APPLICATION OF PROBLEM BASED INSTRUCTIONAL STRATEGY IN ENGLISH LANGUAGE CLASSES

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ABSTRACT

The present study was aimed at finding out the best instructional method to create positive learning environment in English language classes. The research study has shown the differences between two methodologies, problem based instructional method and traditional lecture based method. The present study was an attempt to examine the achievement level of students. It was hypothesized that there was a significant difference between Problem Based Instructional Method and Traditional Lecture Based Method. It indicates that Problem Based Instructional Method is the most effective method of teaching that enables students to think critically, think creatively and regulate their behavior towards positive learning. Whereas the traditional lecture based method do not promote critical thinking, creative thinking and self regulated thinking that are essential for the mental exercise of a learner and for the enhancement of learning capabilities. The achievement level of students has shown marked differences. On the basis of significant differences shown by t-test result, the null hypothesis has been rejected and it is concluded that there is a significant difference in the achievement level of treatment and control groups. Students who were taught through Problem Based Instruction have shown remarkable results, whereas, students exposed to traditional method have shown poor results.

INTRODUCTION

A globalized world needs a global language to communicate each other. English seems to be emerging as the global language of the world. As a result of globalization phenomena, the position of English in Pakistan continues to be both vitally important and highly controvercial. There is a general concern that English language is taught in the country under condition that are far being satisfactory. There is no denying the fact that despite studying English in schools and colleges for 6-8 years, students are not able to communicate in English with relative ease and success. They lack all the four major skills, listening, speaking, reading and writing. Since acquiring a second language as a skill it should be approached in that light. English teaching in our schools has been criticized as being ineffective. The quality in the public schools is perceived to be even lower than in the private schools. It is therefore important that we take all measure to improve the present state of teaching and learning of English language at all levels, particularly, in our higher classes.

The focus of the study is to evaluate traditional Lecture based method, in contrast to a more creative way **of teaching i** .e. Problem Based Instructional strategy. It is now widely accepted that quality education must be student centered and must be interactive. This study is an attempt to introduce an innovative method of teaching English.

PURPOSE OF STUDY

PURPOSE OF STUDY IS MULTIFOLD

- To explore ways in which PBL can be effectively used for teaching English Language.

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- T o assess its application with special reference to different areas of English Language Teaching.
- To gauge the level of skills (critical thinking, problem solving, Interpersonal communication, which can be inculcated in the learner through P.B.L.

Problem based instructional strategy is not a new strategy it has an origin in the past. It was pioneered and used extensively at Mac master university, Hamilton, Ontario. Canada as well as the Monterrey institute of technology ITEMS. The Materials department at Queen Mary, University of London was the first Materials department in the UK to introduce PBL.

CHARACTERISTICS OF PBL ARE

- Learning is driven by challenging, open-ended, ill-defined and ill-structured, practical problems.
- Students generally work in collaborative groups. Problem based learning environments may be designed for individual learning.
- Teachers take on the role as "facilitators" of learning.
- Instructional activities are based on learning strategies involving semantic reasoning, case based reasoning, analogical reasoning, causal reasoning, and inquiry reasoning, These activities include creating stories; reasoning about cases; concept mapping; causal mapping; cognitive hypertext crisscrossing; analogy making; and question generating.(Wikipedia encychlopedia).

PBL was officially adopted as a pedagogical approach in 1968, at Mac Master University, a Canadian medical school, and has since been taken up in the fields of professional training. (i.e. nursing, architecture, engineering, teaching).

Methodology

Research Design:

This study truly adheres to the quantitative research paradigm. It employs experimental research as the method of enquiry. True experimental design (Randomized Solomon four group pretest, posttest design)has been adopted to collect data. This design is an attempt to eliminate the possible effects of a pretest. It involves random assignment of subjects to four groups, with two of the groups being pre-tested and two not. One of the pre-tested groups and one of the unpretestedgroups isexposed to the experimental treatment. All four groups are then post tested.

Table 3.1
THE RANDOMIZED SOLOMON FOUR GROUP DESIGN

Treatment Group	R	O	X1	O
Control Group	R	O	X2	O
Treatment Group	R		X3	O
Control Group	R		X4	

The Solomon four- group design provides the best control of the threats to internal and external validity. A weakness, however is that it requires a large sample, in which subjects must be assigned to four groups. Furthermore conducting a study involving four

groups at the same time requires a considerable amount of energy and efforts on the part of the researcher.

THE RANDOMIZED SOLOMON FOUR GROUP DESIGN

The research design (Solomon Four Group Pretest Posttest) Shown above has been used to gauge the effectiveness of problem based learning when used in the context of English Language Teaching. It involves random assignment of 60 subjects to four groups, with two of the groups being pre-tested and two not. One of the pre-tested group is exposed to experimented treatment.(One experimented group has been taught parts of speech using problem based strategy, Similarly, the second experimented group has been taught parts of speech using traditional lecture). All four groups are then post tested.

CONTROL OF THREATS TO INTERNAL VALIDITY

The Solomon four groups design provides the best control of the threats to internal validity. It effectively controls the threats of subject characteristics, morality, history, maturation, and regression. We have assigned two pluses (+ +) to indicate strong control (the threat is unlikely to occur); one plus (+) to indicate some control (the threat might occur); a minus (-) to indicate a weak control (the threat is likely to occur); and the question mark (?) to those threats whose likelihood due to the nature of the study, we cannot determine.

EFFECTIVENESS OF EXPERIMENTAL DESIGN IN CONTROLLING THREATS TO INTERNAL VALIDITY

Design	Subject Chara-Cter	Morality	Location	Instrument Decay	Data Collection Character	Data collec tor Bias	Testing	History	Maturation	Diff-erential Selection	Reg-ression
Solomon Four design	++	++	-	+	-	-	-	+ +	++	++	++

Control of threats to internal validity

Subject Characteristics

Although there are many possible subject characteristics that might effect critical thinking ability the researcher has identified two most important ones here---(1) initial critical thinking ability and --- (2) gender.

Critical Thinking ability

1. Post-test critical thinking ability of students in two groups is almost certainly related to initial critical thinking ability.
2. All groups are randomly assigned.

Gender

Groups do not differ in gender. 60 female students have been selected from a degree college

Morality
Morality is likely to affect post treatment scores on any measure of critical thinking since those subjects who drop out or are otherwise lost would likely have lower score. Keeping this aspect in mind an experimental treatment of three days was given. Thus the presence of all sixty subjects was ensured.

Location
If location of implementation and or of data collection differs from the two groups this could affect post treatment scores on the critical thinking test. Post treatment scores would be expected to be affected by such resources as class size, availability of reading material, and so on. Standardizing location for implementation and data collection controlled this threat. Special efforts were made to ensure that the resources are comparable.

Instrumentation
All instruments use was carefully examined and any alternation found was corrected, in order to control the threat of instrument decay.

Data Collection Characteristics
This threat was controlled by using the same data collector for all groups.

Data Collector Bias
This threat was controlled by training implementer in administration of the instrument.

Testing
All tests used were pilot tested to ensure reliability and validity.

History
The events occurring between the pretest and posttest in addition to the experimental variable might affect the measurement. By keeping the duration short and other extraneous variables constant, this threat has been controlled.

Maturation
The process of maturing which takes place in the individual during the duration of the experiment, which is not a result of specific events but of simply growing older, growing more tired or similar changes can affect posttest score. This threat has been controlled by keeping the duration short. All the subjects belong to the same vicinity and location; therefore this threat is unlikely to affect the experiment.

Differential Selection
Different individual groups can have different pervious knowledge or ability, which can affect the final measurement if not taken into account. This threat has been controlled by selecting all the subjects from one unit (APWACollege). All the students belong to the same level. The computerized admission policy (.CAP) ensures that admission in different colleges is purely based on merit, therefore there are no possibilities for differential selection.

Statistical Regression
Regression can be a major threat, if the subjects are chosen with extreme scores. The scores or measurements tend to move towards the mean with repeated measurements.

Subjects for the present have been selected randomly and not on the basis of scores, therefore this threat has been controlled. Internal validity was found satisfactory.

Factors Jeopardizing External Validity or Generalizability

Pre-Testing

Individuals who are pretested might be less or more sensitive to experimental variable or might have "Learned" from the pre-test making them unrepresentative of thepopulation who has not been pre-tested. This threat has been controlled by carefully devising the pretest / posttest instruments. It has been pilot tested twice. The researcher has made sure that it is purely knowledge based and not suggestive in any way. After pilot testing some of the items were reformed and some were dropped altogether.

Control Group

The use of a matched or similar group, which is not exposed to experimental variables, can help reduce the effect of History. Maturation, Instrumentation and Interaction of factors. In the present study the control group is exposed to all conditions of the experiment except the experimental variable.

Randomization

Use of random selection procedures for subjects ensures validity and reliability and this has been done through random selection of 60 subjects from 123 students.

Population

All girls' students studying in Class XI year (science group) at A.P.W.A Govt. Girls College comprise the population of the study. The sampling frame of the study was obtained from college administration.

Sample

Stratified random sampling design has been used in the study. The total population, studying in class xi science group is one hundred and thirty three girls. Out of this population, 60 girls students were randomly selected from four sections of Class XI science group. Total sample size was 50%. These 60 students were than divided into four groups (two experimental and two control groups). Principles of classification related to the control group of level, subject and gender have been followed; Cluster sampling design has been used, in the final stage of sampling.

Research Instrument

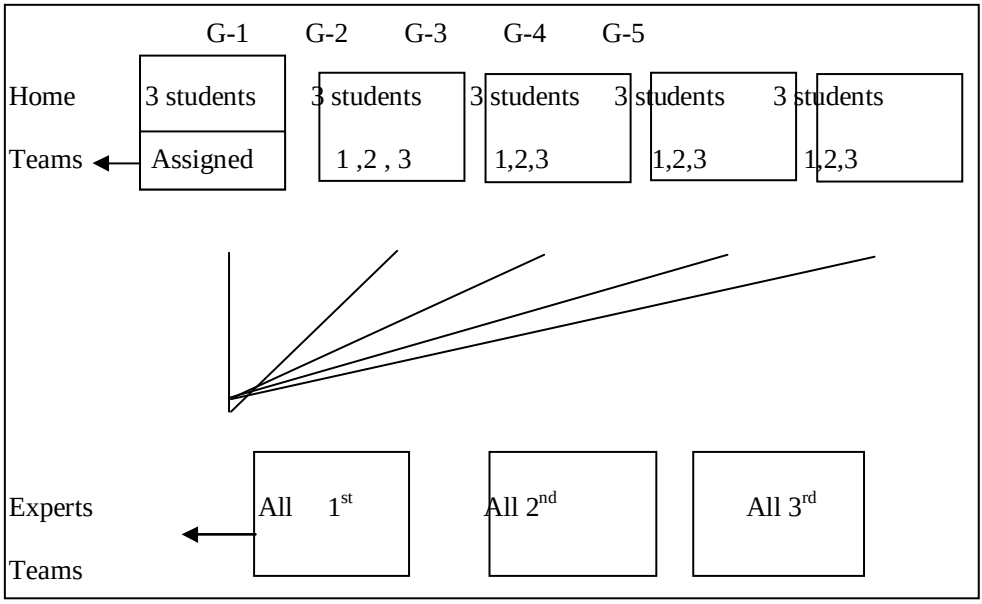
The two following instruments were developed by the researcher for the purpose of the study.

Pre-Test / Post-Test

First was the pretest.. It was used for the purpose of gauging the previous knowledge of the subject. The same pretest was used as the posttest to gauge the difference between the two performances and to see the effect of the lesson plan. The pretest / posttest instrument comprised of ten (10) objective type test items. These items were measured on a five point Lickers scale. These items measured the knowledge of grammar; more specifically parts of speech. Language and contents of the test were screened in consultation with the experts. A review of related literature was carried out. Pilot testing was done twice and test retest reliability was found satisfactory.

Lesson Plan

The second important tool used in the study was the lesson plan. The lesson plan was developed on the lines of problem based learning strategy. It was spread on threedays. Total time used for implementation was six hours. This lesson plan was dividedinto five phases. Orientation of parts of speech was given in the first phase; This wasfollowed by division of children in Jigsaw teams and assigning them a problem .



In the first stage students were divided into five groups with three members in each group. Group. 1 was given two parts of speech (Noun. pronoun) to work on , Group II was given (verb and adverb) , Group III was given (adjective and preposition), Group IV was given(conjunctions and Group V was given(interjections). Students discovered parts of speech in their respective groups for ___25_____ minutes. After that all 1st were sent into experts team1, all 2nd were sent into expert team 2 and 3 were sent into expert team 3.Now in each team there were experts of all parts of speech. They shared their concept maps. Through consensual decision making prepared comprehensive concept maps, showing all parts of speech. Students were involved in several activities doing this phase. The artifacts they produced in the form of concept maps and Cinquain poems were later exhibited on the college notice board. Table 3.6 shows the lesson plan in detail:

Syntax For Problem Based Instructions

Phase	Domain	Teacher Behaviour	Activity
Phase 1: Orient students to the problem.	Knowledge	Teacher goes over the objectives of the lesson, describes important logistic requirements and gives presentation on parts of speech.	• Introducing topic through presentation • Brain storming questions
Phase 2: Organize students for study	Comprehension	Teacher divides students in mixed ability groups and tells them a story.	• Students will identify parts of speech used in the story

Phase 3: Assist independent and Group investigation	Application	Teacher assigns students projects based on Parts of Speech, using jigsaw strategy	• A description (noun) of an object at home or classroom that is interesting • Concept mapping (parts of speech) • Word safari game. Students will play in small groups. One person chooses a noun. Then a student will begin a story with nouns sentence (using all parts of speech)
Phase 4: Develop and present artifacts and exhibits	Analysis Synthesis	Teacher encourages students to write and perform a role play using parts of speech. A cinquain poem	• Student will write a cinquain poem using parts of speech • From a literature model student will categorize different parts of speech • Role play - Imagine that you must judge a story contest • Being a judge, write a list of the contest rules. • Include your ideas what makes a short story good • Read your work to a group of your classmates. Ask them to find out the parts of speech
Phase 5: Analyze and evaluate problem solving process	Evaluation	Teacher helps students to reflect on the investigations and the processes they were exposed to, using a self reflection checklist.	Recording Activity:- Students will prepare a list of college disciplinary rules to solve the discipline problems of the college Students will construct a news item .using all parts of speech

ANALYSIS OF DATA

Paired Sample test

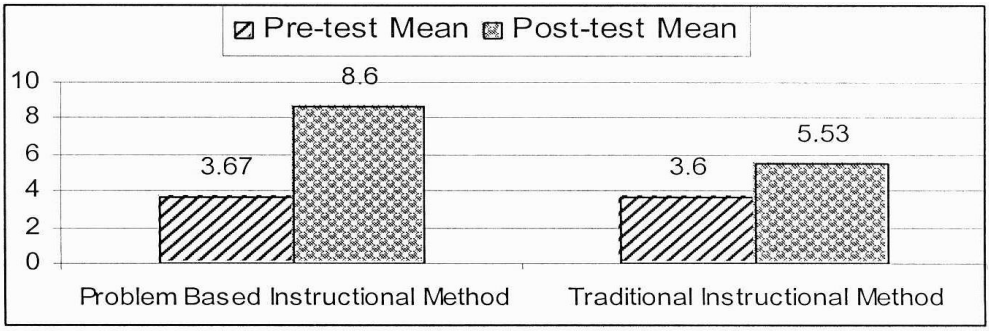
Table 1.1

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pre& post test Problem Based Instructions - POST_T	-4.93	1.28	.33	-5.64	-4.22	-14.929	14	.000
Traditional Method - POST_T2	-1.93	1.22	.32	-2.61	-1.26	-6.123	14	.000

"There is a significant difference in the level of achievement of paired sample". Table 1.1 shows the result of pair sample in experimental and control group's. t-test in the experimental group shows (t=-14.929,df.14,p<O.05) significant difference between pretest and post test on the variable of achievement. The control group result indicates (t=6.13,df.p<O.05) significant difference between pretest posttest on theVariable of achievement.

Fig 1.1 shows the significant difference between both paired samples, Problem Based Instmctional Method and Traditional Lecture Based Method. But the level of

achievement is markedly high in problem based instmctional method. The mean difference between the groups in posttest is 8.6 in Problem Based Instmctional Method and 5.3 in Traditional lecture Based Instmctional Method.



		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre test & Post test Problem Based Learning	3.67	15	1.35	.35
	POST_T	8.60	15	.83	.21
Pair 2	Traditional Method	3.60	15	1.35	.35
	POST_T2	5.53	15	2.00	.52

Same results indicating the level of achievement of the students are in table 1.2. The result shows that the Traditional lecture Based Instmctional Method is less effective and Problem Based Instmctional Method is more effective. On the basis of significant difference shown by the 't'-test result, the null hypothesis has been rejected and it is concluded that there is a significant difference in the achievement level of treatment and control groups. Students who were taught through problem Based Instmctional Method have shown remarkable results, whereas students exposed to Traditional Instructional Method have shown passive, de-motivated attitude and their achievement level is significantly low as compared to the treatment group. This makes it obvious that the traditional method lacks vigor and motivation whereas the modern method channelizes student's energy as well as activates their declarative and procedural

Knowledge. Both the't'and 'mean' difference establishes the authority of Problem based Instructional Method as an effective teaching method.

Table 1.3

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.188	.668	7.164	28	.000	4.00	.56	2.86	5.14
Equal variances not assumed			7.164	27.36	.000	4.00	.56	2.86	5.14

	problem based vs lecture method	N	Mean	Std. Deviation	Std. Error Mean
POST_1	Problem Based Learning	15	7.47	1.41	.36
	Lecture Method	15	3.47	1.64	.42

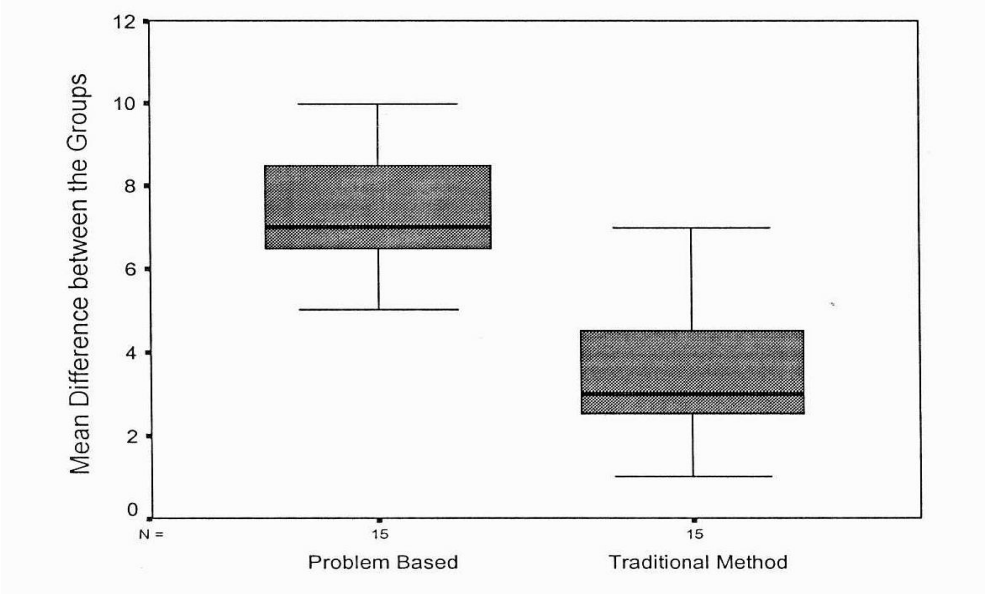


Table 1.3 shows (t=7.l64df28p<O.05) significant difference between Problem Based Instructional Method and Traditional Lecture Based Instructional Method on the variable of achievement. Results indicate that Problem Based Instructional Method increases the level of achievement of the students. Mean difference (table 1.4) in Problem Based Instructional Method is 7.47 and is higher as compared to Traditional Instructional Method; the mean in traditional method is 3.47. Independent group was not exposed to pretest. It shows a significant difference but less than the paired group. This shows that pretest is suggestive at times. On the bases of significant difference shown by the '1' test result, the null hypothesis has been rejected and it is concluded that there is a significant difference in the achievement level of treatment and control groups. Student who was taught through Problem Based Instructions have shown remarkable results as well as change in their attitude, perception and performance. They felt satisfaction in learning through new methodology that has enhanced their learning skills and developed positive attitude and behavior in them. Whereas the students who were not taught through Problem Based Instructional Method have shown frustrated responses and felt bored and de-motivated. Thus the result shows that Problem Based Instructional Method is highly motivating and more effective as compared to Traditional Instructional Method.

RESULT

Research study shows that the instructional methods of language teaching in our institutions do not bring the desired outcomes of learning.

- It shows that present language teaching strategies are not increasing the level of interest of students.
- The findings of the research indicate that present instructional strategies in English language classes do not develop in-depth understanding

- Research study shows that present instructional methods do not provide opportunities to students to use knowledge meaningfully.
- Present study shows that today teaching strategies in English language classes do not promote critical thinking, Creative thinking and self regulated thinking are essential for the mental exercise of a learner and for the enhancement of learning capabilities.
- Research study shows that the group to whom the treatment was given through traditional lecture based method showed poor results in post test.
- It indicates that student's level of interest is not increasing through this method; therefore, their achievement level is also low.
- Research study shows that traditional lecture based method does not help teachers to enhance the abilities of their students. .
- Research study shows that today we need more and more interactive instructional strategies to motivate our students towards objective learning.
- Research suggests that Problem Based Instructional Strategy is an example of such a design.
- Through this experimental research study, the researcher established the effectiveness of Problem Based Instructional strategy in English language classes.
- The study has shown marked differences between Problem Based Instructions and Traditional Lecture Based Method in student achievement.
- Researcher identified that Problem Based Instructional strategy stimulated and challenged both the teacher and learners. It is an innovative teaching process.
- Study shows that Problem Based Instructional method provides opportunities to students to process reasoning through inductive and deductive methods by comparing, classifying, analyzing, synthesizing, and by constructing support.
- Research study shows that Problem Based Instruction is a method that encourages meaningful activities such as problem solving, decision making and investigating.
- Research study shows that the group to whom the treatment is given through Problem Based Instructional method has shown remarkable results in post test.
- Finding of the research indicates that Problem Based Instruction is the most effective method of teaching that enables students to think critically, think creatively and regulate their behavior towards positive learning.
- It provides opportunities for role-playing in problematic scenarios. It will be helpful to develop 21sl century skills in our students and make them confident, bold, Courageous and skillful to face the problematic issues of the world and enable them to find out solutions of the problems.

It is concluded that today we need to change our teaching strategies to make outreaching and learning process more effective and positive.

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