

PROBLEM BASED LEARNING (PBL) IN ESP CLASSROOM

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Abstract

This research was carried out to examine how Problem-Based Learning (PBL) can be adopted and applied in English for Specific Purpose (ESP) learning contexts. For this purpose, students of University of Kuala Lumpur, Malaysian Institute of Industrial Technology will be learning their lessons using PBL and they will be given a questionnaire on the relevance of using PBL in ESP classroom. For data collection, one set of questionnaire was designed. The questionnaire was distributed to 30 Diploma of Quality Engineering students. The overall findings of this research show that students have very positive perception of the learning English using PBL. Based on the results of this research, a learning style using PBL will be developed to improve teaching and learning style of English subject.

Key Words: Problem Based Learning (PBL); English for Specific Purpose (ESP)

1 INTRODUCTION

Problem-based learning (PBL) acquires students to work together in small groups to solve real-world problems. PBL is an active and interactive process that engages students to identify their known and unknown knowledge of their respective field and the connection to the real-life situation. Their derived internal motivation to solve the problem will be used to find new knowledge and apply their learnt knowledge to resolve the given problem. PBL can be combined with lecture to form a hybrid model of teaching, and it can be implemented in virtually all courses and subjects.

In problem based learning, students can improve their problem-solving skills, research skills and social skills. It is good for their learning process and most importantly, make English subject more interesting to the students. Most of the students English proficiencies at University Kuala Lumpur, Malaysian Institute of Industrial Technology are at intermediate level. Hence, learning English using PBL in their English classroom will encourage the students to be more independent in their learning process.

1.1 BACKGROUND OF THE STUDY

Problem-based learning purposefully combines cognitive and metacognitive teaching and learning. It is an approach that has been around since the late 1960s (Neufeld & Barrows, 1974) and engages language students in learning how to learn while they also learn language and content. Roschelle (1999) held that problem-based learning is rooted in John Dewey's project-based pedagogy of the early 20th century (e.g., Dewey, 1929, 1933, 1938). Within the area of second language learning and teaching, problem-based learning aligns with approaches in which students learn the target language by using it, rather than being presented with and then practicing predetermined language structures. Approaches based on similar principles include task-based learning (Ellis, 2003; Skehan, 1998; Willis, 1996), content-based learning (Garner & Borg, 2005; Rodgers, 2006), and project-based learning (Alan & Stoller, 2005; Lee, 2002; Moss & Van Duzer, 1998). What makes problem-based learning unique is its core focus on learning through solving real, open-ended problems to which there are no fixed solutions

(Ertmer, Lehman, Park, Cramer, & Grove, 2003). Students work alone or in groups first to understand a particular problem and then to find possible solutions to it. Therefore, problem-based learning is an interesting learning proponent to attract the students to learn English. As the students are encouraged to learn through the problem, lecturer role has shifted from the traditional authoritative role to facilitative role. The lecturers will take the role to facilitate students learning process instead of feeding them direct answer or outcome.

This brief describes how problem-based learning aligns with research on second language acquisition, gives guidelines for teachers and administrators on implementing problem-based learning in classes or programs for adults learning English for specific purpose (ESP), and outlines the benefits and challenges of using problem-based learning approach with adult English language learners (ELLs).

1.2 OBJECTIVE OF THE STUDY

The objectives of this research are as follows: i. To determine the attitude and perception of Diploma of Quality Engineering students in learning English through problem-based learning ii. To find out the effectiveness of learning English through problem-based learning

1.3 RESEARCH QUESTIONS

The research questions of this study are:

1. What are the Quality Engineering students perceptions learning English towards problem-based learning?
2. What benefits do Quality Engineering students get when they learn English by using problem-based learning?
3. Do students prefer to use problem-based learning as a learning tool compared to the traditional method?

1.4 SIGNIFICANCE OF THE STUDY

This research is important to investigate students perceptions of problem-based learning as a useful learning tool. Other important

reasons are that the research findings would provide useful data for researchers and educators so that:

1. Researchers and educators would be able to understand the perceptions of students towards problem-based learning as a learning tool.

2. Lecturers can then develop better teaching and learning strategies which incorporate problem-based learning as a teaching and learning tool.

3. Researchers can also conduct further studies to investigate the benefits of problem-based learning usage for lecturers and students in the teaching and learning process.

This research will examine students' perceptions towards the use of problem-based learning as a learning tool in the university which will be later analyzed and used for future related research. Thus, educators would have to put in more efforts to improve the use of problem-based learning especially in the teaching of English subject.

1.5 LIMITATIONS OF THE STUDY

This study focuses only on current Diploma of Quality Engineering students from University of Kuala Lumpur, Malaysian Institute of Industrial Technology, Johor Bahru. Therefore, the findings of this study may not represent the whole population of Quality Engineering students' perception from this university about the relevance and effectiveness of using problem-based learning in an ESP classroom.

2 LITERATURE REVIEW

2.1 PROBLEM-BASED LEARNING

Problem-based learning (PBL) is an instructional method that challenges students to learn to learn, working cooperatively in groups to seek solutions to real world problems. These problems are used to engage students curiosity and initiate learning the subject matter. PBL prepares students to think critically and analytically, and to find and use appropriate learning resources. Barbara Duch

According to the statement above, it shows that current trend of learning is different now from traditional way. In traditional way, lecturer provides everything to the students. However, when the lecturers use problem-based learning, learning process becomes more interesting as students find the solutions to the problem. It develops creativity of students thinking process.

According to Savery & Duffy (1995), problem-based learning (PBL) is a pedagogical approach and curriculum design methodology that is often used in higher education system. Below are some of the defining characteristics of PBL: In PBL, the learning session is driven by challenging, open-ended problems with no right answer. Students work as self-directed, active investigators and also active problem-solvers in a small collaborative groups (typically around 5 students per group). Teachers role as facilitators of learning, guiding the students and promoting an environment of enquiry. In a previous learning style, a teacher provide lecture and then testing the students by giving tests and quizzes to recall all the lessons via memorization, whereas PBL attempts to get the students to apply all the knowledge that they learn into new situations. Problem-based learning also provides the students with opportunities to examine and try out what they know. It is also known as previous knowledge or schemata. Besides that, students also will have a chance to discover what they need to learn through the activities or problem given by the lecturer. In problem-based learning, students have ability to develop their interpersonal skills as they need to work in group. This is very important as communication skills is an important aspect to university students as they will use it after they have graduated.

2.2 THE PROBLEM-BASED LEARNING PROCESS

Teachers can facilitate motivation by helping learners identify short-term goals and reflect on their progress and achievements. For example, teachers can provide learners with self-assessment checklists to identify skill strengths and weaknesses, weekly checklists to track their progress on meeting a learning goal, and self-reflection tools (e.g., learning diaries) to help learners build autonomy and take charge of their learning (Marshall, 2002).

In problem-based learning classrooms, the roles and responsibilities of both lecturers and learners are different from those in more traditional way. Generally, in problem-based classrooms, the lecturer acts as a coach or facilitator of activities that students carry out themselves. The lecturer does not simply present information or directly control the progression of work. Instead, the lecturer provides students with appropriate problems to work on, assists them in identifying and accessing the materials and equipment necessary to solve the problems, gives necessary feedback and support during the problem-solving process, and evaluates students participation and end products, with the goal of helping them develop their problem-solving as well as their language and literacy skills.

3 METHODOLOGY

3.1 SAMPLE OF THE STUDY

The study was carried out on 30 current Quality Engineering students that have an experience in learning English using problem-based learning method. Only respondents who had an experience learning English through problem-based learning in their learning process were asked to respond to the questionnaire. This is to ensure that they will not be facing any problem when answering the questionnaire. These respondents were represented by various races and gender, with an approximate age of 19 - 22 years old.

3.2 RESEARCH DESIGN

As this research used the survey method, the instrument used was a structured questionnaire. The design for this questionnaire was based on research objectives and questions of research. It is divided into three sections.

The data obtained will be analyzed descriptively using simple percentage. The purpose of this questionnaire is to promote problem-based learning in ESL classroom in UniKL MITEC. The information obtained will be used for research purposes only and all responses will be kept confidential.

3.3 DATA COLLECTION PROCEDURE

Before the start of the study, the lecturer will inform these Quality Engineering students that they have to respond to the questionnaires. The lecturer will also tell them the purpose of distributing the questionnaires so that the students will be clear about the purpose of distributing the questionnaires. Then, the lecturer will arrange the appropriate day and time to carry out the survey to ensure that all of the 30 Quality Engineering students will be presented on the day and time as agreed.

On the arranged date and time, the 30 Quality Engineering students were provided with a questionnaire each and given a brief explanation of the aim of the study and instructions on how to respond to the questionnaires given to them. They were given up to 15 minutes to complete the questionnaire so that they could answer the questionnaire freely, sincerely and accurately. The completed questionnaires were then collected.

3.4 DATA ANALYSIS

The data collected will be classified into different sub-headings. The sub-headings consist of the background of the respondents and the perceptions of Quality Engineering students about promoting problem-based learning in ESP classroom.

To investigate the respondents perceptions towards the benefits of using problem-based learning in ESP classroom, I would like to distinguish the respondents attitude towards PBL. The data will be processed manually and presented in the form of frequency tabulation and percentage.

3.5 FINDINGS

OVERALL FINDINGS

From the responses of the respondents to the questionnaire, it was found that most of the respondents prefer to use problem-based learning in an ESP classroom. Analysis of data revealed two main categories:

- a) Students perception of using problem-based learning in ESP classroom.
- b) The use of problem-based learning in ESP classroom.

a) Students Perception of Using Problem-Based Learning in ESP Classroom

The perceptions of current Quality Engineering students based on using problem-based learning in ESP classroom were reported based on the completed questionnaire. Following is the table about the responses to the items on students perceptions:

Table 1 Responses to items on students perceptions

Questions	SD (%)	D (%)	N (%)	A (%)	SA (%)
5. I feel it could be more interesting if the lecturer use problem-based learning in learning English.	3.3	0.0	13.3	33.3	50.0
6. I think a lecturer should use new methods (problem-based learning) in teaching English.	3.3	0.0	13.3	23.3	60.0
7. A lecturer needs to change the teaching process from traditional method (whiteboard, textbook) to something new (problem-based learning) to attract more students to like English.	0.0	0.0	10.0	33.3	56.7
8. I am willing to learn English using problem-based learning if it is implemented at the university.	0.0	3.3	13.3	53.3	30.0
9. It would be fun to learn English using problem-based learning.	10.0	10.0	13.3	30.0	36.7

The results above provide yet further evidence of the Quality Engineering students perception towards the benefits of using problem-based learning in ESP classroom. These results provide some strong indications that Quality Engineering students prefer to use problem-based learning in ESP classroom for a change, as well as for better benefits, in the learning process.

This is evidence that English could be more interesting if the lecturer use problem-based learning in the learning process (50%). Most of the students also strongly agree that it would be more interesting if the lecturers use problem-based learning in teaching English (60.0%), though there are 13.3% who are unsure about it. There are 56.7% of respondents agreed that a lecturer needs to change the teaching process. This shows that problem-based learning will attract the students to learn English more than traditional method. 53.3% of the respondents also agreed that they are willing to learn English using problem-based learning if it implemented at the university. The rest 13.3% are neutral about it.

36.7% of the respondents strongly agree that it would be fun to learn English using problem-based learning. This is because, when

the lecturers use problem-based learning to teach English, it could be interesting for the students because they learn English through problem solving ways. Other than that, students will also practice their critical thinking skills as they have to solve the problem through problem-based learning.

b) The Use of Problem-Based Learning in ESP Classroom Following is the table about responses to items on the use of modern technologies in ESP classroom:

Table 2 Responses to items on the use of problem-based learning in ESP classroom

Questions	SD (%)	D (%)	N (%)	A (%)	SA (%)
10. Problem-based learning help students in their learning process.	0.0	3.3	13.3	63.3	20.0
11. Problem-based learning style are more effective than lecture.	3.3	3.3	26.7	46.7	20.0
12. Problem-based learning can motivate students in their learning process.	0.0	3.3	6.7	56.7	33.3
13. Problem-based learning can be used to assist students in learning English language.	0.0	3.3	6.7	53.3	36.7
14. Lecturer and students should be exposed to the use of problem-based learning from now on, not only for English subject, but also for another subject as well.	3.3	0.0	0.0	46.7	50.0

Problem-based learning help students in their learning process (63.3%). 46.7% of the respondents agree that problem-based learning style is more effective than a lecture. This is because by using problem-based learning, students can be more creative rather than sit for the whole day listening to a lecture.

Problem-based learning can motivate students in their learning process (56.7%). It is because students can learn English through various ways and it can attract them to like English. But 3.3% of the respondents disagree with this statement. These respondents think that using traditional way can also motivate them to learn English.

53.3% of the respondents agree that problem-based learning can be used to assist students in learning English language. Using problem-based learning, learning English will be more interesting and fun. Other than that, lecturer and students should be exposed to problem-based learning usage from now on, not only for English subject, but also for another subject as well (50%). This is

because, learning through problem-based learning encourages life-long learning because when the students learn the subjects through problem-based learning, it will create their critical thinking skills, develop students interpersonal skills and also it will encourage students cooperation during the lesson. In PBL, it is the problem that drives the curriculum. It does not test a skill; it assists in the development of the skill itself. There is no one solution: the problem is solved in an interactive process where the perception of the problem can change as do the solutions found.

4 CONCLUSION

Problem-based learning has much to offer in ESP instruction. As a teaching approach, it has both linguistic benefits, as shown in the research on the role of natural, meaning-focused classroom interaction in language learning, and affective benefits in the form of raising student motivation and promoting learner autonomy and transfer of learning beyond the classroom. To achieve these benefits, lecturers and administrators must ensure that students understand the principles behind problem-based learning and recognize that they are participating in an effective learning process, even if it is unfamiliar to them. Students need to familiarize with the concept of problem-based learning to ensure the learning through PBL will be successful. Apart from that, lecturers need support from program coordinators and administrators from initial training on how to conduct problem-based learning to help with making resources available to students. Finally, administrators and the lecturers must consider the role that problem-based learning will play in their program. Will it constitute the primary philosophical and pedagogical thrust of the program, or will it serve as an alternative activity for lecturers to use in their classrooms? Careful consideration of these issues will increase the likelihood that problem-based learning will be successfully incorporated into an ESP program with positive outcomes.

RECOMMENDATION Although this has been a survey of one IPTS in Johor Bahru, examining what really goes on in a classroom was a process that led to many new insights. It would be beneficial to repeat this study in other ESP classrooms to see if

other researchers find that problem-based learning leads to a shift in pedagogy and classroom interactions. A larger sample size might allow generalization of the results of this study.

Another suggestion for replication would be to conduct a survey of other second language classroom outside Johor Bahru. Students and lecturers expectations for language teaching and classroom communication might be different in a different context. What they experience in a classroom with problem-based learning might not be what they expected, which, in turn, might lead to a shift in classroom interactions. More importantly, if there were a shift in a different context, researchers should investigate how the students and lecturers respond to the newly introduced pedagogy.

A third suggestion is to examine whether the pedagogy that was promoted by problem-based learning does improve second language learning. It is essential to investigate what aspects of language learning would benefit from problem-based learning implementation. In order to find out how problem-based learning could contribute to second language learning, it is important to tie further research to theories of second language acquisition. In addition, a longitudinal study following a group of students through several years of language instruction might be useful for determining any long-term influence of the use of problem-based learning in second language learning.

Finally, there has been a strong tendency to emphasize quantitative method of research exemplified in the series of research studies on educational achievement that have been influential in shaping educational policy in many countries. However, using only quantitative method is not sufficient to capture the complex nature of learning and teaching in classrooms. The detailed description of classrooms nature of teaching and learning may offer a more thorough understanding of the process and consequences of educational technology implementation in other colleges.

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