

THE INFLUENTIAL PRINCIPLES IN PROBLEM-BASED LEARNING: A SYSTEMATIC REVIEW ON ENGLISH LANGUAGE LEARNING

^{1*}Nurul Aryanti, ²Aria Septi Anggaira, ¹Welly Ardiansyah, ³Suhono

¹Politeknik Negeri Sriwijaya, Palembang, Indonesia

²Institut Agama Islam Negeri (IAIN) Metro, Lampung, Indonesia

³Universitas Ma'arif Lampung, Lampung, Indonesia

*Corresponding Author Email: nurularyanti@polsri.ac.id

Article Info	Abstract
Article History Received: January 2024 Revised: February 2024 Published: April 2024	<i>Since the beginning of its application, the Problem-Based Learning (PBL) has been recognized for its success in improving the quality of learning in various disciplines from different countries. Then, it has been recommended to be applied in all levels of education, especially in higher education. Therefore, this review is aimed at exploring the most influential principles of PBL which give contribution to the success of the learning outcome in English language learning. This review was compiled based on the guideline from PRISMA (Preferred Reporting Items for systematic reviews and Meta-Analysis). Data was searched and collected from studies published from electronic data bases of reputable international journals issued from 2012 to 2020. From 105 articles in the same area of English language learning, 7 articles were chosen to match the purpose of this review. The 7 articles have the same research methodology (experimental study), in which the discussions of the articles are analyzed to find the most influential principles supporting the success of PBL for all level of education in English language learning. It was found that PBL has proven to be effective in English language learning for all levels of education. In addition, the review shows that all discussions of the articles state that there are five most influential principles of the PBL that give contribution to the success of the language learning, the incorporation of ill structured/real life problems, a student-centered approach, collaborative learning, problem solving, and critical thinking.</i>
Keywords Student-Centered Approach; Collaborative Learning; Problem Solving; Critical Thinking;	
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INTRODUCTION

Having problems is the nature of human beings. It is believed that the earlier a person is exposed in the problem, the tougher he/she will be in his/her future life. This perspective often used as the starting point of educators in implementing a learning material. It means that problem is considered as positive or valuable materials in education. Moreover, students will obtain more knowledge through the exposure of problems. Therefore, providing problems in learning is not new in the world of education. Education is required to be relevant to the ever-evolving needs of society due to the advancement of science and technology (future-oriented education). Through education, it is expected to form a complete Indonesian human so that the fang.

The challenge of global competition and technological innovation forces educators to provide students in every field of study with problem solving and critical thinking skills (Al-Mubireek, 2020; Aunurrahman, 2020; Hussin et al., 2018; Purwowidodo, 2023; Muhammadi et al., 2019) To solve problems, students need to think critically (Fatade & Mogari 2013; Gorghiu, Draghicescu, & Cristea, 2014; Macadangdang, 2019; Mustafa 2016; Sindelar, 2010)

thus thinking skills should be set as the primary goal of education Burris and Garton (Burris & Garton, 2007; Lapuz & Fulgencio, 2020; Yazar Soyadı, 2015). The urgency of the critical thinking skills for students is also supported by many studies (Gholami, 2016; Mimbs, 2005; Temel, 2014; Toheri et al., 2020). Therefore, many educators in different area of studies propose the suitable learning model that can promote the skills (Davidsen et al., 2019; Du, et al., 2013; Gros, Guera, & Sanchez, 2005).

A learning model that provides students with problem-solving situation and foster students' critical thinking skills is Problem-based learning (PBL) (Dochy et al, 2003; Camacho & Christiansen, 2018; Latip, & Supriatna, 2023; Sahin & Yorek, 2009; Schimidt & Yew, 2011; Wang et al., 2008; Yuan et al., 2014). This learning model can be used in various field of study, medical education (Wang et al., 2008; Oja, 2011; Shin & Kim, 2013) teacher education (Holgaard et al, 2014; Kolmos et al, 2004; Bridges, 2019; Major & Mulvihill, 2018), Pharmacy (Ansari et al., 2015), language, literacy, and cultural acquisition (Aker et al., 2018), English Language Learning (Idayu & Bakar, 2016), Macroeconomics (Mergendoller et al., 2006) Environmental Education (Chai & Swanto, 2020) and Writing (Aliyu et al., 2020; Babae & Vahidi, 2020).

Despite the shortage-empirical data of successful impact of PBL in English language learning, Azman and Shin (Norzaini Azman & Ling, 2012) got the inspiration of conducting their research in implementing PBL in English for Second Language classroom for university students in Malaysia, based on two studies done by Allen & Rooney (Norzaini Azman & Ling, 2012, p. 110). The first study was done for Business Communication and the latter was on an English course at for Bio-medical students. In their research, Azman and Shin found that the students have positive perceptions on problem-based language learning and PBL has had a positive impact on the students' language skills particularly on their speaking skills. In addition, PBL proves to show a significant result in Academic Writing (Surya, 2018; Wijayatiningsih & Lestariningsih, 2009), gives a better understanding in Argumentative Writing (Luele, 2018). In addition, the writers' previous successful studies in applying Problem Based Learning approach in learning English encourage them to do the systematic review of Problem based learning on language learning. Therefore, in this research, it is crucial to find out the influential principles of Problem-Based Learning that give contribution to its success in language learning.

RESEARCH METHOD

This review was compiled based on the guideline from PRISMA (Preferred Reporting Items for systematic reviews and Meta-Analysis). Data was searched and collected from studies published from electronic data bases of reputable international journals issued from 2012 to 2020. The search for data of this review are conducted through access research databases mainly through Google Services, Mendeley, Google Scholar, Research Gate, JSTOR, Scimago, Scopus.com, and indexed journals with the keyword "Problem-Based Learning for English language learning". From 105 articles in the same area of English language learning, 7 articles were chosen to match the purpose of this review. The 7 articles have the same research methodology (experimental study), in which the discussions of the articles are analyzed to find the most influential principles supporting the success of PBL for all level of education in English language learning.

The classification process is carried out using the table analysis. Each article will be explained by means of a table, about objectives of the study, participant, instrument, data analysis, finding and discussion, and the conclusion. Each article is analyzed mainly on the principles of problem based learning that affect the improvement of the learning process and also the results of English learning. The findings of the literature review will be presented according to influential principles of the PBL that give contribution to the success of the

language learning: 1) incorporation of ill structured/real life problems, 2) a student-centered approach, 3) collaborative learning, and 4) problem solving, and 5) critical thinking.

RESEARCH FINDINGS AND DISCUSSION

The Role of Problem-Based Learning (PBL) E-Portofolios on Writing Anxiety

Table 1
The Role of Problem-Based Learning (PBL) E-Portofolios on Writing Anxiety

Article	Objectives of the study	Participant Population/ Sampel	Experiment Class	Control Class	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion
Soodeh Babace. Hamideh Vahidi Borji. The Role of Problem-Based Learning (PBL) E-portfolios on Writing Anxiety. <i>International Journal of Sciences: Basic and Applied Research (IJSBAR)</i> (2017) Volume 36, No 1, pp 279-305		60 female participants of University in Iran	30	30	*The Interchange Objective Placement Test, *Information Technology (IT) Inventory, *Writing Anxiety Inventory (SLWAI) Questionnaire, *TOEFL Writing Test as Pre-test and Post-test, *Weblog	descriptive statistics	Collaborative learning Students-centered approach Autonomous learning	according to the data PBL E Portfolios was feasible and effective approach to alleviate learners' writing anxiety significantly and affected their writing performance positively.	□ the PBL E-portfolios initiated a meaningful increase in the mean score of the experimental group, consequently, PBL weblog-based e-portfolio can positively affect Iranian intermediate EFL learners writing anxiety and writing performance.

The ability of writing in English is a kind of problematic area in English as foreign language (Dr. Bharati, 2016; Seyabi & Tuzlukova, 2014). In Iran, the problem mainly comes from students' anxiety especially in writing. Therefore, a research was conducted to establish an interaction in writing classroom in order to reduce anxiety using e-portfolios as an alternative assessment and Problem-Based Learning (PBL) as a teaching method.

The research involved self-regulated learning theory consisted of four steps, planning, monitoring, controlling, and reflecting. It was a quasi-experimental intact group, with 60 female participants at University in Iran, who were familiar with technology. 4 instruments were used, Interchange Objective Placement Test, Information Technology (IT) Inventory, Writing Anxiety Inventory (SLWAI) Questionnaire, TOEFL Writing Test as Pre-test and Post-test, and Weblog. Students wrote 9 writing assignments in the class using pen and paper throughout 9 weeks. The procedure was taken from Tan (Chai & Swanto, 2020, p. 64) that begun by dividing experimental and control group. There were five stages that the students will follow, meeting the problem, problem analysis and learning issues, discovery and reporting, solution presentation, and final evaluation.

In the experimental group, students were taught by PBL based e-portfolios learning. They were divided into groups with 4 or 5 members in each group, and they all had their own laptops in class. Two topics were presented to students by instructor and one of them was chosen by students in each session. Meanwhile, in the control group, conventional method was utilized as teacher-centred classroom. Result showed that PBL was feasible and effective approach to alleviate learners' writing anxiety significantly and affected their writing performance positively. Furthermore, the PBL e-portfolios initiated a meaningful increase in the mean score of the experimental group, consequently, PBL weblog-based e-portfolio can positively affected Iranian intermediate EFL learners writing anxiety and writing performance. The aspect that supported the success of PBL approach was the existence of interaction and cooperation during PBL, which referred to collaborative learning, problem solving, and student-centered approach.

Problem-based Learning in English for a Second Language Classroom

Table 2
Problem-based Learning in English for a Second Language Classroom: Students Perspectives

Article	Objectives of the study	Participant Population/ Sampel	Experiment Class	Control Class	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion
Norzaini Azman, Ling Kor Shin. Problem-based Learning in English for a Second Language Classroom: Students' Perspectives. The International Journal of Learning Volume 18, Issue 6, 2012, http://www.Learning-Journal.com , ISSN 1447-9494	The purpose of the study reported here was to explore the students' perceptions of PBL and to find out the impact of PBL on the development of students' language skills.	57 students from two of the 13 classes enrolled in the Foundation English Language Course, ZH2014			The self-Assessment Test and the Programme Evaluation Questionnaire.	Data obtained from the study were coded, computed and analysed descriptively using the Statistical Packages for the Social Science (SPSS) version 14.	Collaborative learning, • Critical thinking, • Problem solving	*Student's Perceptions of the PBL Module. (The students from the experimental group also reportedly perceived PBL as an engaging method of learning. It is also claimed that students seem to be motivated to learn when knowledge learnt is about real life situations that require interpretation, critical thinking and reasoning). *Student's Perceptions of the Effectiveness of PBL on ESL Learning. (The most significant among the twelve items was that the students reported that PBL had enhanced their self-confidence). *Students' Views of PBL Approach in English Language Classroom. (the majority of the respondents enjoyed the collaboration and cooperation among group members. They enjoyed meeting new friends and sharing different ideas and information among themselves in solving the problems. *At the end of the programme, most of the students in the intervention group indicated that they had a positive perception of problem-based language learning. They had very positive comments about their PBL experience, showing their satisfaction with the PBL programme, and were motivated to learn both language and knowledge through problem-solving.	PBL is suitable for language teaching and learning and it is applicable to all types of English courses.

In Malaysia, English is spoken as a second language that used for communication in education, at the work place, and in community. Therefore, English is being taught for learner in Malaysia. Commonly, the method used in teaching English is conventional method, which refers to reinforce language instruction through decontextualized practice. The problem was lack of ability of learners of English especially in speaking and writing.

The research used Problem Based Learning (PBL) approach as the teaching method. This method is a learning method based on a principle of using real-world problems, and the theory used for PBL in this research is from Legg (Legg, 2007). The data collection procedures were started by dividing two classes with two teaching methods. One of the classes namely experimental group used PBL method, meanwhile the other class as control group used lecture-based method. Through this research, there were 57 students from two of the 13 classes enrolled in the Foundation English Language Course, ZH2014 as the participants in the experimental group. The researchers used self-assessment test and program evaluation questionnaire as the instruments. Self-assessment test consisted questions about the PBL approach used during the intervention, while program evaluation questionnaire was focused on evaluating the influence of the instructional design on their learning process and language skills development.

The students from the experimental group reportedly perceived PBL as an engaging method of learning. It was also claimed that students seemed to be motivated to learn when knowledge learnt was about real life situations that required interpretation, critical thinking and reasoning. In addition, the students reported that PBL had enhanced their self-confidence. The students enjoyed meeting new friends and sharing different ideas and information among themselves in solving the problems. At the end of the programme, most of the students in the intervention group indicated that they had a positive perception of problem-based language learning. Furthermore, the success of PBL approach is due to the collaboration and cooperation among group members that happens during the application of this method of teaching. Also, the aspect that involved in this research was collaborative learning and problem solving.

Transforming English Language Writing Skill Employing Problem Based Learning

Table 3
Transforming English Language Writing Skill Employing Problem Based Learning

Article	Objectives of the study	Participant Population / Sampel	Experiment Class	Control Class	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion
Ghulam Dastgeer, et.al. Transforming English Language Writing Skill Employing Problem Based Learning. Vol. 7, No. 2, June 2019, 2305-6533 (P).	To see the effects of PBL in English classrooms for transforming and improving writing skill of secondary level learners	9th class of Federal Government School Islamabad Pakistan	416	415	writing test	pre-test and post-test and analyzed through employing t-test, inter-rater by scoring rubric, Inferential and descriptive statistics tools: Mean scores were compared through t-test, paired samples test, and independent samples test; while the performance of various groups was compared using ANOVA and Scheffe tests.	Students-centred Collaborative learning Authentic problems	Problem Based Learning improved English writing skill of students at secondary level significantly. It was found more effective pedagogy than conventional method.	PBL proved as more effective teaching-learning technique than conventional method for transforming and improving secondary level learners' English essay writing. The researchers recommended the use of PBL for English teaching at secondary level.

Communication using English has many difficulties for Secondary Level students in Pakistan especially in writing (Chai & Swanto, 2020; Hussain et al., 2021). The problem established since the conventional teaching methods seldom provided them with opportunities to express themselves freely. Therefore, it was essential to improve the situation by adopting such teaching-learning methods and techniques that encourage and transform the learners from rote learning to creativity (Chan, 2009; Ennis, 2011; Frambach et al., 2012; Gwee, 2009; Lin et al., 2010). Then, Problem Based Learning (PBL) method is used as the alternative of teaching method as it has been effective in many subjects. As a teaching method, Problem Based Learning has been experimented for various subjects at different levels around the world and recognized as an effective technique (Ansarian, L., Adlipour, A. A., Saber, M. A., & Shafiei, 2016; Azman, N., & Shin, 2012; Boothe, D., & Caspary, 2017; Yuan et al., 2014). Based on this situation and the phenomenon, the researchers would see the effects of PBL in English classrooms for transforming and improving especially in writing skill of secondary level learners.

The research took place within the 9th-grade class of Federal Government School Islamabad, Pakistan, involving a total of 831 students. Among them, 416 students were assigned to the experimental group, while 415 students comprised the control group. Employing a pre-test post-test control group design, the researchers aimed to assess the effectiveness of Problem-Based Learning (PBL) as a method for improving English essay writing skills at the secondary level. Data collection occurred through pre-test and post-test assessments, allowing researchers to gauge the impact of the instructional interventions on student learning outcomes. In the experimental group, students engaged in PBL activities, where they were tasked with writing English essays on topics introduced through authentic, ill-structured problems. Conversely, the control group received conventional lecture-based instruction. The findings revealed that PBL proved to be a more effective learning technique than the conventional lecture method for enhancing students' English essay writing skills. The success of the PBL approach can be attributed to the student-centered learning environment it fosters, wherein students actively engage in problem-solving activities with the teacher serving as a facilitator. This collaborative learning environment encourages students to critically analyze and discuss solutions to authentic problems, thereby promoting deeper conceptual understanding and skill development. Key aspects of the PBL approach highlighted in the research include the presentation of ill-structured problems, the establishment of a student-centered learning environment, the emphasis on problem-solving skills, and the promotion of collaborative learning through group discussions. By integrating these elements into the instructional process, educators can create

dynamic and engaging learning experiences that empower students to take ownership of their learning and develop essential skills for academic success.

Improving English Writing Skill: A Case of Problem Based Learning

Table 4
Transforming English Language Writing Skill Employing Problem Based Learning

Article	Objectives of the study	Participant	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion		
Ghulam Dastgeer, Dr. Muhammad Tanveer Afzal. Improving English Writing Skill: A Case of Problem Based Learning. <i>American Journal of Educational Research</i> , 2015, Vol. 3, No. 10, 1315-1319	To see the effect of PBL on secondary level students' writing skills through measuring their achievement after learning through PBL in comparison with that of students who were taught through conventional lecture method.	Population 156 students of 9th grade in IMCBIP. 40 students were randomly selected for this study, pretested and randomly divided into experimental and control groups.	20	20	* Writing Test (Pretest-posttest), *scoring rubric	*descriptive statistics, * T-Test	Student-centred approach Critical thinking Collaborative learning	*The results of the study showed that PBL was more effective than conventional lecture method for teaching English writing skill to the secondary level students • PBL may be applied for teaching English writing skill of secondary level students; the teachers, educational leaders and policy makers may arrange and facilitate for PBL's implementation, and the curriculum designers may include PBL as part of teachers' training programs.	it is recommended that PBL may be applied for teaching English writing skills of secondary level students; the teacher, educational leaders, and policy maker may arrange and facilitate for PBL's implementation, and the curriculum designer may include PBL as part of teacher's training program.

English is considered as an important language because it is widely used in the world (ILYOSOVNA, 2020; J. Wang et al., 2019). People judge it essential for better prospects and mobility, and endeavor to accomplish competency in communication. Yet, in Pakistan, the use of language was considered difficult for secondary level students especially for their written communication for a number of reasons. The conventional method was used in teaching English. Therefore, the researchers conducted the research using Problem Based Learning (PBL) to answer the problem. Problem Based Learning has been experimented as pedagogy in various disciplines and contexts around the world and recognized as effective teaching-learning method. This approach challenges students to find solutions to problems that will be faced in the real world that will improve their independent learning abilities and self-regulated skills (Li et al., 2020; Losenno et al., 2020; Muwonge et al., 2020; Wu et al., 2019).

This study was carried out at a public Secondary school; Islamabad Model College for Boys G-7/4 Islamabad, Pakistan (IMCBIP). The researcher would like to see the effect of PBL on secondary level students' writing skills by measuring their achievement after learning through PBL in comparison with that of students who were taught through conventional lecture method. It involved 156 students of 9th grade in IMCBIP as the population. 40 students were randomly selected for this study, pretested and randomly divided into experimental and control groups. This research used writing test (pre-test and post-test) and scoring rubric as the instruments.

The results of the study showed that PBL was more effective than conventional lecture method for teaching English writing skill to the secondary level students (Kostons et al., 2012; van Lankveld et al., 2019; Vebrianto & Osman, 2011; Zheng, 2016). This is due to the factor that in PBL students need to be the center, they need to discuss a real-life problem, and then giving solution of it. The aspect that affects the success of PBL in this research were problem solving, ill-structure problem (real life problem), and the applied student-centered approach.

The Application of Problem-based Learning Approach in English Grammar Instruction

Table 5
The Application Of Problem-Based Learning Approach In English Grammar Instruction: A Pilot Study

Article	Objectives of the study	Participant Population/ Sample	Experiment Time Class	Control Class	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion
Bella Chiou. The Application of Problem-based Learning Approach in English Grammar Instruction: A Pilot Study. <i>Journal of Language Teaching and Research</i> , Vol. 10, No. 3, pp. 446-453, May 2019	The purpose of this study attempts to utilize the PBL model to examine whether or not PBL can boost the low-achievers' grammar competence and motivation to study English	50 students who took Freshman English Reading (7 groups)			Grammar test	Both qualitative and quantitative research methods were used including classroom observations, assigned tasks, and pre- and post-tests. A paired-samples t-test was conducted to compare the difference of pretest and posttest	Student-centred approach Problem solving Collaborative learning Critical thinking	*the participant does improve their grammar competence under PBL instruction overall. *During the process, their social interaction skills certainly are positively influenced. *They realize that they have to be responsible for their learning to solve the problem. *They work collaboratively to fulfill the tasks by self-directed discovery.. *They have to think critically to filter the solutions. * During the process, they can self-monitor their learning and self-assess their performances and the critical-thinking skill is strengthened as well. In such a circumstance, their knowledge is being instilled subconsciously as well as motivation enhanced by hand-on and collaborative learning. *Under PBL instruction, the participants' learning habits have been changed. *They tend to join discussions and interact with their peers more. *They are not passive receivers of knowledge anymore; instead they are more independent to explore knowledge with a critical attitude. By doing so, their self-esteem is lifted.	The result indicates that the engagement level of the participants is increased by the scenario-based strategy and their grammar competence improves under PBL instruction after being compared with the scores of pretest and posttest

When students do not understand grammar, they will be poor in learning a foreign language. This is exacerbated by students who have poor learning quality and lack of previous linguistic knowledge. Students who are labelled with low achievement are also increasingly inferior and do not want to participate in the interactions during the learning process and make them passive recipients of information from the teacher. The above problems can be resolved if students are treated as the center of the learning process that can increase student motivation, insight, and have positive behavior. The solution to this problem is called Problem-based Learning with a learning approach that uses real-world problems as a starting point for acquisitions and incorporation of new knowledge. In addition, the learner's responsibility for learning is twofold, since the role of the instructor (teacher) only acts as a facilitator or coach to encourage students to discover their own knowledge through interactions with different resources.

50 students who took Freshman English Reading joined this pilot study, excluding the 3 students who did not take both pre- and post- tests. They were mainly from the Colleges of Business, Journalism & Communication, Engineering, and Arts. Their English proficiency was grouped 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. The total grade levels are 15. Both qualitative and quantitative research methods are used. This study adopts a pre- and post-test research design, a classroom observation checklist, and 2 classwork as tasks. The procedure of data collection provided a pre-test before implementing PBL instruction as a basis to compare with the post-test. In this procedure, the 7 teams were given the same scenario and were asked to discuss solutions. Then, the team leader would give oral presentation regarding to the result. The instructor only recorded and observed the progress during the class. Later, post-test would be conducted to see the learning achievement.

The result claimed that the PBL approach had a positive influence on the performance of the participants in experimental group. The success of PBL approach was due to the involvement of ill-structured problems (real life problem) in student learning progress to address the expected learning result and also the application of student-centred approach.

Problem-Based Learning in the English Language Classroom

Table 6
Problem-Based Learning in the English Language Classroom

Article	Objectives of the study	Participant Population/ Sampel	Experiment Class	Control Class	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion
Normala Othman. Mohamed Ismail Ahamad Shah. Problem-Based Learning in the English Language Classroom. English Language Teaching; Vol. 6, No. 3; 2013 ISSN 1916-4742 E-ISSN 1916-4750.	The objectives of the study are to investigate the effects of PBL on: 1) students' acquisition of course content; and 2) students' language proficiency.	128 third-year IIUM undergraduate students	64	64	*An English Proficiency Test, *essay writing of approximately 500 to 800 words, at the beginning of the semester (pre-test) and end (post-test), *scoring rubric	*descriptive statistics, * Interrater (writing)	Critical thinking Collaborative learning Problem solving Critical thinking	*The results show that both groups show improvement in the cloze test. Particularly, the PBL approach has had a positive impact on the students' language skills in the cloze test, as they performed better in the post test, despite receiving minimal instructions in the classroom. *The students in the PBL group showed greater development in their content knowledge and writing skills and were able to present more arguments in their essays to support their points.	The PBL group showed improvements in the post-writing test, that is, their essays were richer in terms of support and arguments for each point, while the non-PBL did not show much difference in their post-writing test.

In Malaysia, the young generation who just graduated from school experienced the problem of declining their abilities, especially in communication skills and writing in English. Thus, the young generation is less skilled in critical thinking and easily bored when teachers provide lessons that are too focused on the content of the lesson. Meanwhile, the work sector is in correspondence with foreign colleagues around the world, need workers that can establish good interactions with them. Thus, Malaysia is alarming a new learning process approach in language teaching for its young generation, thus, problem-based learning (PBL) is considered to be a solution for its long and a lot of successful reports. PBL is a learning approach with students as solvers of a problem given by the teacher as a facilitator (dividing groups, scheduling presentations, and others).

The PBL procedures used was Case Western Reserve University in the United States in the 1950s and the McMaster University Faculty of Health Sciences in Canada in the late 1960s because both focused on the same problem. The effectiveness of this method is one lesson and preparation for dealing with real life problems (world of work) at hand. With 128 research subjects in language classes for two times a week or 80 minutes per session, this PBL procedure is expected to increase knowledge about lessons, communication skills, broad insight, and problem solving well.

During the research, the procedure was started with 2 (two) classes consist of 64 students that were taught using PBL approach, meanwhile the other two consist of 64 students were taught using traditional lecture. The PBL groups were given a problem as new task in each day and expected to present their findings to the class next week. Meanwhile, the non-PBL group had lectures for each topic, and only one group was assigned to present. The difference of presentation between PBL groups and non-PBL group was the comments and the evaluation that should be written only by the PBL groups.

The results show that both groups show improvement in the cloze test. Particularly, the PBL approach had a positive impact on the students' language skills in the cloze test, as they performed better in the post test, despite receiving minimal instructions in the classroom. The factors that support this result are the application of problem-solving skill, reasoning,

communication, and self-assessment skill during the learning process, include giving opportunity to give presentation and provide argument. PBL makes students able to receive lessons clearly or easily, especially in writing, they can convey many opinions analytically in the post test. Not only that, but students are also able to interact well and get lesson content easily.

A Problem-based Learning Approach and Its Effects on the Writing Performance of Nigerian Undergraduates

Table 7
A Problem-based Learning Approach and Its Effects on the Writing Performance of Nigerian Undergraduates

Article	Objectives of the study	Participant Population/ Sampel	Experiment Class	Control Class	Instruments	Data Analysis	The Influential principles	Results and Discussion	Conclusion
Muhammad Mukhtar Aliyu. Et.al. A Problem-based Learning Approach and Its Effects on the Writing Performance of Nigerian Undergraduates. International Journal of Language Teaching and Education Juli 2020, Volume 4, Issue 1	to investigate the effect of PBL approach in improving the writing performance. Findings of this study would shed light on the suitability of the PBL approach in the Nigerian ESL writing classroom, which in turn could be used by writing instructors to develop their students' writing skills	18 second year students taking English composition course in a collage in North-Eastern Nigeria (3 groups)			*pre and post Writing test	*writing test (inter-rater), *descriptive statistics	student-centred approach, * Collaborative learning Ill-structured problem Problem solving Students centered	Based on the results of the study, the findings show that PBL encouraged the students to generate ideas relevant to the given topic (ill-structured problem) through their interactions. This enabled them to develop the content of their writing. The interactions and the tutor facilitation also enabled the students to logically organise their ideas in the writing. the significant improvements observed in the language use, vocabulary and mechanics of the participants' post-treatment writing are indications of the usefulness of PBL. This shows that the ill-structured problems, the peer collaboration and the tutor facilitation during the PBL process encouraged the participants to exchange and share their knowledge on mechanics, vocabulary and the language use	The results showed significant improvements in all the components (content, organisation, vocabulary, language use and mechanics) of the participants' writing in the post-treatment. The paper concludes with a discussion on the pedagogical and theoretical contributions of the findings. It provides writing instructors with a student-centred approach that would help to develop their students' writing skills. PBL approach would improve their thinking and communicative skills while expressing their ideas to readers in writing.

Expertise in English is one of the determinants of opportunities to continue higher education and find work with higher proficiency in Nigeria, especially the ability to write in English. However, the facts on the ground in Nigeria make it clear that there are many Nigerian scholars who experience various problems with their writing in English which of course reduces the quality of their writing. The cause of the problem is because of students lacking good communication and imagination skills to express their ideas clearly to the reader (Aliah, N., et al., 2023). In addition, they also lack significant ideas about the topic of writing, and they make grammatical and mechanical errors. So that the factors that include the learning method of students' learning to write are considered to be the causes that make students view writing as a boring and difficult task. This resulted in the need for a new approach to teaching and learning to write that would assist students and guide the teaching and learning process.

The instruction invited students in a writing process that made them work together, encouraged each other to learn how, and improved. The PBL approach was given in the form of an unstructured problem in the learning material then discussed the problem, decided, and found out what they would learn in a small group. PBL is considered a problem-solving activity that stimulates students to discuss and learn about lessons that will help develop their writing skills as well as their social skills and provide opportunities for students to become actively involved in the writing process.

The PBL approach given to 18 second year students was considered to show the effectiveness of the approach to student acquisition, the lecture content, and the appearance of the writing, especially in terms of supporting their arguments in writing. In addition, the approach showed a significant overall effect, the writing performance of the participants improved the content, organization, use of language, vocabulary, and students' writing mechanisms. This in turn will help develop students' writing skills, improve their thinking and communicative skills while expressing their ideas to readers in writing.

The procedure in this study was conducted in 12 weeks. In the first week, the researchers gave a pre-treatment writing activity. Then in the second week, the researchers explained the concept of PBL to the participants. In the third week, PBL has applied and ill-structured problem was presented to the group. The next fourth week, the group presented their findings, and they got reviewed in fifth week. Later, in the sixth week, the researcher had debriefing session to discuss and write the PBL approach after being applied. Then, there was a repetition of the same procedure in week 7 to 9, and also debriefing session again in week 10. In week 11, post-treatment was conducted, and got reviewed in the next week.

Based on the writing scale, it showed that the content of the participants' writing in the pre-treatment had limited knowledge of an ill-structured problem, minimal viable and plausible solutions to the ill-structured problem, and inadequate development of the thesis. Based on the results of the study, the findings show that PBL encouraged the students to generate ideas relevant to the given topic (ill-structured problem) through their interactions. The factor supports the success of PBL method is the tendency for students in writing process that allows them to work together to learn strategies for planning, revising, and editing their writing. Furthermore, PBL approach gives ill-structured problem which refers to problem that related to the students real-life situation. Therefore, this enabled them to develop the content of their writing.

CONCLUSION

Numerous studies have underscored the manifold benefits of problem-based learning (PBL) in achieving educational objectives. Central to the success of this pedagogical approach are the principles that guide the facilitator's role in orchestrating the learning process. While researchers have employed diverse instructional methods, the application of these principles has consistently yielded positive outcomes. Drawing upon insights from seven articles, five key principles have emerged as critical contributors to the effectiveness of PBL: the integration of ill-structured or real-life problems, a student-centered instructional approach, collaborative learning strategies, emphasis on problem-solving skills, and cultivation of critical thinking abilities. These principles, collectively, are posited as pivotal factors in driving the success of PBL. The incorporation of ill-structured or real-life problems serves as a cornerstone of PBL, providing students with authentic challenges that mirror real-world scenarios. This approach fosters engagement and relevance, encouraging students to apply theoretical knowledge to practical contexts. Additionally, a student-centered approach places learners at the forefront of the learning process, empowering them to take ownership of their education and pursue individualized learning pathways. Collaborative learning further enhances the effectiveness of PBL by promoting peer interaction, dialogue, and collective problem-solving.

Central to PBL is the cultivation of problem-solving skills, as students grapple with complex challenges and seek innovative solutions. Moreover, the emphasis on critical thinking encourages students to analyze, evaluate, and synthesize information, thereby deepening their understanding and fostering intellectual growth. Collectively, these principles underpin the success of PBL by fostering an environment conducive to active engagement, deep learning, and skill development. In light of these findings, the authors advocate for the widespread adoption of these principles in PBL instructional practices. By adhering to these guiding principles, educators can optimize the effectiveness of PBL and maximize student learning

outcomes. Moreover, ongoing research and refinement of PBL practices can further enhance its efficacy in preparing students for the challenges of the modern world.

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REFERENCES

- Aker, M., Herrera, L. J. P., & Daniel, L. (2018). Back to the Future: The Implications of Service and Problem-Based Learning in the Language, Literacy, and Cultural Acquisition of ESOL Students in the 21st Century. *Reading Matrix: An International Online Journal*, 18(2), 165–181.
- Al-Mubireek, S. (2020). An Attitude/Motivation Test Battery (AMTB) of English Language Learning among Students Across Genders, Tracks and Proficiency Levels at a Leading Saudi university. *The Asian EFL Journal Quarterly*, 24(4), 26–50.
- Aliyu, M. M., Fung, Y. M., Rashid, S. M., & Nimehchisalem, V. (2020). A Problem-based Learning Approach and Its Effects on the Writing Performance of Nigerian Undergraduates. *International Journal of Language Teaching and Education*, 4(1), 23–35. <https://doi.org/10.22437/ijolte.v4i1.8750>
- Aliah, N., Rohmah, D. W. M., Hadiani, S., Jamilah, S., & Aisyah, S. (2023). HOTS based Speaking and Reading Assessment in English Language Learning in Distance Learning System. *Anglophile Journal*, 3(1), 49-59. <https://doi.org/10.51278/anglophile.v3i1.485>
- Ansari, M. T., Rahman, S. A., Badgujar, V. B., Sami, F., & Abdullah, M. S. (2015). Problem Based Learning (PBL): A Novel and Effective Tool of Teaching and Learning. *Indian Journal of Pharmaceutical Education and Research*, 49(4), 258–265. <https://doi.org/10.5530/ijper.49.4.3>
- Ansarian, L., Adlipour, A. A., Saber, M. A., & Shafiei, E. (2016). The impact of problem-based learning on Iranian EFL learners' speaking proficiency. *Advances in Language and Literary Studies*, 7(3).
- Aunurrahman. (2020). Teaching critical thinking through academic writing to tertiary EFL Students in Pontianak Indonesia: An utilization of a genre-based approach. *The Asian EFL Journal*, 24(4).
- Azman, N., & Shin, L. K. (2012). Problem-based learning in English for a second language classroom: Students' perspectives. *The International Journal of Learning: Annual*.
- Babae, S., & B. V. . (2017). The Role of Problem-Based Learning (PBL) E-portfolios on Writing Anxiety. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, 36(1), 279–305.
- Babae, S., & Vahidi, H. (n.d.). *The Role of Problem-Based Learning (PBL) E-portfolios on Writing Anxiety*. 4531, 279–305.
- Boothe, D., & Caspary, M. (2017). Multicultural problem-based learning approaches facilitate ESP language acquisition. *International Journal of Learning, Teaching and Educational Research*, 16(3), 1–14.
- Burris, S., & Garton, B. (2007). Effect Of Instructional Strategy On Critical Thinking And Content Knowledge: Using Problem-Based Learning In The Secondary Classroom. *Journal of Agricultural Education*, 48(1), 106–116. <https://doi.org/10.5032/jae.2007.01106>
- Camacho, H., & Christiansen, E. (2018). Teaching Critical Thinking Within an Institutionalised Problem Based Learning Paradigm – Quite a Challenge. *Journal of Problem Based*

- Learning in Higher Education*, 6(2), 91–109. <https://doi.org/10.5278/ojs.jpblhe.v6i2.2308>
- Chai, Z. F., & Swanto, S. Bin. (2020). The Effects Of Environmental Problem-based Learning Method On Malaysian Primary ESL Learners' Vocabulary Achievement. *Indonesian TESOL Journal*, 2(1), 59–70. <https://doi.org/10.24256/itj.v2i1.1086>
- Chan, L.-C. (2009). Factors Affecting the Quality of Problem-Based Learning in A Hybrid Medical Curriculum. *The Kaohsiung Journal of Medical Sciences*, 25(5), 254–257. [https://doi.org/https://doi.org/10.1016/S1607-551X\(09\)70070-1](https://doi.org/https://doi.org/10.1016/S1607-551X(09)70070-1)
- Chiou, B. (2019). The Application of Problem-based Learning Approach in English Grammar Instruction: A Pilot Study. *Journal of Language Teaching and Research*, 10(3), 446–453.
- Dastgeer, G. (2019). *Transforming English Language Writing Skill Employing Problem Based Learning*. 7(2), 99–116.
- Dastgeer, G., & Afzal, M. T. (2015). Improving English Writing Skill : A Case of Problem Based Learning. *American Journal of Educational Research*, 3(10), 1315–1319. <https://doi.org/10.12691/education-3-10-17>
- Davidson, J., Andersen, P. V. K., & Christiansen, E. (2019). Problem-based Learning in a Box: Lessons learned from an Educational Design Experiment. *Journal of Problem Based Learning in Higher Education*, 7(1), 120–132. <https://doi.org/10.5278/ojs.jpblhe.v7i1.2375>
- Dochy, F., Segers, M., Van den Bossche, P., & Gijbels, D. (2003). Effects of problem-based learning: A meta-analysis. *Learning and Instruction*, 13(5), 533–568. [https://doi.org/10.1016/S0959-4752\(02\)00025-7](https://doi.org/10.1016/S0959-4752(02)00025-7)
- Ennis, R. (2011). *Critical Thinking. Inquiry: Critical Thinking Across the Disciplines*. 26(1), 4–18.
- Fatade A. O., Mogari D., & A. A. A. (2013). Effect of problem-based learning on senior secondary school students' achievements in further mathematics. *Acta Didactica Napocensia*, 6(3), 27–43.
- Frambach, J. M., Driessen, E. W., Chan, L.-C., & van der Vleuten, C. P. M. (2012). Rethinking the globalisation of problem-based learning: how culture challenges self-directed learning. *Medical Education*, 46(8), 738–747. <https://doi.org/10.1111/j.1365-2923.2012.04290.x>
- Gholami, M., E. al. (2016). Comparing the effects of problem-based learning and the traditional lecture method on critical thinking skills and metacognitive awareness in nursing students in a critical care nursing course. *Nurse Education Today*, 45, 16–21.
- Gorghiu, G., Draghicescu, L.M., Cristea, S., P. & G. L. M. (2014). Problem-based learning-An efficient learning strategy in the Science lessons context. *Procedia-Social and Behavioral Sciences*, 1865–1870.
- Gros, B., Guera, V. & Sanchez, J. (2005). The Design of Computer-Supported Collaborative Learning Environments in Higher Education. *Encounters on Education*, 6, 23–42.
- Gwee, M. C.-E. (2009). Problem-based learning: a strategic learning system design for the education of healthcare professionals in the 21st century. *The Kaohsiung Journal of Medical Sciences*, 25(5), 231–239. [https://doi.org/10.1016/S1607-551X\(09\)70067-1](https://doi.org/10.1016/S1607-551X(09)70067-1)
- Hussain, S. Q., Akhtar, N., Shabbir, N., Aslam, N., & Arshad, S. (2021). Causes and Strategies To Cope English Language Speaking Anxiety in Pakistani University Students. *Humanities & Social Sciences Reviews*, 9(3), 579–597. <https://doi.org/10.18510/hssr.2021.9358>
- Hussin, W. N. T. W., Harun, J., & Shukor, N. A. (2018). Problem Based Learning to Enhance Students Critical Thinking Skill via Online Tools. *Asian Social Science*, 15(1), 14. <https://doi.org/10.5539/ass.v15n1p14>
- Idayu, N., & Bakar, A. B. U. (2016). *A Review on the Implementation of Problem-Based Learning in English Language Learning. 1.*

- Lapuz, A. M., & Fulgencio, M. (2020). Improving the Critical Thinking Skills of Secondary School Students Using Problem-Based Learning. *Online Submission*, 4(1), 1–7. <https://doi.org/10.5281/zenodo.3969232>
- Latip, A. D. A., & Supriatna, A. (2023). Strategy of Project Based Learning (PJBL) Based on Science, Technology, Engineering and Mathematics (STEM) in Growing Active and Creative Students. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 8(2), 198–221. <https://doi.org/10.25217/ji.v8i2.3438>
- Legg, M. (2007). From question to answer: The genre of the problem-based learning tutorial at the University of Hong Kong. *English for Specific Purposes*, 26(3), 344–367. <https://doi.org/10.1016/j.esp.2007.01.002>
- Li, S., Du, H., Xing, W., Zheng, J., Chen, G., & Xie, C. (2020). Examining temporal dynamics of self-regulated learning behaviors in STEM learning: A network approach. *Computers & Education*, 158, 103987. <https://doi.org/https://doi.org/10.1016/j.compedu.2020.103987>
- Lin, C.-F., Lu, M.-S., Chung, C.-C., & Yang, C.-M. (2010). A comparison of problem-based learning and conventional teaching in nursing ethics education. *Nursing Ethics*, 17(3), 373–382. <https://doi.org/10.1177/0969733009355380>
- Losenno, K. M., Muis, K. R., Munzar, B., Denton, C. A., & Perry, N. E. (2020). The dynamic roles of cognitive reappraisal and self-regulated learning during mathematics problem solving: A mixed methods investigation. *Contemporary Educational Psychology*, 61, 101869. <https://doi.org/https://doi.org/10.1016/j.cedpsych.2020.101869>
- Luele, S. A. (2018). *Effects of problem-based English writing instruction on students' critical thinking dispositions and argumentative writing skills*. 46, 60–71.
- Ma. Donna B. Macadangdang. (2019). Problem Solving Proficiency and Reading Comprehension Skills of College Students and Selected Correlates. *The Asian EFL Journal*, 24(4), 52. <http://www.asian-efl-journal.com>
- Major, T., & Mulvihill, T. M. (2018). Problem-based learning pedagogies in teacher education: The case of Botswana. *Interdisciplinary Journal of Problem-Based Learning*, 12(1). <https://doi.org/10.7771/1541-5015.1543>
- Maulidiya, M., & Nurlaelah, E. (2019). The effect of problem based learning on critical thinking ability in mathematics education. *Journal of Physics: Conference Series*, 1157(4), 190–193. <https://doi.org/10.1088/1742-6596/1157/4/042063>
- Mergendoller, J. R., Maxwell, N. L., & Bellisimo, Y. (2006). The Effectiveness of Problem-Based Instruction: A Comparative Study of Instructional Methods and Student Characteristics. *Interdisciplinary Journal of Problem-Based Learning*, 1(2), 11–17. <https://doi.org/10.7771/1541-5015.1026>
- Mimbs, C. A. (2005). Teaching from the critical thinking, problem-based curricular approach: strategies, challenges, and recommendations Purposes and Research Questions. *Journal of Family and Consumer Sciences*, 23(2), 7–18.
- Muhammadi, M., Permata Sadi, R., & Zikri, A. (2019). *Problem Based Learning (PBL) in Improving Critical Thinking in the Era of National Development*. 382(Icet), 419–422. <https://doi.org/10.2991/icet-19.2019.105>
- Mustafa I. (2016). Implementation of Problem-Based Learning (PBL) in Chemical Thermodynamics Course at the Yanbu Industrial College. *Asia Pacific Confederation of Chemical Engineering Congress 2015, Incorporating CHEMECA*, 1565–1572.
- Muwonge, C. M., Ssenyonga, J., Kibedi, H., & Schiefele, U. (2020). Use of self-regulated learning strategies Among Teacher Education students: A latent profile analysis. *Social Sciences & Humanities Open*, 2(1), 100037. <https://doi.org/https://doi.org/10.1016/j.ssaho.2020.100037>
- Norzaini Azman, & Ling, K. S. (2012). Problem-based Learning in English for a Second

- Language Classroom: Students' Perspectives. *International Journal of Learning*, 18(6), 110–126.
- Othman, N., & Shah, M. I. A. (2013). Problem-based learning in the English language classroom. *English Language Teaching*, 6(3), 125–134. <https://doi.org/10.5539/elt.v6n3p125>
- Purwowidodo, A. (2023). M-Learning-E-Book: Higher Level Thinking Skills, Retention, Motivation of Junior High School Students. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 8(2), 300–324. <https://doi.org/10.25217/ji.v8i2.3395>
- Rizki Pebriana, D. (2017). Effect of Problem Based Learning To Critical Thingking Skills. *PrimaryEdu : Journal of Primary Education*, 1(1), 109–118.
- Seyabi, F. Al, & Tuzlukova, V. (2014). Writing Problems and Strategies: An Investigative Study in the Omani School and University Context. *Asian Journal of Social Sciences and Humanities*, 3, 37–48. <https://api.semanticscholar.org/CorpusID:56249572>
- Sindelar, T. M. (2010). *he Effectiveness of Problem-Based Learning in the High School Science Classrooms. (Unpublished master's thesis)*. Wichita State University, Kansas, USA.
- Surya, S. (2018). *Teaching academic writing by using problem based learning strategy*. 65(1).
- Temel, S. (2014). The effects of problem-based learning on pre-service teachers' critical thinking dispositions and perceptions of problem-solving ability. *South African Journal of Education*, 34(1), 1–20. <https://doi.org/10.15700/201412120936>
- Toheri, Winarso, W., & Haqq, A. A. (2020). Where exactly for enhance critical and creative thinking: The use of problem posing or contextual learning. *European Journal of Educational Research*, 9(2), 877–887. <https://doi.org/10.12973/eu-jer.9.2.877>
- van Lankveld, W., Maas, M., van Wijchen, J., Visser, V., & Staal, J. B. (2019). Self-regulated learning in physical therapy education: a non-randomized experimental study comparing self-directed and instruction-based learning. *BMC Medical Education*, 19(1), 50. <https://doi.org/10.1186/s12909-019-1484-3>
- Vebrianto, R., & Osman, K. (2011). The effect of multiple media instruction in improving students' science process skill and achievement. *Procedia - Social and Behavioral Sciences*, 15, 346–350. <https://doi.org/10.1016/j.sbspro.2011.03.099>
- Wang, J., King, R. B., & Rao, N. (2019). The role of social-academic goals in Chinese students' self-regulated learning. *European Journal of Psychology of Education*, 34(3), 579–600. <https://doi.org/10.1007/s10212-018-0404-y>
- Wang, S. Y., Tsai, J. C., Chiang, H. C., Lai, C. S., & Lin, H. J. (2008). Socrates, problem-based learning and critical thinking - A philosophic point of view. *Kaohsiung Journal of Medical Sciences*, 24(3 SUPPL.). [https://doi.org/10.1016/S1607-551X\(08\)70088-3](https://doi.org/10.1016/S1607-551X(08)70088-3)
- Wu, X., Guo, T., Tan, T., Zhang, W., Qin, S., Fan, J., & Luo, J. (2019). Superior emotional regulating effects of creative cognitive reappraisal. *NeuroImage*, 200, 540–551. <https://doi.org/10.1016/j.neuroimage.2019.06.061>
- Yazar Soyadı, B. B. (2015). Creative and Critical Thinking Skills in Problem-based Learning Environments. *Journal of Gifted Education and Creativity*, 2(2), 71–71. <https://doi.org/10.18200/jgedc.2015214253>
- Zheng, L. (2016). The effectiveness of self-regulated learning scaffolds on academic performance in computer-based learning environments: a meta-analysis. *Asia Pacific Education Review*, 17(2), 187–202. <https://doi.org/10.1007/s12564-016-9426-9>