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Improving English Writing Skill: A Case of Problem Based Learning

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Abstract English has been recognized as important language in Pakistan like many other counties of the world and used for academic, research, communication, business and official purposes. It has been taught as compulsory subject up to graduation level. The students at all levels and especially secondary level try to have competency in English language skills particularly writing skill; being more important as used for evaluation of their academic achievements. But they feel difficulty to acquire competency because of many reasons; the conventional teaching method being used as one of the causes. New pedagogical methods like Problem Based Learning need to be experimented in Pakistani situations as it has been proved a successful pedagogy in many contexts around the world [8]. PBL as pedagogy is a teaching-learning method where students work in learner-centered classroom environment in small groups of 4-5 confronting the authentic problems given by the teacher and find their solutions by discussing among themselves generally in three class meetings. They work more at home by studying and searching for the solutions. The present study was an attempt to experiment PBL learning of English writing skill through English essay writing on secondary level students at IMCBIP (Islamabad Model College for Boys, Sector G-7/4 Islamabad, Pakistan) and to see effectiveness of PBL in comparison of that of conventional lecture method. The study was conducted by using pretest-posttest control group experimental design with the subjects (20+20 experimental & control groups) and data were analyzed by employing t-test and descriptive statistics. The findings showed that PBL was more effective pedagogy than conventional lecture method for improving English writing skill of secondary level students.

Keywords: *problem based learning, student centered classroom, authentic problems, english writing skill, essay writing*

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1. Introduction

English has been recognized as an important language because of its wider use as lingua franca, as medium of instruction, knowledge, research and social status in the world as well as in Pakistan. People deem it essential for better prospects and mobility, and endeavor to accomplish competency in communication. Despite all these, students at all levels face difficulties to acquire and use it for academic and daily pursuits. The difficulties multiply for secondary level students especially for their written communication because of a number of reasons; English being a second language pose hurdles for them as conventional lecture methods emphasize only on the usage of language rather than its use. In most of the cases, the secondary level students learn English at schools only and have rare chances of its use at their homes. They depend on rote learning and reproduce in examinations what they have memorized earlier; free expression is rarely encouraged in their academic life. Though many teachers and researchers have been trying out new methods and techniques to improve the situation, yet there is lot more to do in this regard.

Problem Based Learning has been experimented as pedagogy in various disciplines and contexts around the world and recognized as effective teaching-learning method. Unlike many conventional methods it involves students for effective learning through discussing and finding solutions of authentic problems among themselves. The students' difficulties for communication in English writing on the one hand, and PBL's success stories on the other made the researchers to venture for experimentation with PBL and to see the effect of PBL on secondary level students' English writing skill.

1.1. Problem Based Learning as Pedagogy

Problem based learning has potential to arise curiosity in the learners as Sonmez and Lee ([20], p. 1) were of the view that "PBL is an instructional approach that challenges learners to seek solutions to real world (open-ended) problems by themselves or in groups,.. PBL engages learners in developing skills as self-directed learners."

Many researchers has justified the used of problem based leaning as pedagogy [1,14,22], curriculum [5] and in many other forms according to the situation, domain and goals of the programs [2,4]. In most popular terms it has been used as pedagogical approach for learning where the students are challenged with some simple and unstructured problem [2,12,16], the simplicity and the novelty of the problems help to engage students actively. They are required to find the solution of that problem by working in small groups of 4-5 each. Being a student-centered approach, the teacher's role is minimized to a guide and facilitator only; the students perform all the tasks. The class is divided in small groups of 4-5 each and some authentic and worthwhile real life problem is presented before the class that should be according to their level and interests. The solution of the problem is sought and found generally in three class meetings. The students discuss and agree upon its nature, study and tools required for solution in the first meeting and pursue it after the class by studying the matter at home. The second meeting ends after more discussion clarifying and narrowing down their focus for finding the solutions of the problem and need for more study, followed by more work at home and writing down the possible solutions. The third meeting aims for sharing of their solutions, discussing and debating more for final agreement in the groups and presenting the solution(s) before the whole class for discussion, agreement for most appropriate solution and writing it accordingly.

PBL was commenced in 1950s and 1960s in Canada, it was thought, adapted and applied at Canada's medical schools for teaching subjects in Medicine and Natural Science in 1970's [16,17,18]. The case study teaching technique was adopted at Hamilton, Ontario, and McMaster University Medical Schools in Canada followed by medical schools in USA and in many other countries. Later on, PBL has been tried out in various contexts, disciplines, and levels around the world and found successful and effective; Gijbels et al [8] have mentioned a fairly long list of disciplines and contexts where PBL was applied and found effective. PBL has also been applied in the context of secondary education [9,10,,13,14] and experimented in the context of English writing skill too [21] and the results and findings were quite encouraging. Due to its importance and effectiveness the researchers intended to apply PBL as pedagogy for the teaching of English writing skill at secondary level. As new pedagogical methods and techniques like problem based learning have been found effective in various contexts and situations and improved teaching-learning significantly. These practices enhance students' various faculties in all domains; cognitive, psychomotor and affective up-to maximum level of creation, thus adding more to constructivism. The present study's findings would be significant to various stake holders in education system like students, teachers, educational leaders, curriculum designers, and policy makers, as these could be extended to similar situations. The students would benefit by following the same to improve their competency in language skills and making the learning meaningful. The teachers could apply PBL in their classroom teachings. The educational leaders could adopt PBL for enhancing teaching-learning environment at their institutions by facilitating the teachers and students for PBL implementation. The curriculum designers could include PBL at various levels especially in teachers' training courses. The policy makers could decide to give more weight-age to creative knowledge and constructivism in assessment and evaluation systems, and to adopt PBL as pedagogy in school education system across the country. Moreover, this study would be a good addition in the repository of research and knowledge regime.

1.2. Statement of the Problem

The present study was carried out at a public Secondary school; Islamabad Model College for Boys G-7/4 Islamabad, Pakistan (IMCBIP). The purpose of the study was to see the effect of problem based learning on secondary level students' English writing skill. The secondary level students in Pakistan face difficulties in their written expression while communicating in academic and real life situations. The conventional lecture methods depend more on teaching about the language emphasizing on learning of grammatical rules of language rather than the language itself. The problem takes its acute shape when it is for learning of second or foreign language like English. The teachers depend on text books for reading comprehension, solving the exercises given at the end of each chapter, and making the students memorize the information and other aspects of the subjects for reproducing these in the examinations. There is hardly any effort to improve students' free written expression except rare endeavors by some teachers and researchers through employing new pedagogical methods and techniques. The situation demanded that some new pedagogy like PBL be experimented to see whether it could be effective for improving students' English writing skill.

Like many other researchers, Dwi [7] has also found PBL effective for teaching English writing skill. Keeping in view these results and students' difficulties, the researchers decided to see the effect of PBL on secondary level students' writing skill at IMCBIP.

1.3. Objective and Hypotheses of the Study

The major objective of the study was to see the effect of PBL on secondary level students' writing skill through measuring their achievement after learning through PBL in comparison with that of the students who were taught through conventional lecture method. The objective was translated into the following hypotheses:

1. $H_0$1: There is no significant difference between the pretest and posttest mean scores of students taught through problem based learning.
2. $H_0$2: There is no significant difference between the pretest and posttest mean scores of students taught through conventional lecture method.
3. $H_0$3: There is no significant difference between the achievement scores in English writing skill of secondary level learners using conventional lecture method and Problem Based Learning.

2. Methodology

The study was experimental in nature with pretest-posttest control group design, and carried out at Islamabad Model College for Boys Sector G-7/4 Islamabad Pakistan

(IMCBIP) for four weeks' experimentation of PBL for teaching-learning of English essay writing to the secondary level students during April-May 2014. English essays were taught through making of lesson plans, adopting PBL on Shoestring approach as suggested by Savin-Baden and Major [19] and given below:

Semester	Pedagogy				
1	PBL	Conventional teaching	Conventional teaching	PBL	Conventional teaching
2	Conventional teaching	PBL	Conventional teaching	PBL	Conventional teaching
3	Conventional teaching	Conventional teaching	Conventional teaching	PBL	PBL

Figure 1. Problem-based Learning on a Shoestring (Adapted from Savin-Baden and Major [19])

This approach allows a flexible implementation of PBL to the specific area of study; only the selected area is taught through PBL, while other areas and topics are taught though conventional lecture method simultaneously. In this study only English essay writing was undertaken through PBL; all the other topics were covered through conventional method so that the students could be saved from extra load and demand of work and any sense of time loss.

The Morrison, Ross and Kemp Model (Classroom-oriented) instructional design as suggested by Prestera (2002 cited in the Herridge Group Inc [11]) was followed because of its orientation that is taken from students' point of view (Student centered approach), its being a cyclic system, and all the elements and steps are independent of one another and one can start from anywhere one likes.

3. Participants/ Subjects

All the 156 students of 9th grade in IMCBIP were the population for this study. 40 students were randomly selected for this study, pretested and randomly divided into experimental and control groups.

4. Instrumentation

Pretest and posttest were used for data collection which were validated and went through reliability accordingly. These tests are given below:

Pretest:

Question: Write an essay on any one of the topic/ statement in 170-200 words:

I. My Impressions of First Day in this New Class

II. How I spent my Latest (last) Holiday.

HINT: (Write all your activities on that day from early morning till evening and your expectations and feelings before and after spending your first day in the class/ last holiday)

Posttest:

Please read the given passage carefully:

"Heavy school bags have always been problem for children and parents. Every day, you see little children carrying heavy bags on their backs which are often heavier than their own weight. In some cases parents serve as porters to save their children from burden but in most of the cases the students have to face the brunt. If you examine the bag of class one student, you will find five to eight books: English, Urdu, Mathematics, General Knowledge, Rhymes, *Islamiat*, General Science, and Drawing, same number of note books or work books. Moreover there must be one pouch for pencils, erasers, sharpener, color pencils, pair of scissors, glue stick etc. Lunchbox and water bottle are also the need of the hour. The students have to travel to and fro from school daily. They surely feel the burden physically, and psychologically which often hinder their growth. Is there any way out that they can be facilitated by lessening this burden?"

Keeping in view the above written problem, write an essay of 170-200 words on the following:

"The Impact of Heavy School Bags on Students' Growth: How this Load can be alleviated?"

Hint: Write the things you can find in a student's bag that make it heavier (All books, note books etc), what are the effects on his physical, mental and psychological/ emotional health, the difficulties he faces, and the solutions for making the bag lighter.

Marking Rubric:

The following rubric was used for evaluation of students' essays:

Feature of Essay/Rubric	Marks
Content: Convincing, Pertinent, Specific, Perceptive	5
Point of View: Clear, Consistent, Appropriate in approach	3
Essay Organization: Logical, Coherent, Unified, Suitable to purpose, Orderly development to an effect or conclusion	5
Language Use and Style: Sentence Structure: Skillful use of a variety of sentence pattern (Contrast, balance, repetition, & exclamation). Diction: Vocabulary appropriate for grade level, vivid, precise. Style: Interesting, Original, Expression suited to content, Flow	5
Mechanics: Correctness in punctuation, spelling and grammar	2
Total	20

Figure 2. Rubrics for Marking of Essay

5. Analysis of Data

The data was analyzed through applying t-test and descriptive statistics and the following results are found and given in the following tables:

Table 1. Results of t-test of Overall Scores on Pretest of Both the Groups

	Group	N	Mean	Std. Deviation	t-value	df	Sig. (2-tailed)
Pretest	Exp	20	6.32	.92	.000	38	1.000
	Control	20	6.32	1.32			

Level of confidence $\alpha = 0.05$.

The pretest results in Table 1 above show that difference of mean score for both the groups at level of confidence $\alpha = 0.05$ is zero showing that both the groups are equivalent, the mean difference is not significant (1.000 > 0.05) and confirms the null hypothesis that there was no significant difference between the scores of both the groups; null hypothesis was accepted implying that both the groups were exactly equivalent at the start of experimentation.

How much improvement occurred in the scores of experimental group was analyzed using paired sample t-test? The comparison is presented in Table 2 below.

Table 2. Comparison of Mean Scores of Experimental Group in Pretest and Posttest.

		N	Mean	SD	t-Value	df	Correlation	Sig
Pair 1	pretest	20	6.3250	.92160	-4.386	19	.538	.014*
	posttest	20	7.9450	1.95380				

*Significant at α=0.05.

The results shown in Table 2 above reveal that difference of mean for experimental group between pretest and posttest score is significant (p=.014). This implies that the learners achieved enough after treatment through PBL. The descriptive analysis presented in Table 3 below elaborates the point further:

Table 3. Analysis of Achievement of Experimental Group through Comparison of Means employing paired Sample Test

	Paired Differences					t-value	df	Sig. 2-tailed
	Mean	SD	Std. Error Mean	95% Confidence Interval of Difference				
				Lower	Upper			
pretest - posttest	-1.62	1.65	.369	-2.39	-.846	-4.386	19	.000

The data analysis of Table 3 above reveals that the mean difference of scores between pretest and posttest (1.62) shows that the experimental group has shown significant (p=.000) difference in their performance in the posttest as compared with the pretest implying that treatment given to this group (PBL pedagogy) has been proved effective.

The results in Table 2 and Table 3 reveal that experimental group made significant improvement as the difference of mean of pretest and posttest scores were significant; implying that null hypothesis $H_0 1$ was rejected stating that there was no significant difference between the pretest and posttest mean scores of students taught through problem based learning. While alternate hypothesis $H_1 1$ was accepted stating that there was significant difference between the pretest and posttest mean scores of students taught through problem based learning. This showed that PBL was an effective pedagogy for teaching English essay writing to secondary level students.

To what extent the control group improved their scores, is interesting to consider, the following Table 4 presents the comparison of scores of control group.

Table 4. Comparison of Mean Scores of Control Group in Pretest and Posttest

		N	Mean	SD	t-Value	df	Correlation	Sig.
Pair 2	pretest	20	6.325	1.35	.330	19	.471	.036*
	posttest	20	6.425					

*Significant at α=0.05.

The above given results in Table 4 show that control group's mean scores difference between pretest and posttest is significant (.036 < .05) implying that the learners in control group has also shown significant improvement after learning through conventional lecture method in the class. The descriptive data analysis presented in Table 5 below shows control group's difference of mean score between pretest and posttest.

Table 5. Analysis of Achievement of Control Group through Comparison of Means employing paired Sample Test

	Paired Differences					t-value	df	Sig. 2-tailed
	Mean	SD	Std. Error Mean	95% Confidence Interval of Difference				
				Lower	Upper			
pretest - posttest	-.100	1.353	.302	-.733	.533	-.330	19	.745

The data analysis in Table 5 above reveals that the mean difference of scores between pretest and posttest (.10) shows that the control group has shown significant (.745) improvement in their performance in the posttest as compared to the pretest implying that treatment given to this group (Conventional lecture method) has also been proved effective. The results from Table 4-Table 5 reject the null hypothesis $H_0 2$ that there was no significant difference between the pretest and posttest mean scores of students taught through conventional lecture method, and alternate hypothesis $H_1 2$ was accepted that there was significant difference between the pretest and posttest mean scores of students taught through conventional lecture method.

The results of data analysis shown in Table 2-Table 5 reveal that both the experimental and control groups made significant improvement during the course of treatments as indicated through the difference of mean scores between their relevant pretest and posttest. It is not yet clear which of the group made more progress and shown more improvement in their learning and which one method has proved more effective in this context. For this purpose, comparisons of mean scores in posttest are presented in the next tables.

Table 6. Results of t-test of Overall Scores on Posttest of Both the Groups

	Group	N	Mean	Std. Deviation	t-value	Df	Sig. (2-tailed)
posttest	Exp	20	7.95	1.953	2.889	38	.006*
	Control	20	6.43	1.310			

*Significant at $\alpha = 0.05$.

The posttest results in Table 6 above show that mean scores of experimental group (7.95) is greater than that of control group (6.43). Similarly, from Table 3 & Table 5 the results show that the difference of mean scores of both the groups in pretest and posttest (1.620-0.1000=1.52) clarifies that achievement of experimental group in posttest is greater than that of control group The difference of mean scores was significant ($p=0.006< 0.05$) at level of confidence $\alpha = 0.05$, given in Table 6 and enough evidence to reject the null hypothesis $H_0 3$ that there was no significant difference between the mean scores in English writing skill of secondary level learners using conventional lecture methods and Problem Based Learning. Hence the alternate hypothesis $H_1 3$ that there was significant difference between the mean scores in English writing skill of secondary level learners using conventional lecture methods and PBL. This implies that PBL was more effective pedagogy than conventional lecture method for teaching English essay writing to secondary level students and for improving their English writing skill.

6. Findings and Recommendations

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. The study is supported by the similar results found by Sojisirikul and Siriyothin [21] leading to the conclusion that PBL was more effective as pedagogy for teaching English to undergraduates. Dods [6] found effectiveness of PBL in promoting knowledge acquisition and retention in the subject of biochemistry. Maxwell, Mergendoller, and Bellisimo [14] found PBL effective for learning Economics. Gijbels et al [8] made empirical and quasi-experimental studies and concluded that generally the effect of PBL remained different according to the levels of the knowledge structure being measured. PBL had the most positive effects when the focal constructs being assessed were at the level of understanding the principles that link concepts, the second level of knowledge structure.

It is recommended that 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.

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