

# PBL Strategies to Motivating English Class Low Achievers

Bella Chiou

Chinese Culture University, Taipei, Taiwan

The study adopts problem-based learning approach (PBL) in the English class in an attempt to enhance English low achievers' learning motivation and grammar competence in terms of relative clauses in the English classroom. In addition, the students' attitudes toward PBL are explored. Two classes were randomly assigned to either the experimental group (EG) or the control group (CG). The EG underwent PBL instruction, whereas the CG received traditional lecture-based instruction. Apart from a pretest and a delayed posttest, an Opinion Toward PBL Questionnaire, a classroom observation checklist, and three class tasks were used to collect the data from the EG. The findings indicate that the engagement level of the EG increases by the scenario-based strategy and their grammar competence improves under PBL teaching strategies. Also, the EG has a positive attitude toward PBL. The result implies that PBL exerts a positive influence on the performance of the EG participants.

*Keywords:* problem-based learning approach, PBL, cooperative communication skills, problem-solving skills

## Introduction

The traditional lecture-based learning (LBL) approach in which only the teacher speaks and students listen is teacher-centred. In an LBL English classroom, it has been popular for decades of years in Taiwan that the teacher emphasizes the significance on grammar rules and vocabulary and drills in the use of grammatical sentence patterns in the target language. In this instructional approach a teacher stands before a class and presents relevant information on the given topics for students to learn and students only passively receive the information, whether the students understand or not, and attempt to memorize the contents without interaction to take place.

The LBL spoon-feeding students used to be an effective approach. However, as observed, LBL contributed to low-achieving learners who were passive and lacked for motivation in learning. These students had suffered from LBL under which they had been studying English for at least nine years, but their English proficient level still left much to be desired. To tackle the predicament, the need to apply different approaches to encourage teachers and students to teach and learn in the English classroom seems to be necessary.

Lin (2017a, p. 5) cited her previous studies to support the problem-based learning (PBL) approach. She emphasizes on the strength of small-group mode, one of the characteristics of PBL, effectively fostering her students' learning attitudes and augmenting their English reading competence. She concludes that PBL exerts positive effects on her students' performance.

Another research administered by Zuhriyah (2017, p. 10) used observation and grammar tests to collect data when implementing PBL. The observation notes documents both lecturer's and students' activities as well as students' responses when PBL is implemented in grammar class. The findings maintain that the use of PBL to

---

Bella Chiou, Doctor of Bilingual Education, assistant professor, Department of English Language and Literature, Chinese Culture University, Taipei, Taiwan.

teaching grammar not only improves students' grammar ability, but also their both speaking and writing skills.

Encouraged by above-mentioned research, this study adopts PBL to try to find a viable instructional approach for these university-students classified as low achievers in learning English to reconstruct their confidence and willingness to study English. The following research questions are formulated:

1. Is the PBL teaching strategy conducive to improving students' grammar knowledge about relative clauses (RCs) in terms of a relative pronoun (RP) used as a subject, an object, and a preposition placement in a relative clause (RC)?
2. Is PBL beneficial to enhance students' learning motivation in English classes in terms of engagement and involvement in the learning process?
3. What are students' attitudes toward PBL?

### **The Concept of PBL Approach**

The PBL is a pedagogical approach which has been adopted and well-accepted in various disciplines for years and continues to gain acceptance. It is a student-centred approach in which students take control of their own learning and the teacher becomes a facilitator (Savery, 2006, p. 12). Since students are responsible for their own learning, minimal teaching is involved (Othman & Shah, 2013, p. 127). Collaboration which can decrease classroom anxiety and increases students' learning satisfaction in a small group is necessary and interdependent (Haruehansawasin & Kiattikomol, 2018, p. 365). Students with prior knowledge, assumptions, and experiences work in a group, consciously apply strategies to handle unfamiliar information, and negotiate tangible solutions to the problem they might encounter in the real life. The problem is used as a stimulus for learning which has a self-directed discovery and questioning. Additionally, critical thinking takes place throughout the learning process (Ng Chin Leong, 2009, p. 41). Neville and Britt (2007, p. 237) stated that PBL utilizes problems as devices to cultivate the learner's problem-solving schemata.

To sum up, PBL is a pedagogical method in which a teacher who acts as a facilitator uses a problem as a context for students in small group manner to develop problem-solving skills and acquire knowledge. During the process, students are responsible for their learning and cultivate self-directed learning temperament as a life-long learning habit. They are prepared for the real world. This student-centred concept is different from LBL which is a teacher-centred approach.

## **Method**

### **Research Design**

This study adopts a pre-test-and-delayed post-test research design. Both qualitative and quantitative research methods are used. Two classes were randomly assigned to either the experimental group (EG) or the control group (CG). The EG underwent PBL instruction, whereas the CG received traditional lecture-based instruction. Prior to the treatment, both groups took a RC pretest to compare their proficiency level of RC knowledge. Seven weeks later, the delayed posttest was administered for the two groups to know the improvement of their grammar competence and measure their retention rate. Besides, the EG filled out a questionnaire. Before the delayed posttest was conducted, all participants had to read two texts from which they comprehended the texts and identified the RCs; meanwhile, the classroom observation checklist was used to document the performance of the EG while PBL was implemented. The following Figure 1 outlines the research design.

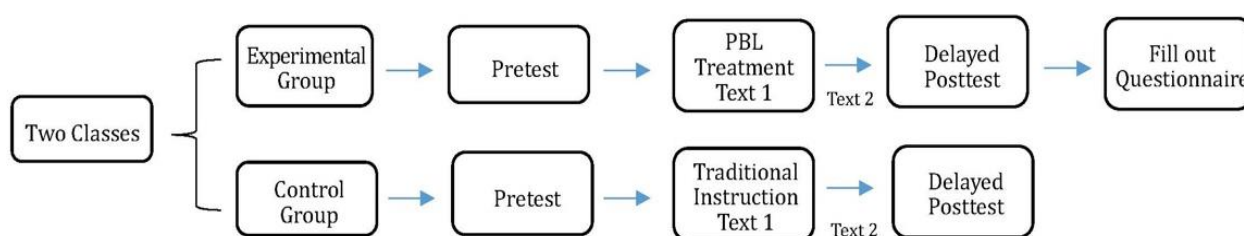


Figure 1. Research design.

## Participants

One hundred and one students from two classes enrolled in Freshman English Reading at a university in Taiwan participated in this study. The participants in the EG ( $N = 55$ ) studied chiefly in Departments of Physics, Dance, and Applied Science of Living. They were divided into seven groups, seven or eight participants in a group with a leader. The CG ( $N = 46$ ) was mainly from Departments of Chinese Literature and Political Science. Chinese was their L1.

Though they had studied English at least nine years, their English proficiency level was classified at the pre-intermediate level based on their scores of the English subject in the General Scholastic Ability Test held by the Joint University Entrance Examination in Taiwan. Based on the scores they obtained, the participants were categorized as the pre-intermediate level by the Office of Academic Affairs of the University. The two groups took the RC pretest to gauge whether there was a significant difference between them in terms of their RC ability. The independent-samples  $t$ -test indicated that there was an insignificant difference ( $t = 99, p > 0.05$ ), implying that both groups' RC ability was similar before the pedagogical treatment.

## Instrumentation

Apart from a pretest and a delayed posttest, the Opinion Toward PBL Questionnaire modified from Chang, Chang, Tsai, and Chiou (2018), a classroom observation checklist, and three class tasks were used to collect the data from the EG. The tests were administered to assess the participant's knowledge about the RC before and after practicing PBL instruction. The two tests in multiple-choice format were designed with the same questions, but in the delayed posttest, both the questions and the choices of the answers were randomized, 20 questions for each. The maximum score for each test was 100, with each correct response value five points.

The classroom observation checklist developed by the researcher was used to record what happened during the class as an indicator to measure their engagement levels while discussing the scenario. The three tasks completed by the EG were used to appraise their learning accomplishments. Tasks 1 and 2 required the EG to find out all the RCs from the two assigned texts and Task 3 to make three RCs which were completed after the participants finished studying the two assigned texts. The three RCs must use a RP as a subject, as an object, and a preposition placement that must place in the front of the RP in the RCs, respectively.

Opinion Toward PBL Questionnaire used in this study consists of two parts: The first part of Questionnaire with 21 questions divided into four sections including problem-solving skills (six items), critical thinking skills (five items), learning effects (five items), and cooperative communication skills (five items) was used to discover the EG's attitudes to PBL. They reported their frequency of agreement with a five-point Likert scale (ranging from 5 = "Strongly Agree" to 1 = "Strongly Disagree"). The second part was formulated to obtain demographic information such as the participant's major, years for studying English, and English proficiency level.

### Data Collection Procedures

This study lasted for seven weeks. After the pretest, the CG undertook the conventional method to study RC grammar knowledge and comprehend Texts 1 and 2. The class was conducted by the following sequence of activities: warm up, questions to activate background knowledge, text translation and interpretation, explanations of vocabulary and sentence structures, and doing exercises individually. In the same manner, the CG finished studying Text 2.

The EG divided into seven groups was given the same scenario (the problem) and demanded to discuss and offer the possible solutions; meanwhile, the group leader took down the discussion result for the later oral presentation. Their results were collected for the later analysis. The scenario was invented by the researcher based on the content of the Text 1. When the PBL participants looked for their solutions, they were encouraged to read Text 1 for reference. During the discussion, the instructor went around the classroom to observe and record what happened for later appraisal and provided help when necessary. Text 2 was used as a supplementary reading for the EG to review their RC grammar rules. The EG was required to find out all RCs which appeared on the two texts.

At last, the delayed posttest was conducted two weeks after the treatment for both groups to appraise their RC knowledge retention and learning achievement. And the EG filled out the questionnaire.

### Data Analysis

An independent-samples *t*-test was conducted to evaluate the difference of pretest and delayed posttest between the two groups. The discovery of classroom observation was analyzed by the scale as indicated on the checklist and the correctness of three tasks was checked. The EG's responses toward the questionnaire were presented in percentage, means, and standard deviation.

## Results

Research Question 1 examines if PBL significantly improves the EG's RC knowledge. To find out if there is a difference between EG and CG, an independent-samples *t*-test is conducted. The statistical results reveal that the EG's mean score ( $M = 48$ ) on the delayed posttest is higher than that of CG ( $M = 43$ ), and the *t*-test yields a significant result between the two groups in the score of delayed posttest ( $t = 2.24, p < 0.05$ ). These results suggest that the PBL teaching strategies improve the EG's grammar knowledge. Table 1 presents the results.

Table 1

*T-Test Results of Delayed Posttest for EG and CG*

Group	Mean	SD	t	p
EG/CG	48/43	12.9/9.2	2.31	0.02

Moreover, the EG is asked to find out all the RCs from the two texts and made three RC sentences on the group-basis. It was not difficult for them to achieve the tasks although some of groups had minor errors on their RCs. After reminding from the teacher, they could fix the mistakes they made.

Research Question 2 investigated whether PBL significantly enhanced the EG's learning motivation. To examine the EG's engagement and involvement, the classroom observation checklist (see Appendix A), the miniature of the EG's performance, was used. The scenario was distributed to each group. It was about a person who might contract colorectal cancer. If so, he would need much money to perform Da Vinci Surgical System. While discussing the scenario, more interactions and better performances could be found if the group members were from the same department. Only one group composed of two departments seemed to be less passive. They

either worked alone or talked to the participants they knew from other groups from which they sought for help. When presenting their solutions, Da Vinci Surgical System was clearly introduced by all groups including its advantages and disadvantages. All of them agreed that the person should be performed the surgery in spite of high medical expenses. Being alive appeared to be the most important according to their conclusion.

Research Question 3 explored the attitudes of the EG about PBL. The data in Opinion Toward PBL Questionnaire were simplified by collapsing the five-point scale used to elicit responses into a three-category scale. As Table 2 shows, the majority “Strongly Agree” or “Agree” the items described in the questionnaire. The items most supported by the EG from each section are Item 6 (91%), Item 7 (86%), Item 14 (82%), and Item 17 (80%), respectively. Besides, the average scores for the four sections are over or close to four after rounded. Generally, on a five-point scale, an item whose mean is greater than 3.5 implies that the item is favored by the most of respondents. Overall, the EG has a positive attitude toward PBL.

Table 2

*Frequencies of Response (in %), Means, and Standard Deviations for PBL Questionnaire Items*

Item	5 + 4	3	2 + 1	Mean	SD
Problem-solving skills				4.06	
When discussing the problem in the group, I'd like to read the text to find the solution to it.	85	15	0	4.09	0.62
The problem discussed in the class will help me tackle problems in the future if I encounter similar situations.	76	20	4	3.93	0.74
Group discussion helps me search for data and filter them.	81	16	2	4.09	0.73
Group discussion helps me propose solutions to solve problems more efficiently.	76	22	2	4.00	0.75
Group discussion helps me be more confident of proposing solutions to solve the problem.	76	22	2	3.98	.73
Group discussion helps me establish my ability to collect, process, organize, and manipulate information.	91	7	2	4.27	0.68
Critical thinking skills				3.95	
Group discussion helps me ponder on the problem from different aspects.	86	15	0	4.13	0.64
Group discussion helps me propose solutions from different aspects.	84	16	0	4.11	0.66
Group discussion helps me develop my critical thinking skills.	71	27	2	3.93	0.77
The cooperative learning process in group discussions strengthens my critical thinking skills.	82	11	7	3.93	0.77
The solutions proposing from the other groups are very different from mine.	64	26	11	3.67	0.92
Learning effects				3.69	
Class activities, such as group discussions, film watching, and sentence-making, help me understand the theme and contents of the text.	78	13	9	3.95	0.87
Group discussion helps me better understand the subject and content of the text.	76	16	7	4.02	0.89
Group discussion helps me understand the medical application of Da Vinci Surgical System in the text.	82	16	2	4.13	0.75
Group discussion affects the learning progress because it takes time to cooperate and communicate with other group members.	42	38	20	3.22	1.01
Group discussion is not effective because it takes too much time to communicate with other group members.	38	33	29	3.15	1.03
Cooperative communication skills				3.58	
Group discussion helps me better involve the discussions with the group members.	80	18	2	4.07	0.74
The task of “group report” helps me cultivate my reporting skills.	78	16	6	3.98	0.81
The cooperative learning process in group discussion develops my communication skills.	76	15	9	3.91	0.87
There is always someone who does not participate in group discussion.	33	35	33	3.02	1.13
The group discussion activity is likely to result in unfair workload distribution.	33	27	40	2.93	1.14

*Notes.* Items 15, 16, 20, and 21 are worded negatively; 5 = “Strongly Agree”, 4 = “Agree”, 3 = “Moderate”, 2 = “Disagree”, 1 = “Strongly Disagree”; the percentage has been rounded to nearest whole number.

### Discussion

The purpose of the study is to determine the effectiveness of the PBL teaching strategies on low achievers' linguistic knowledge and rebuild their learning motivation. Although both groups progress in the mean score of the delayed RC posttest, the result indicates the EG' performance excels CG's. The PBL features learning by doing, which means students are invited to take an active role in learning while the role of teacher is a tutor or a coach who gives freedom to students to solve the problem by discussing with their peers. The EG was encouraged to find answers by self-discovery. During the treatment, they used online resources to find out the grammar rules for RCs and discussed the rules with their members to make sure they comprehended usage. They also had to self-study the two texts, find out all RCs, and write three RC sentences as demanded. The hand-on experiences seemed to help them retain the grammatical rules better than the CG. The finding supports the results of previous studies conducted by Lin (2017b, pp. 116-117) and Argaw, Haile, Ayalew, and Kuma (2017) that the independent sample *t*-test yielded a significant result between the PBL group and non-PBL group. The PBL group that followed PBL model learning was higher than the non-PBL group in the posttest.

The result of observation checklist reflects the EG's active participation in group work although one of the groups was less enthusiastic. The scenario-based learning in a small-group format successfully induced the participants in discussion. Probably, the scenario was not far from their real lives. Their prior knowledge was triggered. They felt free to express their ideas instead of sitting in the classroom and wandering off somewhere. They read the assigned texts and took actions to search for tangible answers from online resources or the teacher's advice. Their critical-thinking skill was cultivating and communicative skill was enhanced while mediating with their peers. They assumed more responsibilities for their own learning and worked together with their counterparts to finish the assigned tasks. It could be seen that their self-confidence and endurance were improved while formulating temporary answers. The active learning occurred. Via the process, they acquired both content and linguistic knowledge. The finding consists with Boothe, Vaughn, J. Hill, and H. Hill's study (2011).

The EG endorses PBL as a helpful learning method. Problem-solving skills wining the highest average score, the majority favored the group discussion in which they were invited to search for temporary solutions by reading the text as well as finding online resources and filtered unfeasible solutions to tackle the problem. The feasible solutions could be beneficial to the problem they might encounter in the future. Thus, their problem-solving skills were sharpened. The finding is consistent with the study administered by Kadir et al. (2015, p. 166). They claim that their learners' problem solving abilities get improved after the PBL treatment.

Many students also highly value that their critical thinking skills are developed by group discussion. Different views were presented from different angles; meanwhile, different solutions were proposed from different perspectives. They considered different solutions and analysed them to obtain the right conclusion by cooperating with peers.

As to learning effects, the participant rejects the notion that group discussion is ineffective and blocks their learning effects. Conversely, they believe that group discussion and class activities help them better comprehend the learning contents. This could be explained that PBL offers them a different learning process in which they are motivated. The experience is different from LBL they were accustomed to.

Most of them report that their cooperative communication skills are cultivated by joining group discussion. Usually, low achievers were uncomfortable to express their ideas in front of their classmates because their self-esteem

was low or deficient in prior knowledge. Group discussion helped them reduce their anxieties and better engage in discussion. Also, the task of “group work” forced them to talk. Consequently, cooperative communication skills are nurtured.

### Conclusion

The PBL is a motivating learning strategy, which enables students to work through solutions to the ill-structured, authentic problem with a teacher’s support (Awang & Daud, 2015, p. 482). It uses an authentic problem as a trigger to seduce students in discussion. Besides, the small-group format encourages students to express opinions and participate in discussion from which problem-solving and critical skills are strengthened. Students take responsibilities for group work and take control for their learning which means they subconsciously manipulate their learning. The solution is the product by cooperating with peers; thus, cooperative communication skills are enhanced. Once, students’ motivation increases, the learning effect definitely enhances (Asgari, 2013, p. 488). This study fulfills the features of PBL. It is possible that the features contribute to these low-achieving students’ high level of engagement in the class and their positive attitudes toward PBL. Therefore, the suggestion for future study is to conduct PBL in different classroom contexts, especially for low achievers since most of studies in PBL have been practiced to advanced learners (Pedersen & Liu, 2002, p. 354). Despite time-consuming in the preparatory stage and the learning process for both teacher and students, the result is optimistic.

### References

- Asgari, M. (2013). Using current issues of interest in teaching grammar. *International Research Journal of Applied and Basic Sciences*, 4(2), 487-495.
- Argaw, A. S., Haile, B. B., Ayalew, B. T., & Kuma, S. G. (2017). The effect of problem-based learning (PBL) instruction on students’ motivation and problem solving skills of physics. *EURASIA Journal of Mathematics Science and Technology Education*, 13(3), 857-871.
- Awang, H., & Daud, Z. (2015). Improving a communication skill through the learning approach towards the environment of engineering classroom. *Procedia-Social and Behavioral Sciences*, 195, 480-486.
- Boothe, D., Vaughn, R., Hill, J., & Hill, H. (2011). Innovative English language acquisition through problem-based learning. Retrieved August 3, 2022, from [https://conference.pixel-online.net/conferences//edu\\_future/common/download/Paper\\_pdf/ITL27-Boothe,Vaughn,Hill,Hill.pdf](https://conference.pixel-online.net/conferences//edu_future/common/download/Paper_pdf/ITL27-Boothe,Vaughn,Hill,Hill.pdf)
- Chang, L., Chang, L., Tsai, C., & Chiou, B. (2018). Problem-based learning in introductory linguistics and literature courses. In *2018 Hwa Kang International Conference on English Language & Literature*. Department of English Language and Literature, Chinese Culture University, Taipei, Taiwan.
- Haruehansawasin, S., & Kiattikomol, P. (2018). Scaffolding in problem-based learning for low-achieving learners. *The Journal of Educational Research*, 111(3), 363-370.
- Kadir, Z. A., Abdullah, N. H., Anthony, E., Salleh, B. M., & Kamarulzaman, R. (2015). Does problem-based learning improve problem solving skills? A study among business undergraduates at Malaysian premier technical university. *International Education Studies*, 9(5), 166-172.
- Lin, L. F. (2017a). The application of the problem-based learning approach to English class: Chinese-speaking learners’ willingness to communicate. *International Journal of Education*, 9(3), 1-20.
- Lin, L. F. (2017b). Impacts of the problem-based learning pedagogy on English learners’ reading comprehension, strategy use, and active learning attitudes. *Journal of Education and Training Studies*, 5(6), 109-125.
- Neville, D. O., & Britt, D. W. (2007). A problem-based learning approach to integrating foreign language into engineering. *Foreign Language Annals*, 40(2), 226-246.
- 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. (2013). Problem-based learning in the English language classroom. *English Language Teaching*, 6(3), 125-134.
- Pedersen, S., & Liu, M. (2002). The effects of modeling expert cognitive strategies during problem-based learning. *Journal of Educational Computing Research*, 26(4), 353-380.
- Savery, J. R. (2006). Overview of problem-based learning: Definition and distinctions. *The Interdisciplinary Journal of Problem-Based Learning*, 1(1), 9-20.
- Zuhriyah, M. (2017). Problem-based learning to improve students' grammar competence. *Register Journal*, 10(1), 48-61.



Appendix A  
Classroom Observation Checklist

Respond to each statement using the following scale: 3= Meets Expectation; 2= Acceptable but Needs Improvement; 1= Happened during Class. The behavior meets the statement is ticked.

Statement	Group 1			Group 2			Group 3			Group 4			Group 5			Group 6			Group 7		
	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1
1. The group leader leads the group discussion and keeps notes.	v			v			v			v			v			v			v		
2. Group members show interest and enthusiasm.	v			v			v			v			v			v			v		
3. Group members raise questions.	v			v			v			v			v			v			v		
4. Online resources are used to find out answers as well as to seek help from the teacher.	v			v			v			v			v			v			v		
5. Group members are engaged and active.	v			v			v			v			v			v			v		
6. Group members carefully listen to peer questions or opinions and negotiate the possible answers (critical thinking).	v				v		v			v			v			v					
7. Group members can stay in the assigned area to discuss on the topic instead of missing.	v			v			v			v			v			v			v		
8. Collaboration is found during discussion.	v			v			v			v			v			v			v		
9. The group can finish the task on time.	v			v			v			v			v			v					
10. Group members actively do exercises.	v			v			v			v			v			v			v		
11. Group members are passive and stay silent or indifferent for most of the time.																					v
12. Group members display boredom and seem unwilling to participate in discussion.																					v
13. Time is not enough to finish the task.																					
14. Team members work independently.																					v

Note:

1 Dept. of Physics: Groups 1, 2, and 3; Dance: Groups 4 and 5; Applied Science of living: Group 6; Group 7: Dept. of Physics and Applied Science of living.

2 The participant seems to dislike long description.

3 None of group speak English as the medium in group discussion.