

การศึกษากระบวนการจัดการเรียนรู้โดยใช้ปัญหาเป็นฐานเพื่อพัฒนาทักษะการสื่อสาร  
ภาษาอังกฤษของนักศึกษาคณะครุศาสตร์ มหาวิทยาลัยราชภัฏพิบูลสงคราม

A Study of Problem-Based Learning to Enhance the English  
Communicative Skills of Learners in the Faculty of Education,  
Pibulsongkram Rajabhat University

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บทคัดย่อ

การวิจัยครั้งนี้เป็นการวิจัยเชิงทดลอง มีวัตถุประสงค์ คือ ศึกษาการใช้การจัดการเรียนรู้โดยใช้ปัญหาเป็นฐานเพื่อพัฒนาทักษะภาษาอังกฤษเพื่อการสื่อสารของนักศึกษาคณะครุศาสตร์ มหาวิทยาลัยราชภัฏพิบูลสงคราม เครื่องมือที่ใช้ในการวิจัย ได้แก่ 1) แผนการจัดการเรียนรู้ภาษาอังกฤษเพื่อการสื่อสารเรื่อง “Problem-Based Learning: Trouble or Challenge” 2) แบบทดสอบภาษาอังกฤษเพื่อการสื่อสารแบบก่อนและหลังเรียน กลุ่มตัวอย่างในการวิจัย ได้แก่ นักศึกษาคณะครุศาสตร์ มหาวิทยาลัยราชภัฏพิบูลสงครามจำนวน 50 คน ได้มาด้วยวิธีการเลือกแบบเจาะจง สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ ค่าร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และการทดสอบที (t-test)

ผลการวิจัยพบว่า ผลสัมฤทธิ์ด้านภาษาอังกฤษเพื่อการสื่อสารของกลุ่มตัวอย่างเพิ่มขึ้นอย่างมีนัยสำคัญทางสถิติที่ .05 พิจารณาจากผลสัมฤทธิ์การเรียนรู้ด้านการสนทนา (English Conversation Fluency) มีคะแนนเฉลี่ยเท่ากับ 13.60 (S.D.=2.35) การออกเสียง (Correct Pronunciation) มีคะแนนเฉลี่ยเท่ากับ 12.93 (S.D.=1.49) และการเรียนรู้คำศัพท์ (Vocabulary Acquisition) มีคะแนนเฉลี่ยเท่ากับ 20.67 (S.D.=2.50) สรุปได้ว่าการประยุกต์ใช้การเรียนรู้โดยใช้ปัญหาเป็นฐานช่วยให้ผู้เรียนพัฒนาทักษะภาษาอังกฤษได้ นำไปสู่ข้อเสนอแนะสำหรับการทำวิจัยครั้งต่อไปที่ควรศึกษาการประยุกต์ใช้การเรียนรู้โดยใช้ปัญหาเป็นฐานสู่การพัฒนาและการส่งเสริมคุณค่าของความเป็นมนุษย์ที่การเรียนรู้ไม่ได้จำกัดเฉพาะเพียงสาระการเรียนรู้ หากครอบคลุมถึงทักษะการคิดและกระบวนการเรียนรู้ที่ส่งเสริมให้ผู้เรียน

ได้ใคร่ครวญ รวบรวม ประเมินค่าและท้ายที่สุดประยุกต์ใช้ความรู้สู่การพัฒนาที่คงทนและยั่งยืน

**คำสำคัญ:** การจัดการเรียนรู้โดยใช้ปัญหาเป็นฐาน / นักศึกษาคณะครุศาสตร์ / การชี้แนะตนเอง

### Abstract

This study aimed to investigate the effect of problem-based learning to enhance the English communicative skills of EFL learners in the Faculty of Education, Pibulsongkram Rajabhat University. A quasi-experimental research design was applied using an English Communicative syllabus entitled “PBL: Trouble or Challenge” and pretest-posttest as research instruments. The sample, selected by purposive sampling, comprised 50 students enrolled in the class of English Language for Teachers, in the 2/2016 academic semester. The main analysis was carried out using t-test (one-tailed).

The findings showed that the participants’ overall post-test scores were significantly higher than their pre-test scores at the level of .05, considering their improvement in English conversation ( $\bar{x} = 13.60, S.D. = 2.35$ ), correct pronunciation ( $\bar{x} = 12.93, S.D. = 1.49$ ) and vocabulary acquisition ( $\bar{x} = 20.67, S.D. = 2.50$ ). This confirmed that the Problem-Based Learning was beneficial in improving the students’ English communicative skills. The findings also suggested the need for further study on the implementation of PBL as a powerful threshold for human empowerment and development. Young learners should acquire not only core subjects but also critical thinking and learning strategies that enable them to consider, consolidate, assess and implement newly synthesized knowledge in order to ensure lasting development.

**KEYWORDS:** PROBLEM-BASED LEARNING / STUDENTS IN THE FACULTY OF EDUCATION / SELF-DIRECTEDNESS

## Introduction

Young learners, in the present time, acquire not only the knowledge of subject matters, but also the self-directedness which the learners themselves can utilize in their lifelong learning and their life. With total awareness of educating teacher graduates, the researcher from English Education Program, Faculty of Education, Pibulsongkram Rajabhat University has determined to apply Problem-Based Learning or PBL in the class of English Language for Teachers (EDUC 112) which learners were encouraged to improve their English communicative skills by confronting with complex and authentic situations. As noted by Larsson (2001) learners were introduced to new information by using real-world problems as learning motivation to initiate their learning. They approached to problems after a certain concept was introduced. As such they began an active learning process by defining a target problem and presumed solutions.

As EFL learners, learners in the Faculty of Education, Pibulsongkram Rajabhat University have faced with the more complicated conflict upon acquiring English language as a subject. It was obvious that language is a tool when learning – not the actual subject matter. Learners, through communicative skills; listening, speaking, reading and writing, employed English in seeking understanding towards new facts or information. That is how English language functions in English-speaking environment. To help those EFL learners to overcome such difficulty, the particular course was redesigned based on English usage rather than on arbitrary notions of correctness, integrating the application of PBL approach. By developing a language course, classroom activities become the assimilations of native speakers in English spoken countries. Assignments were given to the students to interact and to communicate hoping to engage them to comprehend the actual aspect of learning a language “on site” (Larsson, 2001). Therefore, the students can grasp the overview on how English language was acquired in the real life environment.

Thus, the primary concern of this study was to explore the beneficial practice of Problem-based learning to enhance English communicative skills of EFL students in the faculty of Education. In order to pursue the study's objective, the researcher came up with the research question as following:

Does the implication of Problem-Based Learning help improve English communicative skills of EFL students in the faculty of Education, Pibulsongkram Rajabhat University?

### **Objective**

To investigate whether the implication of Problem-Based Learning helps improve English communicative skills of students in the faculty of Education, Pibulsongkram Rajabhat University.

### **Literature Review**

There are numbers of studies indicating that PBL is one of the practical learning approaches according to its key characteristics. In this study, however, two major aspects were focused as following:

#### **Self-directedness**

One of the key learning principles of PBL is self-directed learning (SDL). Self-directed learner is a student who pursues in learning, goal-focused, exemplifies initiation and independence, and is known to be persistent in learning. As such self-directedness is a very important component. At the beginning process of PBL is a presentation of problem where facts, ideas, and learning issues are generated along with testing of previous knowledge, followed by stage two which these learning issues are with the integration of previous and new learning. Self-directedness, therefore, functions as a link between the two stages of PBL process, which help the student in integrating the knowledge, consolidating the learning, and understanding (Nerali, Telang, Telang, & Chakravarthy, 2016).

The core concept of self-directedness particularly within Problem-Based Learning is the shifted role of students. As noted by Knowles (1975), SDL is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

Responded to Knowles's definition of SDL, Skiff (2009) further explained that self-directed learner takes responsibility in pursue of learning experience, and completion of their own learning. Once the learners begin the initiative, they assume complete responsibility and accountability for defining the learning experience and following it through to its conclusion. Self-direction does not mean the learner learns alone in any given learning situation. In fact, the learners are driving the total learning experience, beginning with recognizing a need to learn. On the other hand, the learner takes the responsibility for what occurs. They select, manage, and assess their own learning activities, which can be pursued at any time, in any place, through any means, at any age. It involves initiating personal challenge activities and developing the personal qualities to pursue them successfully (Gibbons, 2016).

Accordingly, the students become self-directed when they were given the freedom to learn the particular topic that drew their attention and to choose how they want to learn it. Student developed an in-depth awareness and ownership of important concepts in the course by working on activities, a basic tenet of the constructive approach to learning (Seltzer, Hilbert, Maceli, Robinson, Schuwartz, 1996). Also agreed by Reynold (1997), they should identify their learning needs and have participation in lesson planning, discussions and learning evaluation

In summary, self-directedness is a personal portrait of determination. It reflects the ability to direct and to respond to the demands of a situation in order to achieve individual goals. In learning environment, a self-directed learner is able to know what to learn, when to learn and most importantly

how to learn. Therefore, it is crucial for teacher to encourage students to become self- directed.

### **Complex and Holistic Problems**

Another key factor of PBL being studied in this research is complex and holistic problems and this factor is considerably unique. In fact, much has been written about this intrinsic factor. The following interpretations are retrieved aiming to draft an overview or understanding toward complex and holistic problems

Gallagher (1997) first mentioned that ill-structured problem helped students learn a set of important concepts, ideas and techniques. Likewise, the problem had open-ended quality that could be solved by several solutions and required students “to look at many methods before deciding on a particular solution” (Shelton & Smith, 1998).

As the essential component of problem-based learning is that complex real-world problems lead to content. The learners will need to come up with their own answer. In other words, the problem is followed by the newly synthesized answer. In small group work students must identify what they know, and more importantly, what they do not know and must learn to solve a problem they are facing. These are prerequisites for understanding the problem and making decisions required by the problem. The nature of the problems denies simple answer. Students must go beyond their textbooks to pursue information from different resources in between their group session. The teacher’s duty is to facilitate group process and learning, not to manipulate (White, 1997).

In conclusion, the characteristics of PBL problems should be motivated. It must capture student’s interest and motivate them to independently acquire new knowledge. Also, it must allow student to retrieve previous knowledge from their working memory. Then they can relate to the new information being learnt. Finally the problem should be realistic. It must be

a situation that student may come across in their daily life.

However, it is considerably difficult to construct a good PBL question in the field of language. The difficulty lies upon the stage of finding a plausible context for the problem (Larsson, 2001). The possible option to EFL teacher would be to combine language teaching with the teaching of other subjects. The descriptive combination of PBL question for EFL class will be discussed in the development of ill-structured problem section.

## Methodology

### Participants

The participants for this study were chosen purposively among fourth year students enrolled to the class of English Language for Teachers during the 2/2016 academic semester, the faculty of Education, Pibulsongkram Rajabhat University. They are Social studies majors and their age range was between 20-22. The following table presents the characteristics of participants being investigated in this study.

**Table 1** The characteristics of participant's English proficiency

Participants	Frequency	Percentage
Male	21	42
Female	29	58
	N = 50	100

According to the table above, 58% of the participants were female and 42% were male students. Due to the fact that they were studying in Social studies majors, they had a difficulty in learning English as a subject matter. Also, they were lack of language exposure in which they would be allowed to communicate with foreign language.

## **Design of the Study**

The study aimed to investigate whether redesigned lesson plan using Problem-Based Learning approach helps improve student's English Communicative Skills. Thus, the researcher chose one group pretest-posttest design, experimenting two PBL ill-structured problems upon 50 EFL students. The independent variable was a redesigned PBL lesson plan and dependent variable was student's English Communicative proficiency.

## **Research Instrument**

Two different instruments including an English Communicative syllabus entitled "PBL: Trouble or Challenge" and pretest-posttest were applied to this particular research.

The lesson plan proposed two "ill-structured" problems namely, "The classroom objects." and "Good Student vs. Bad Student."

### **"The classroom objects"**

The first problem was fundamental in a way that prepared the students to the fundamental topic-nouns. It aimed to educate students a certain aspect of English grammar by training them to identify and to define vocabularies. As students of social sciences, they may come across with so many classroom objects and devices. However, they may not be able to recognize the English vocabularies of those things. In the middle of the classroom, the teacher intentionally put ten objects on a table. Of course every student knew them very well. What they were going to work within their group was to name those objects with correct vocabulary. The teacher then gave each group 1) a piece of A4 paper including ten short paragraphs describing ten vocabularies, 2) an English-English dictionary. In a group of five members, the students read the paragraph and identify the vocabulary they already knew. For those unknown ones, the group member would look for definition from an English-English dictionary. Here is an example of paragraph being mentioned.

Paragraph 1:

An optical device, called a hand lens in laboratory contexts, is a convex lens that is used to produce a magnified image of an object. The lens is usually mounted in a frame with a handle. It can be very useful because it used to focus light, such as to concentrate the sun's radiation to create a hot spot at the focus for fire starting.

It is .....

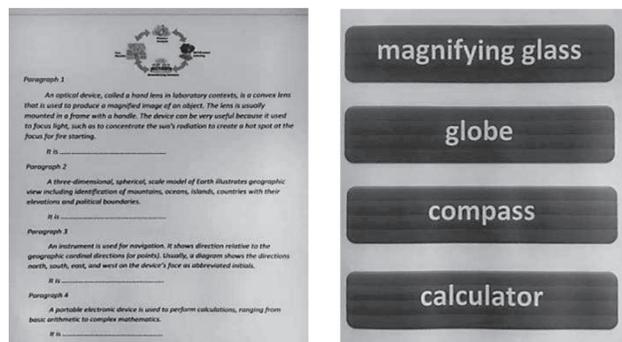


Figure 1. The classroom objects

As classroom manger, the teacher let the groups work together for twenty minutes. Then, put more challenge by giving each group ten post-it labels carrying ten vocabularies. The group members were given another five more minutes to finish matching vocabularies to ten short paragraphs on the A4 paper. The teacher then assigned a final task. The group's representative came forth and pasted labels to the objects displayed on the table. The teacher checked for correction and pronounced each vocabulary correctly.

The second problem was, compared to the first problem, much more realistic. It brought students to a classroom where various kinds of student were gathering. To be able to examine the characteristics of those students, it required both analytical and judgmental basis.

## “Good Student – Bad Student”

In a classroom where there were many students, a teacher was responsible for management of the whole classroom. The students, however, were various and could be categorized as “good student” and “bad student.” At the beginning, students were brought into a solid question i.e. “How does good student/bad student look like? Then, brainstorming played its role and each group of students was trying to imagine the characteristics of those two types of student.

As a classroom manager, a teacher had to be sure that all students were able to come up with adjectives that describe the two categories of student. Up to this point, a mother tongue was optional in order to provide clear and understandable instruction to everyone. When describing someone, characteristics and behaviors were important aspects to be brought into a discussion. So, the students as member of each group might try to look for adjectives as many as possible.

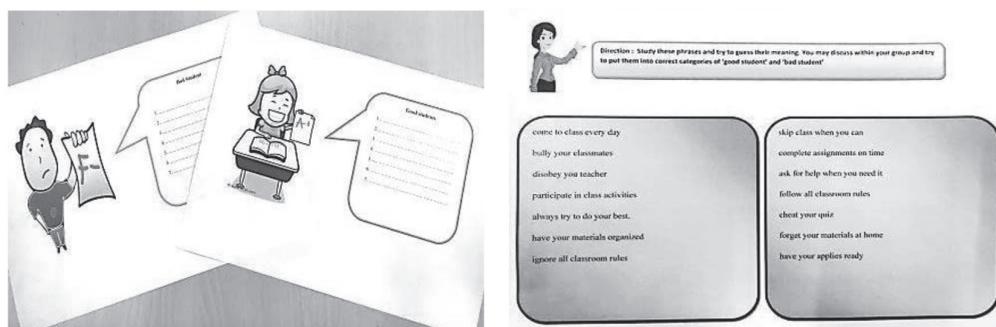


Figure 2. An illustration of sample question “Good Student – Bad Student”

The stage of brainstorming within a small group might take ten to twenty minutes and it was crucial that everyone in a group would work together. Once the groups had their own list of adjectives, then they might categorize them into two groups; good student and bad student. Up to this point, the teacher might complicate the situation much more by asking the

next question. What does a lazy student do? What does a stubborn student do? What does a naughty student do? and so on. Up to this point, it became the student's accountability to think about the possible answer. For example, the first group proposed that "skip class" as their answer to a question "what does a lazy student do? It simply meant that the student was able to relate the previous knowledge (lazy) to newly learnt information (skip class). It reflected that student formed the notion or the concept of laziness within his schema.

Refer to judgmental base the students first took full responsibility of analyzing and categorizing characteristics. They primarily decided which adjectives belong to good student, and the others belonged to bad student while working with other members of the group based on their criteria.

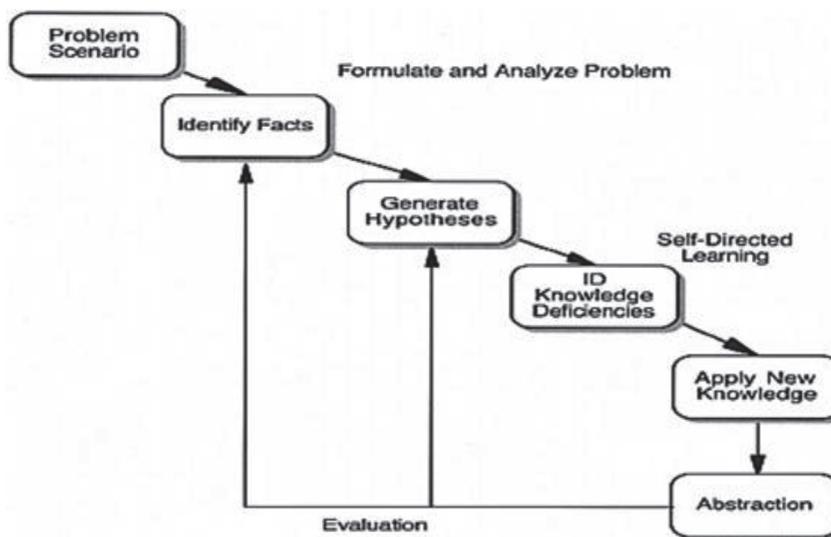
The second instrument was pretest-posttest applied for assessment purpose. The pretest was applied to reflect the participants' previous knowledge, while the posttest was to measure the achievement the participants gained after the experiment. The tests consisted of 60 items separated into 3 parts including conversations (20 points), pronunciation (15 points), and vocabulary sections (25 points). The researcher developed the tests based on learning objectives of EDUC 112's Course Syllabus. After pilot testing, the tests were analyzed for reliability. They were found to have reliability coefficient of .894

## **Procedure**

### Managing PBL Classroom

Students learn best by constructing their own solutions to open-ended, complex and problematic activities with their classmates since they can have a meaningful discussion which allows them to brainstorm freshly synthesized answer, rather than fixed and traditional message from a textbook. As such, the teacher or classroom manager is responsible for organizing well-planned PBL activities illustrated in figure 3. First, they are exposed to problem

scenario which is in fact ill-structured dilemma. Next, they are encouraged to identify relevant facts in order to have a clearer vision upon the problem scenario. The students then are able to come up with their own hypothesis that leads to possible solutions. The key step of PBL activities is to have students identifying knowledge deficiencies relative to the problem. These knowledge deficiencies become learning issues that students research during their self-directed learning. Then they apply their new knowledge and test their hypotheses in account of what they have learned. As such students reflect on the abstract knowledge gained (Hmelo-Silver, 2004).



**Figure 3.** The Problem-Based Learning Cycle. From C. Hmelo-Silver, 2004, Problem-based learning: What and how do students learn?. *Educational Psychology Review*, 16(3), pp.237-240.

Through this six-step cycle, teacher and students were joining together in developing self-directedness and critical thinking. With teacher's help, students learn the cognitive skill needed for problem solving and collaboration.

### **Principles of PBL activities**

To organize effective PBL activity, there are seven principles to be considered; 1) learning objective should be defined prior to the first PBL session. This ensures that the teacher sets up the specific and precise learning objectives, subject to PBL only. 2) Seating is crucial. All group members should be as much comfortable as possible, while they are working within their own group. Also seating should be accessible in order to allow physical participation. The teacher might want to get access to the groups when assistance and advice are needed. 3) Group process is employed in order to divide students into arbitrary groups and to distribute lists of problem scenario. 4) Timing should be very organized and precise. Obviously it is a teacher's accountability to control timing. The teacher must make sure that student would be able to spent appropriate period of time on each activity.

### **Data Analysis**

To answer research question, t-test (one-tailed) was used to analyze the achievement score from the pretest and posttest of each participants.

### **Results**

The following Table 2 presents the participants' achievement in English communication. The columns of the table represent the frequency and percentage of the pretest and posttest, while the rows of the table represent four ranges of the score.

**Table 2.** The participants’ overall score of English communication

Range of Score	Pretest		Posttest	
	Frequency	%	Frequency	%
41-45 points	4	8	0	0
46-50 points	27	54	1	2
51-55 points	19	38	20	40
56-60 points	0	0	29	58
Total	50	100	50	100

Referred to the table above, the finding indicated that 8% of participants scored less than 46 points, 54% scored 46 to 50 points and 38% scored 51-55 points. None of them could be able to score more than 56 points during the pretest. However, 58% of those participants were in highest range (56-60 points). Only 2% scored less than 51 points during the posttest.

In Table 3 presents the participants’ achievement in English communication before and after using PBL.

**Table 3.** The participants’ achievement in English conversation fluency, pronunciation competency and vocabulary acquisition

Category	n	Pretest		Posttest	
			S.D.		S.D.
English conversation	50	10.93	2.89	13.60	2.35
Pronunciation	50	11.00	1.69	12.93	1.49
Vocabulary acquisition	50	16.80	2.24	20.67	2.50

According to the result in the table above, it suggested that the participants’ average score in English conversation was 13.60 points (S.D.=2.35). While the average score in pronunciation section equaled to 12.93 (S.D.=1.49), those in vocabulary acquisition was 20.67 (S.D.=2.50).

**Table 4.** The participants' achievement in English communication

Participants	Pretest		Posttest		t-test (one-tailed)		
		S.D.		S.D.	t	df	Sig.
n = 50	49.58	2.39	55.62	2.46	16.56	49	0.01

Due to the table above, the pretest's average score was 49.58 (S.D. = 2.39), while the posttest's average score was 55.62 (S.D. = 2.46). It indicated that 50 participants' posttest score was significantly higher than their pre-test one at a level of .05. This statistical difference ensured that Problem-Based Learning through the implication of English lesson plan entitled "PBL: Trouble or Challenge" was able to improve the students' English communicative skills.

## Discussion

Evidence from the finding identified that Problem-Based Learning was beneficial to improve those EFL students' English language proficiency. They were able to come up with new learning process by taking ownership through exploring authentic questions. Throughout the redesigned lesson plan, they overcame the previous difficulty in learning English as a subject and were able to communicate much more efficiently.

In view of the complex and holistic problem, it was considered another key indicator. The practical problem must be authentic and aligned to standards (Gidcumb, 2015). The redesigned problem integrated sociocultural and English language learning issues which teacher intended to educate students. It must include the sociocultural dilemmas which enable those participants to identify the difficulty. By doing so, they require to decide how much information they already had toward the problem. It is crucial that they must have some background knowledge or insights. Then they must survey for more detailed information in order to simplify the problem, so that they could relate themselves into. As such, it made the problem more holistic.

However, there are some aspects for them to explore, to consolidate, to assess and finally to synthesize their newly discovered knowledge. Therefore, they appeared to be more motivated not only because of the knowledge acquired, but also the challenge for problem-solving skill.

Another key factor was self-directedness the students developed during of the implication of PBL: Challenge or Trouble syllabus. Although the finding confirmed the benefit of implementing PBL to advance the students proficiency with English language, self- directedness was more likely to be complicated. As agreed by Hmelo-Silver (2004) that becoming a self-directed learner was multifaceted process. Regarding to the characteristic of EFL learners, the participants seemed lack of motivation and perception. They required appropriate scaffolding from their teacher still. To foster self-directedness among participants, they must realize the importance of English language acquisition. By all means necessary, they must be able to identify learning objectives, endeavor and pursue of lasting development. And it was the teacher's accountability to help them to cultivate self-directedness.

### **Suggestion**

According to the finding, there was the improvement of language use within classroom among those participants. Such improvement leads to further study in implementing PBL to comprehensive writing course which students may not be able to pin point their topic or theme effectively and sophisticatedly. By utilizing PBL method it may help them to write each point of the topic with richer supports or arguments. Also implication of PBL as a threshold for human development is to be conducted as another study. Young learners should be skillful in not only core subjects but also critical thinking and learning strategies that enable them to consider, consolidate, assess and implement newly synthesized knowledge in order to ensure lasting development.

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