students will learn the language naturally (Krashen, 1982; Richard & Rodgers, 2002), such as using English to describe work process of the project which is one way of developing their English writing skills (Ballantyne, 2016).

However, PBL has not been found to be used in organizing extra-curricular activities for first year students of institutions in the QA network of private international higher education institutions in Thailand. Most of them were Thai students whose English proficiency was quite low. PBL might be an alternative to develop their English communicative proficiency.

As far as the QA network of Thai private international higher education institutions was concerned, therefore, there should be a study on the use of PBL to develop first-year students' English communicative proficiency through extra-curricular activities, namely a competition of project activities among various institutions. The results from this study would be beneficial to teachers and those involved in organizing extra-curricular learning activities or student activities.

Research objectives

Research objectives were as follows:

1. To study the learning level by using PBL of first year students in the QA network of Thai private international higher education institutions in Thailand.
2. To study the English communicative proficiency level by using PBL of first year students in the QA network of private international higher education institutions in Thailand.
3. To study the development of English communicative proficiency by using PBL of first-year students in the QA network of private international higher education institutions in Thailand.

Research methodology

This was a quantitative research. The population consisted of 7,000 first-year students in the QA network of Thai private international higher education institutions who took part for a period of 1 year in PBL activities with an aim to develop their English communicative proficiency.

Following Krejcie and Morgan table, a total of 364 participants were sampled from the population above by stratified random sampling, with higher education institutions in the QA network as the strata.

There were two types of variables in this research project: independent variable and dependent variable. Details are as follows:

1. Independent variable

The independent variable is PBL consisting of 8 activities.

Project design (X1)

Literature review for project outline writing (X2)

Community activities management (X3)

Project evaluation (X4)

Improvement and development according to the plan (X5)

Report preparation (X6)

Presentation of one's own work (X7)

Critique of other people's work (X8)

2. Dependent variable

The dependent variable was English communicative proficiency of first year students in the QA network.

The English communicative proficiency of students in the present study was divided into 4 main language skills:

Listening proficiency (Y1)

Reading proficiency (Y2)

Speaking proficiency (Y3)

Writing proficiency (Y4)

Data collection instrument and statistics

The data collection instrument used in this study was a questionnaire with a discriminating power of .401-.900 and the reliability of .89. The statistics used in the research were mean, standard deviation (SD) and multiple regression analysis. Length of the study was from August 2021 to December 2021.

Findings

Results of data analysis are presented as follows:

1. Learning level using PBL of first year students

Learning level using PBL of first year students in the QA network of Thai private international higher education institutions is shown in Table 1.

Table 1 Learning level using PBL of first year students (N=364)

Project activities	mean	S.D.	learning level
Project design (X ₁)	4.024	.6576	high

Literature review for project outline writing (X ₂)	4.142	.7082	high
Community activities management (X ₃)	4.351	.6594	high
Project evaluation (X ₄)	4.232	.6501	high
Improvement and development according to the plan (X ₅)	4.108	.6612	high
Report preparation (X ₆)	4.284	.6710	high
Presentation of one's own work (X ₇)	3.949	.8203	high
Critique of other people's work (X ₈)	3.730	1.0065	high
Total of PBL	4.102	.5716	high

Data in Table 1 shows that the learning level using PBL of first-year students was high (mean = 4.102).

Likewise, each activity was at a high level of learning. The community activities management had the highest level (mean = 4.351), followed by report preparation (mean = 4.284), project evaluation (mean = 4.232), literature review for project outline writing (mean = 4.142), improvement and development according to the plan (mean = 4.108), project evaluation (mean = 4.024), presentation of one's own work (mean = 3.949) and critique of other people's work (mean = 3.730), respectively.

2. Level of English communicative proficiency of first year students

Results of data analysis demonstrated that the students' English communicative proficiency increased to high level, as shown in Table 2 below.

Table 2 English communicative proficiency of first year students (N = 364)

English communicative proficiency	mean	S.D.	Level of increase
Listening proficiency (Y ₁)	3.803	1.0551	High
Reading proficiency (Y ₂)	3.875	1.1717	High
Speaking proficiency (Y ₃)	3.828	1.0493	High
Writing proficiency (Y ₄)	3.786	1.1365	High
Overall English proficiency	3.823	1.0654	High

As shown in Table 2, the students' overall English communicative proficiency increased to high level (mean = 3.823). The reading proficiency (mean = 3.875) had the highest level, followed by speaking (mean = 3.828), listening (mean = 3.803) and writing (mean = 3.786), respectively.

3. Effect of PBL on the development of English communicative proficiency of first year students

Results of data analysis done by multiple regression are presented in 3.1 to 3.5 below.

3.1 Effect of PBL on the overall development of English communicative proficiency

Results of the use of PBL to develop first-year students' English communicative proficiency are shown in Table 3 below.

Table 3 Effect of PBL on the overall development of English communicative proficiency

Project activities		Effect on overall development		t	p
		b	S.D.		
Constant (a)		.321	.257	1.252	.211
X ₁	Project design	.026	.073	.352	.725
X ₂	Literature review for project outline writing	.084	.080	1.049	.295
X ₃	Community activities management	.112	.082	1.377	.169
X ₄	Project evaluation	.116	.092	1.261	.208
X ₅	Improvement and development according to the plan	.003	.092	.033	.974
X ₆	Report preparation	.138	.091	1.524	.128
X ₇	Presentation of one's own work	.711	.075	9.532**	.000
X ₈	Critique of other people's work	.406	.050	8.051**	.000
F = 81.921 p = 0.000 R = 0.805 R ² = 0.649 Adj. R ² = 0.641					

* p < .05 ** p < .01

Table 3 shows that all the 8 project activities were independent variables that together could predict the dependent variable, namely effect on the development of overall English communicative proficiency (Y total) at 64.90% (F = 81.921, p < 0.000), with an Adjust R2 between the independent variable and the dependent variable equal to 64.10.

In addition, data analysis showed that presentation of one's own work (b₇ = .711, p < .01) and the critique of other people's work had a significant effect on the overall development of English communicative proficiency.

3.2 Effect of PBL on the development of English listening communicative proficiency

Results of the use of PBL to develop first year students' English listening communicative proficiency are shown in Table 4.

Table 4 Effect of PBL on the development of English listening communicative proficiency of first-year students

Project activities		Effect on listening development		t	p
		b	S.D.		
Constant (a)		.380	.252	1.508	.132
X ₁	project design	.022	.072	.303	.762
X ₂	Literature review for project outline writing	.020	.079	.256	.798

X ₃	Community activities management	.120	.080	1.496	.136
X ₄	Project evaluation	.249	.090	2.772**	.006
X ₅	Improvement and development according to the plan	.092	.091	1.015	.311
X ₆	Report preparation	.184	.089	2.060*	.040
X ₇	Presentation of one's own work	.624	.073	8.514**	.000
X ₈	Critique of other people's work	.464	.050	9.346**	.000
F = 83.994 p = 0.000 R = 0.809 R ² = 0.654 Adj. R ² = 0.647					

* p < .05 ** p < .01

Data in Table 4 shows that all the 8 project activities were independent variables that could jointly predict the dependent variable, namely the development of English listening communicative proficiency (Y1) at 65.40% (F = 83.994, p < 0.000), with an Adjust R2 between the independent variables and the dependent variable equal to 64.70.

Furthermore, presentation of one's own work (b₇ = .624, p < .01), critique of other people's work (b₈ = .406, p < .01), project evaluation (b₄ = .249, p < .01) and report preparation (b₆ = .184, p < .05) had a statistically significant effect on the development of English listening communicative proficiency.

3.3 Effect of PBL on the development of English reading communicative proficiency of first year students

Results of the use of PBL to develop first year students' English reading communicative proficiency are shown in Table 5.

Table 5 Effect of PBL on the development of English reading communicative proficiency of first year students

Project activities		Effect on reading development		t	p
		b	S.D.		
Constant (a)		.441	.311	1.419	.157
X ₁	Project design	.020	.089	.224	.823
X ₂	Literature review for project outline writing	.088	.097	.907	.365
X ₃	Community activities management	.200	.099	2.021*	.044
X ₄	Project evaluation	.220	.111	1.980*	.048
X ₅	Improvement and development according to the plan	.079	.112	.710	.478
X ₆	Report writing	.084	.110	.765	.445
X ₇	Presentation of one's own work	.804	.090	8.901**	.000
X ₈	Critique of other people's work	.388	.061	6.352**	.000
F = 59.867 p = 0.000 R = 0.758 R ² = 0.574 Adj. R ² = 0.565					

* p < .05 ** p < .01

In Table 5, the data showed that all the 8 project activities were independent variables that together could predict the dependent variable, namely the effect on the development of English reading communicative proficiency (Y2) at 57.40% ($F = 59.867$, $p < 0.000$), with an Adjust R2 between the independent variables and the dependent variable equal to 56.50. Presentation of one's own work ($b7 = .806$, $p < .01$), critique of other people's work ($b8 = .388$, $p < .01$), project evaluation ($b4 = .220$, $p < .05$) and the community activities management ($b3 = .200$, $p < .05$) had a statically significant effect on the development of English reading communicative proficiency of the students.

3.4 Effect of PBL on the development of first year students' English speaking communicative proficiency

Table 6. Effect of PBL on the development of English speaking communicative proficiency of first-year students

Project activities		Effect on speaking development		t	p
		b	S.D.		
Constant (a)		.374	.269	1.389	.166
X ₁	Project design	.003	.077	.033	.973
X ₂	Literature review for project outline writing	.132	.084	1.568	.118
X ₃	Community activities management	.093	.086	1.080	.281
X ₄	Project evaluation	.020	.096	.203	.839
X ₅	Improvement and development according to the plan	.041	.097	.420	.675
X ₆	Report writing	.161	.095	1.693	.091
X ₇	Presentation of one's own work	.671	.078	8.559**	.000
X ₈	Critique of other people's work	.375	.053	7.068**	.000
F = 66.631 p = 0.000 R = 0.775 R ² = 0.600 Adj. R ² = 0.591					

* $p < .05$ ** $p < .01$

Results of the use of PBL to develop first-year students' English speaking communicative proficiency are shown in Table 6.

Table 6 showed that all the 8 project activities were independent variables that together could predict the dependent variable, namely the effect on the development of English communicative speaking proficiency (Y3) at 60.00% ($F = 66.631$, $p < 0.000$), with an Adjust R2 between the independent variables and the dependent variable equal to 59.10.

Data in Table 6 also showed that presentation of one's own work ($b7 = .671$, $p < .01$) and critique of other people's work ($b8 = .375$, $p < .01$) had a statistically significant effect on the development of English speaking communicative proficiency.

3.5 Effects of PBL on the development of first year students' English writing communicative proficiency

Results of the use of PBL to develop first year students' English writing communicative proficiency of first year students are shown in Table 7 below.

Table 7 Effect of the use of PBL to develop English writing communicative proficiency of first year students

Project activities		Effect on writing development		t	p
		b	S.D.		
Constant (a)		.089	.287	.311	.756
X ₁	Project design	.104	.082	1.262	.208
X ₂	Literature review for project outline writing	.136	.090	1.518	.130
X ₃	Community activities management	.037	.092	.408	.683
X ₄	Project evaluation	.013	.103	.122	.903
X ₅	Improvement and development according to the plan	.041	.103	.400	.689
X ₆	Report writing	.124	.102	1.221	.223
X ₇	Presentation of one's own work	.746	.084	8.921**	.000
X ₈	Critique of other people's work	.399	.057	7.057**	.000
F = 70.083 p = 0.000 R = 0.782 R ² = 0.612 Adj. R ² = 0.604					

* p < .05 ** p < .01

Data in Table 7 showed that all 8 project activities were independent variables that together could predict the dependent variable, namely the effect on the development of English writing communicative proficiency (Y4) at 61.20% (F = 70.083, p < 0.000), with an Adjust R2 between the independent variable and the dependent variable equal to 60.40.

Presentation of one's own work (b7= .746, p < .01) and critique of other people's work (b8= .399, p < .01) had a statistically significant effect on the development of English writing communicative proficiency of the first year students.

Summary

This was a research project with an aim to investigate the effect of PBL on the development of English communicative proficiency of first year students in the QA network of Thai private international higher education institutions. Results of the present study can be summarized as follows:

1. Research findings showed that after using PBL, there was an overall high level of learning (mean = 4.102). Likewise, each of the 8 project activities had a high level of learning. The 3 project activities attaining the highest level of learning were community activities management, report preparation and project evaluation, respectively, while those with the

lowest level of learning were project design, presentation of one's own work and criticism of other people's work.

2. Regarding English communicative proficiency of first year students in the QA network of private international higher education institutions in Thailand, on the whole, there was an increase of English proficiency to the high level. Each language skill also had an increase to the high level, with the reading skill increasing the most and the writing skill increasing the least.

3. Effect of the use of PBL to develop English communicative proficiency of first-year students in the QA network for Thai private international higher education institutions

Results of the study showed that the use of PBL had an effect on the development of first-year students' English communicative proficiency as a whole as well as each skill.

3.1 Effect on the overall development of student's English communicative proficiency

Results showed that all the 8 project activities, i.e., project design, literature review for project outline writing, community activities management, project evaluation, improvement and development according to the plan, report preparation, presentation of one's own work and critique of other people's work together could predict the effect on the development of in English communicative proficiency at 64.90% with a statistical significance at the .01 level. Presentation of one's own work, followed by critique of other people's work had a significant effect on the development.

3.2 Effect of PBL on the development of students' English listening communicative proficiency

The 8 project activities together could predict the effect on the development of English listening communicative proficiency at 65.40% with a statistical significance at the .01 level. Presentation of one's own work, followed by critique of other people's work, project evaluation and community activities management had the highest level of the development.

3.3 Effect of PBL on the development of students' English speaking communicative proficiency

The 8 project activities together could predict the effect on the development of English speaking communicative proficiency at 57.40%, statistically significant at the .01 level.

Project activities that had the highest level of development were presentation of one's own work, followed by critique of other people's work, project evaluation and community activities management, respectively.

3.4 Effect of PBL on the development of students' English speaking communicative proficiency

The 8 activities in the project together could predict the effect on the development of English speaking communicative proficiency at 60.00%, statistically significant at the .01 level.

Significant project activities were presentation of one's own work and criticism of other people's work.

3.5 Effect of PBL on the development of students' English writing communicative proficiency

The 8 project activities together could predict the effect on the development of English writing communicative proficiency at 61.20%, with a statistical significance at the .01 level.

Significant activities were presentation of one's own work and critique of other people's work.

Suggestions

Application of the research results

Since the present research results found that the learning of first year students using PBL was at a high level, both in overall and each project activity, PBL could be a teaching technique that creates systematic learning in all project activities, especially the top three activities, namely community activities management, report preparation and project evaluation. These are activities that require teamwork and problem solving processes. Therefore, the teacher and those involved with extracurricular activities management can apply them for the learner development.

Research results have shown that using PBL could increase first year students' English communicative proficiency, especially the reading skill. On the other hand, the writing skill was found to increase the least of the 4 skills. Therefore, teachers and those concerned with student extra curriculum activities can make use of this finding so that students can develop further their writing skills.

It has been found in the research results that two project activities, namely presentation of one's own work and critique of other people's work, had a significant effect on the development of all 4 skills of English communicative proficiency.

Thus, these 2 activities should be integrated into language learning management of various English courses so that students can develop further their English communicative proficiency.

Suggestions for further research

Results of the present study which used PBL to develop English communicative proficiency of first year students in the QA network of Thai private international higher education institutions found that the prediction efficiency was 64.90%. The remaining 35.10% of the prediction efficiency was due to other variables that were not included in the study. Therefore, other factors affecting the development of English communicative proficiency should be further investigated and the results can in turn lead to an increase of the prediction efficiency.

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