

# Problem-Based Instructional Approach as a Determinant of English Writing Performance of Pre-Service Technical Teachers in South-Western, Nigeria

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**Abstract:-** This study examined the Problem-based Instructional Approach as a determinant of the English writing performance of pre-service technical teachers in South-western Nigeria. The objectives of this study were to: (i) examine the general level of English writing performance of the pre-service technical teachers (ii) assess the English writing performance of pre-service technical teachers exposed to PBIA. A quasi-experimental study with pre-test, post-test, non-randomised and non-equivalent control group design was adopted. The population consisted of 983 college of education students in South-Western Nigeria. A multi-stage sampling technique was employed to select the respondents for the study. The data were analysed using the percentage, mean, standard deviation, t-test and analysis of covariance at 0.05 level of significance. The findings of the study were that: the general level of English writing performance was relatively low before the treatments (control group, 32.59:30.61) but high after the treatments (48.26; 46.62); there was no significant difference in the English writing performance of pre-service technical teachers taught through PBIA and control ( $F 1.353= 439 P>0.05$ ). The study concluded that the PBIA approach is highly needed in the teaching of writing. The study recommended that teachers should employ the use of PBIA for teaching writing to enhance students' performance.

**Keywords:-** English Writing Performance, Problem-Based Instructional Approach, Pre-Service, Technical Teacher, Cognitive Learning.

## I. INTRODUCTION

The English language has become an indispensable tool in every stratum of social interaction worldwide. The teaching and learning of English as a second language (ESL) have been deeply entrenched in the national curriculum at all levels of education in Nigeria. In tertiary institutions, the English language is taught within the General Studies Programme. In universities, it is taught as Use of English course (UOE/USE) and in the polytechnic, as English Language and Communication/Technical English, while in the colleges of education, it is taught as a General English course in the Department of General Studies in Education (GSE). The fundamental objective of the course, as stipulated

by the National Commission for Colleges of Education, among other things, is to enable the students to acquire proficiency in the use of the language for effective communication.

General English courses are taken as a five-semester course. The aspects covered include grammar, reading, listening, speech, study skills, vocabulary and writing. Writing is quite pertinent for the productive and expressive communication of teachers and learners alike. Teachers, as models and locus of knowledge, need to be well-grounded in the art of writing. Among the language skills, writing is the most enervating and perhaps the most instructive. It brings out exactitude in such a way that other skills do not. Writing is also of various kinds, its major determinant being the audience, subject matter and the purpose of writing (Adedimeji, 2009). Writing makes practical application and utilisation of all other language skills and language components expressively.

Students need to be supported as self-directed, autonomous learners to provide learning opportunities (Zainuddin, Habiburrahim, Muluk, & Keumala, 2019). There is the need to employ instructional strategies that will enhance independent and collaborative learning opportunities, such as Problem-based Instructional approach, etc. The Problem-based Instructional method is a learner-centred, inquiry-based instructional style in which learners interact with a genuine, poorly organised problem that needs further study (Decker-Lange, 2018). Problems-based instruction (PBI) gives the possibility to self-directed learning, collaborative learning, meta-cognitive and creative problem-solving capabilities to change the world quickly. Classroom studies in higher education strongly impact students' skills from a Problem-Based Instruction (PBI) (Diningrat, Setyosari, Ulfa, & Widiati, 2020).

The 21st century of learning requires learning skills, methods and resources, which learners may use after leaving school (Weeks, 2019). The PBI is found to equip students with productive and expressive language skills for real-life experience in a real-life context. This is confirmed by a meta-analysis of 43 empirical research conducted in real-world tertiary education classrooms worldwide, which showed that PBI had a significant beneficial impact on students' skills (Dochy et al, 2003). Staff and students that have shown

ownership and commitment to PBI in their teaching practices have experimented with and mastered PBI skills.

Teachers who think teaching is a didactic process of material delivery may be averse to utilising PBI. Additionally, it offers students a learning environment that encourages them to become more engaged and accountable for the learning process (Thompson, 2020). This instructional approach tends to make the language classroom lively and learners' activities participatory and collaborative. This approach is much better than the lecture instructional approach, where learners are docile, spoon-fed and passive. The PBI will make the pre-service teachers more practical, innovative and inspiring models. The PBL aims to assist students in developing the following skills: 1) adaptable knowledge, 2) effective problem-solving skills, 3) SDL skills, 4) effective cooperation abilities, and 5) intrinsic motivation (Hmelo-Silver, 2004).

The nation is in dire need of English – language proficient technocrats adept in writing skills, able to disseminate technological ideas, problem-solving issues appropriately and communicate comprehensibly. The linguistic and communicative incompetence of technical and vocational graduates has been a grave concern of many scholars and researchers (Al-khasawneh, 2018). The researcher has observed technical and vocational pre-service teachers' pathetic linguistic and communicative ineptitude, which tend to hamper their ability to interpret and transfer technology to junior secondary school students. The deficiency is also evinced in their abysmally poor technical reports on the student's industrial work experience (SIWES), seminar paper presentation, procedures for culinary arts, feasibility studies, writeups on art exhibitions, business proposals and others.

It is possible to positively influence students' learning patterns if appropriate PBL context problems of interest to learners are selected and integrated into the curriculum; if learners' roles and responsibilities in collaborative groups are clearly defined and emphasised; and if lecturers transition from knowledge dispensers to knowledge constructors. So and Lee (2013) conducted a case study to ascertain pre-service EFL teachers' perceptions of a prototype instructional model for L2 writing in blended learning and its efficacy in developing L2 writing skills, as well as to develop a suitable mode of instruction for L2 writing in blended learning. The researchers discovered the following: In the first case, participants reacted favourably to the model. Additionally, they deemed it beneficial and advantageous for the development of their writing skills. They did, however, struggle with a few of the model's objectives and activities. Secondly, the approach was shown to help develop L2 writing skills. Also, Babalola (2012) investigated the relative effect of Task-based and Process – genre instructional approaches. The sample for the study consisted of 504 HND 1 students in three faculties from three polytechnics in Southwestern Nigeria. The researcher asserted that the Process – Genre Approach (PGIA) was the most effective, followed by the Task-based approach, while the least effective was the conventional approach.

However, none of the research efforts has made use of problem-based and multimedia instructional approaches on pre-service technical teachers in South-western Nigeria. Therefore, this has created a gap as part of which this study attempts to fill by examining the problem-based instructional approach, multimedia instructional approach and a combination of problem-based approaches as determinants of English writing performance of pre-service technical teachers in South-western Nigeria.

## II. REVIEW OF RELATED LITERATURE

### ➤ *Theoretical Framework*

The problem with stage descriptions of writing is that they focus on the development of the written output rather than on the inner process of the author. "Pre-Writing" refers to the stage before words appear on paper; "Writing" refers to the process of creating a product, and "Re-Writing" refers to the final reworking of that result. According to research, writers continuously plan (pre-write) and revise (re-write) while they compose (write), not in discrete phases (Flower & Hayes, 1981; Rahmat, 2021).

The conventional phase paradigm in this research is a cognitive process theory of writing. In a model stage, the main analytical units are completion stages that represent a written product's development and are organised in a linear sequence or structure. In a process model, basic mental processes such as the process of creating ideas are the main units of analysis. And these processes have a hierarchical structure, which is a sub-process of planning, for instance, to create ideas.

The theory of cognitive processes by Flower and Hayes (1981) is engaged in composing the foundations for more thorough research in the writing of thinking processes. In addition, any such mental act may occur in the composing process at any moment. A writer in action must be studied, and many different methods to accomplish this are the greatest way to mimic the writing process. However, it is notoriously inexact to analyse what the writers do when writing and is likely to be affected by their perception of what they should have done. Therefore, the analysis of protocols was effective for investigating other cognitive processes (Fadhly & Ratnaningsih, 2018). Contrary to introspective analyses, thinking protocols fully document what happens in the writer's thoughts while composing. Another theory relevant to this study is Donald Murray's teaching writing model (1972). Türkben (2021) opined that when a teacher is asked to teach writing, he is not teaching a product; he is teaching a process. This reflects what Awada and Diab (2021) declared a "Paradigm shift" in writing, the move from product to production conditions.

### III. RELATED EMPIRICAL STUDIES ON PROBLEM-BASED APPROACH IN EDUCATION

Problem-based learning purposively combines cognitive and metacognitive learning and teaching. It is an approach that dates back to the late 60 (Neufeld & Barrows 1974). Roschelle (1999) said that problem learning has its roots in the project pedagogy of John Dewey at the beginning of the 20th century (e.g., Dewey, 1929, 1933, 1938).

The primary emphasis of problem-based learning is to learn by learning actual, open-ended issues, to which no answers have been found (Ertmer, Lehman, Park, Cramer, & Grove, 2003). Students work by themselves or in groups to first comprehend and discover potential solutions to a specific issue.

➤ *The Problem-Based Learning Process:*

In problem-based learning classrooms, the roles and responsibilities of both instructors and students differ from those of more conventional types of scholastic education, such as those of traditional universities. In general, the teacher acts as a coach or facilitator in problem-based classrooms for activities that students do on their initiative. The teacher does not only transmit information or manage the growth of the work of the students. Instead, teachers give students appropriate problems to work on and help them

identify the materials and equipment to solve these problems, provide the necessary information and support in the process of problem-solving, and evaluate students' participation and products to help develop their problem-solving capabilities, as well as their problem-solving capabilities. These initiatives are further described below.

➤ *Four Steps in Implementing Problem-Based Learning:*

Many publications have detailed the problem-based learning process from a student viewpoint (e.g., Albion & Gibson, 1998; Boud, 1985; Butler, 2003). In general, the process has four major phases: (1) the issue is being brought forward, (2) the problem is examined, and the problem is unknown, (3) the problem may be resolved, (4) it can be resolved in terms of implications and the most feasible solution. We have, on the other hand, received little information, a description of the activities that each of these stages requires of the instructor. What, for example, can teachers do to assist students in becoming acquainted with the issue and discovering what they know and don't know about it? What is the function of the instructor while students are creating potential answers and making a selection from among them? What choices are available to the instructor after the procedure is complete? (Matthew-Aydinli,2007).

The roles of teachers and the process for students is graphically outlined in Figure 1.

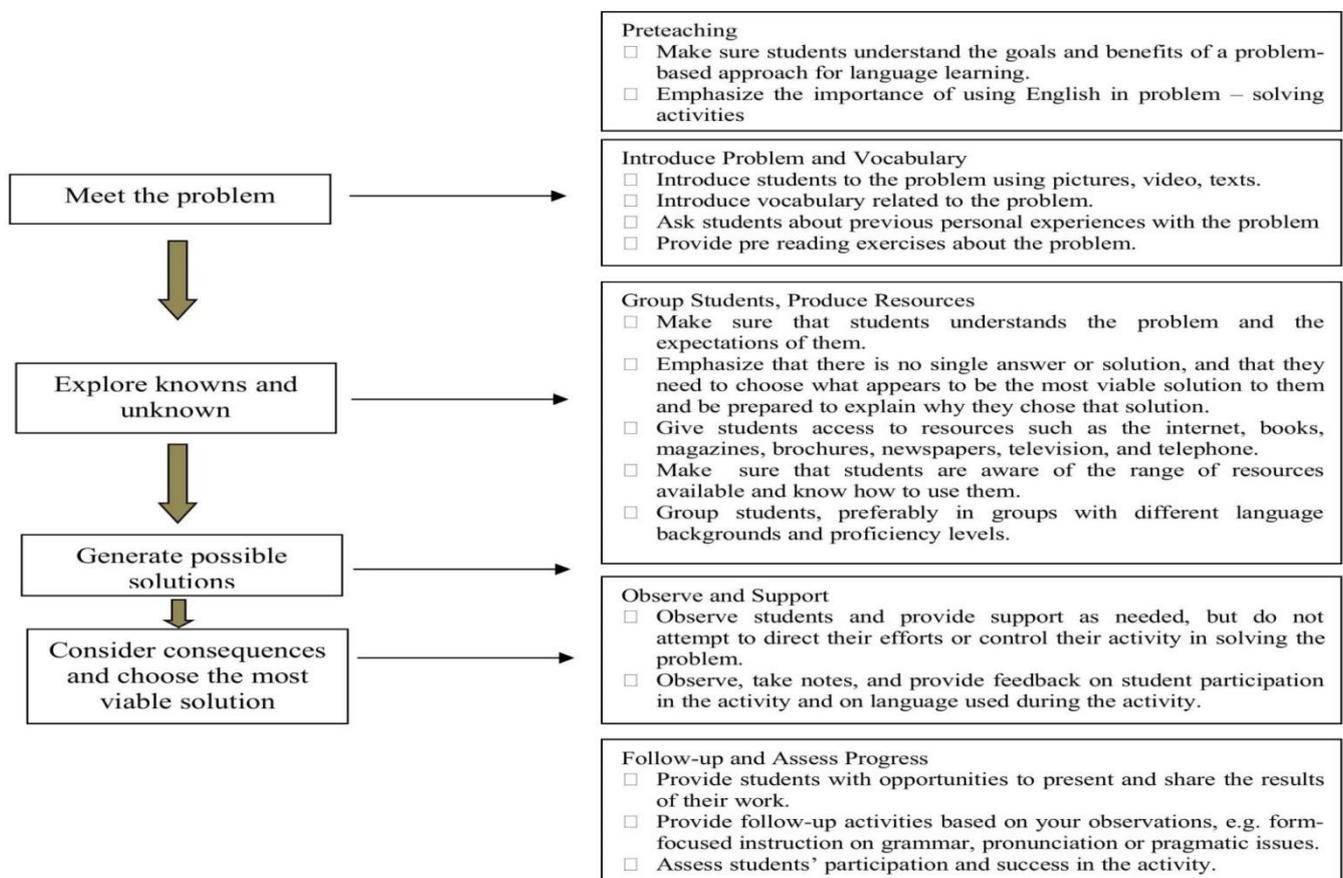


Fig 1: Student and Teachers' Roles in Problem-Based Learning  
 SOURCE: Mathew- Aydinli (2007).

As in the "Seven-Jump" paradigm, PBL works in many main stages (Maastricht PBL model). The processes may be summed up in three main phases: initial, PBL and final phases (Masek & Yamin, 2010). The first phase includes a group training program that assigns students, whether administratively or randomly, in a small group at the first meeting. The group will next face a PBL issue and start analysing and understanding the problem (Hmelo-Silver, 2004). Specific tasks include the definition of learning targets (Schmidt, 1993), the identification of knowledge gaps (Barrows & Tamblyn, 1980).

Charlin and Mann (1998) explains that from 1980, learning in a PBL format happens when the students work through a problem looking for a solution. A solution to the problems well as the research skills that were used to resolve the problem were the focus points of instruction. Ryan (1993) notes that the goals of PBL were to develop problem-solving skills, and consequently, self-motivated learners by incorporating learning within a context relevant to students. Boud and Feletti (2001) simply describe PBL as a way to arrange a course that would present students with problems that would stimulate learning. Despite these various descriptions for PBL, there were key components common to the various permutations.

Literature shows the benefits of the PBL included academic benefits such as student responsibility, improved research and reasoning skills, and non-academic benefits such as behavioural and absenteeism. Since the origin of PBL in professional schools and its recent induction in K-12 programmes, Torp and Sage (1998) had seen improvement by the students in terms of student-centredness and student responsibility in the development of their education. Barrows (1997) agreed and added that students were self-reflective and self-monitoring during the PBL process. Students evaluated their learning, reflected on information they found, and demonstrated cause and effect relationships to solve the problem.

#### IV. RESEARCH METHODOLOGY

##### ➤ *Research Design*

This is a quasi-experimental study with pre-test, post-test, non-randomised and non-equivalent control group design.

##### ➤ *Population, Sample and Sampling Techniques*

The population for this study consists of the college of education students that are located in the South-West geopolitical zone of Nigeria. The target population was the year two (NCE II) students. The reason for their choice is because they are in the penultimate class that have been opened to lecture method in the college in year one. Year three is for teaching practice and final year learning activities. Therefore, the second-year students were more appropriate for the experimental teaching. The respondents consisted of both male and female students.

Four Colleges of Education were purposively sampled out of the seven (7) state-owned colleges of education from southwestern Nigeria. The reason for the purposive sampling is because these are colleges that are homogenous in terms of requisite infrastructure for the experiment.

Four intact classes were involved in the study: quota sampling technique was used to select five (5) students each from the five Departments in the School of Technical and Vocational Education in each of the four State-owned Colleges of Education the five students were from the five departments on the premises that they have been minoring in English language unit of the College of Education from their 100 level. The number of technical students on enrolment in each College of Education is peculiarly very low. A total of twenty-five (25) constant students were involved in each group. Hence, the sample for the study was one hundred (100) students. The students in each group were of a sizeable number because of space, facility, constraint and lack of enough computer sets in the computer laboratory.

##### ➤ *Instrumentation*

The following instruments were used to collect the necessary data for the study:

1. English Writing Performance Tests (EWPT) set A;
  2. English Writing Performance Tests (EWPT) Set B;
  3. An Instructional Manual for Teachers (IMT) in Experimental Group I;
  4. An Instructional Manual for Teachers (IMT) in Experimental Group II
  5. An Instructional Manual for Teachers (IMT) in Experimental Group III;
  6. Multimedia Instructional Software Package
1. The English Writing Performance Test (WPT): This was designed by the researcher to determine the performance of students both as the pre-test and post-test. Two sets of tests were designed and tagged set 'A' and set 'B'. Set 'A' was designed for the pre-test. The purpose of it was to access the students' previous knowledge. It was divided into two sections 'A' and 'B'. Section 'A' was on Essay Writing. This was an expository essay writing on 'Conquering the Common Cankerworm of Corruption in the Nigerian Context'. Section 'B' was also on Letter Writing. This was used to assess students' entry behaviour on the writing of a formal letter.

Set B was designed for the post-test. This was a modified version of set 'A' to avoid interference and threat to the internal validity of the instruments. It was likewise divided into two sections namely section 'A' and section 'B'. Section 'A' would be on Essay Writing. This was an expository essay on 'The Concept, Challenges and Control of Climate Change'. Section 'B' was on Letter Writing. The student is to write a letter to the editor of a national newspaper discussing 'Conquering the Common Cankerworm of Corruption in Nigerian Context. This is to evaluate the students' ability in writing a formal letter.

2. An Instructional Manual for Teachers (IMT): This was designed for assisting the lecturers to guide them in the teaching procedures. The study adopted the model presented by Lawal (1990) for the content construction of the instructional programmes. The outline consists of the following:

- College
- Class: NCE II
- Topic
- Sub-topic
- Duration of lesson
- Behavioural objectives
- Entry behaviour
- Instructional Resources
- Introduction
- Presentation
- Evaluation
- Conclusion
- Follow-up activities

**Pilot Study:** The reliability level of the achievement test was assessed using the test-retest procedure. The test was administered twice on twenty (20) non-participating college of education students in an interval of two weeks. The reliability coefficient of the collated) at reliability coefficient 0.82 and the instrument was adjudged to be reliable and consistent as depicted in Table 1.

**Table 1:** Pearson Product Correlation Moment Showing Reliability Coefficient

		First Administration	Second Administration
<b>First Admin.</b>	Pearson Correlation	1	.82**
	Sig. (2-tailed)		.000
	N	20	20
<b>Second Admin.</b>	Pearson Correlation	.82**	1
	Sig. (2-tailed)	.000	
	N	20	20

➤ *Procedure for Data Collection*

The researcher ascertained that the Colleges of Education in the South-West geo-political selected for the experiment have computer laboratory /ICT facilities which they use for Computer-Based Test (CBT). The researcher presented the letter of introduction obtained from the Department of Arts Education, Faculty of Education, University of Ilorin, Ilorin to the appropriate authorities of each College of education where samples were drawn for permission. No respondent was coerced to participate in the study against his/her wish as this was deemed to be adequately briefed on the purpose of the study, while research assistants were engaged in each College of Education.

The study covered six weeks. The first week was used for the training of the research assistants and administration of the pre-test to the sampled students. The second, third, fourth and fifth weeks were for the administration of the treatments. The sixth week was used for the administration of the post-test. The treatments for the experimental groups were presented as follows:

**Experimental Group I: (PBIA),** the treatment for this group lasted for 55 minutes per lesson for four weeks. There were two periods per week totalling eight periods for the experiment. The class was divided into groups of five members per group to avail collaborative learning. Each group was engaged to brainstorm on the problem to proffer possible solutions. Every student in each group accessed relevant points from resources such as the internet, books, magazines and supplementary facts presented by the teacher.

Each student presents and shares the results of their study. Each group compiles their findings and a student is chosen among them to present their findings to the entire class in turns. The teacher as the coach observes, takes notes and provides feedback on the students as they participate in the grammar, vocabulary and tenses used during the activity. Each student finally writes an appropriate essay letter on the problem they brainstormed. The teacher assesses the students' participation in the activities.

**Control Group II:** The Conventional Instructional Approach (CIA) was used for this group. This group was not exposed to any treatment apart from the normal lecture method which was used to teach writing. In the conventional instructional approach group, the normal sitting arrangement of students facing the teacher using the talk and chalk method was adopted. The teacher instructs the students on the rudiments of essay and letter writing. He explains the various types and features of essay/letter writing. He then asks them to write essays/letters in response to questions drawn on each type. The instructor collects the write-ups in response to questions drawn on each type and assesses them based on:

- the organisation of the essay;
- generation of ideas;
- expression of ideas;
- linguistic accuracy; and
- use of cohesive devices and coherence.

The experimental groups were given orientation on the use of the computer. A period of about eight weeks was allotted for the study under the following arrangement.

Week 1: Instructional programmes for teachers/students of General English.

Week 2: Administration of a pre-test for all the groups

Week 3-7: Period of treatment for the experimental groups

Week Post-test for all the groups.

➤ *Data Analysis Techniques*

The data collected were analysed using descriptive and inferential statistics. Demographic characteristics of respondents were described using the percentage. Mean and standard deviation was used to answer research question 1,

while independent sample t-test and Analysis of Covariance (ANCOVA) were used to test all the formulated hypotheses with the aid of Statistical Package for Social Science (SPSS) at a 0.05 level of significance.

**V. DATA ANALYSIS AND RESULTS**

The demographic distribution of respondents in both the experimental and control groups was analysed using the

percentage. Mean and standard deviation was used to answer research question one, while other research questions with corresponding hypotheses were tested using the t-test and Analysis of Covariance (ANCOVA).

➤ *Demographic Characteristics of Respondents*

The distribution of students on gender was analysed. The students’ gender was described using a percentage as shown in Table 2.

**Table 2: Demographic Information of Participants**

Groups	Gender	Frequency (%)	Total (%)
<b>Experimental Group I</b> Problem Based-Instructional Approach (PBIA)	Male	14 (14.0%)	25 (25.0%)
	Female	11 (11.0%)	
<b>Control Group II</b> (Conventional Method)	Male	14 (14.0%)	25 (25.0%)
	Female	11 (11.0%)	
<b>Total</b>			<b>100 (100.0%)</b>

Table 2 shows the demographic information of the groups (experimental groups I and the control group II). Out of 100 (100%) respondents sampled for this study, 25 (25.0%) of the respondents formed the experimental group I (PBIA) from which 14(14.0%) were males and 11 (11.0%) were females whereas 25 (25.0%) of the respondents constituted the control group (conventional method) out of which 14 (14.0%) were males and 11 (11.0%) were females.

**Research Question One:** *What is the general level of English writing performance of pre-service technical teachers in South-Western Nigerian Colleges of Education?*

To answer this research question, data were collected to examine the effect of various teaching strategies employed in

this study on pre-service technical teachers’ level of English writing performance in South-Western Nigerian Colleges of Education across the various teaching strategies. Based on a pre-test conducted before introducing the strategies, this was done to ascertain the respondents’ previous knowledge of the concept taught. Similarly, a post-test was conducted to ascertain the effect of the strategies on the English writing performance of the respondents. The percentage was used to analyse the data collected, while the range was used to determine the overall students’ English writing performance using various strategies employed in this study based on a benchmark of 0-39, 40-44, 45-49, 50-59, 60-69, and 70-100 to represent fail, poor, fair, good, very good, and excellent respectively. Results of the analysis are shown on Table 3.

**Table 3:** Descriptive Statistics on the General Level of English Writing Performance of Pre-service Technical Teachers in South-Western Nigerian Colleges of Education.

Groups		Mean	S.D.	Mean Gain	Min	Max	Remark
<b>Experimental Group I</b> Problem Based Instructional Approach (PBIA)	Pre-test	32.59	7.02	15.67	16.00	54.00	Low Fairly-High
	Post-test	48.26	12.06				
<b>Control Group</b> Conventional Approach	Pre-test	30.61	6.60	16.01	20.00	51.00	Low Average
	Post-test	46.62	5.35				

Table 3 shows the performance of students (experimental and control groups). It is revealed that the post-test scores were higher than the pre-test scores. The result indicates that students’ performance scores before the treatments (*Experimental Groups 32.59 and Control Group. 30.61*) were low. However, after the treatments, the mean score of the English writing performance of students taught with Problem Based Instructional Approach (PBIA) was 48.26. The students taught using the conventional method had a mean score of 46.62. This shows that the English writing performance of students taught with the conventional method is relatively low compared to the experimental groups.

➤ *Hypotheses Testing*

**Hypothesis One:** *There is no significant difference in the English writing performance of the pre-service technical teachers taught through PBIA based on their gender.*

In an attempt to determine whether there is any significant difference between male and female COE students in English writing performance of the pre-service technical teachers taught through PBIA an independent t-test was conducted. Table 4 shows this.

**Table 4:** t-test Analysis on the Significant Difference in the English Writing Performance of the Pre-service Technical Teachers Taught through PBIa on the Basis of Gender

Gender	N	Mean	Std.	T	df	Sig.(2tailed)	Remarks
Male	9	16.55	4.55				
				0.13	23	0.89	Retained
Female	16	16.18	7.74				
Total	25						

Significance at 0.05

Table 4 reveals that there is no significant difference between males and females in the English writing performance of the pre-service technical teachers taught through PBIa. The result showed that,  $t(23) = 0.13, p > 0.05$ . The null hypothesis is retained. This is because the result of the t-value of 0.13 resulting in a 0.89 significance value is greater than the p-value. This implies that there is no significant difference in the English writing performance of the pre-service technical teachers taught through a Problem-based Instructional Approach (PBIa) based on their gender.

**Hypothesis Two:** *There is no significant difference in the English writing performance of the pre-service technical teachers exposed to PBIa based on their fields of studies*

In an attempt to determine whether there is any significant difference among COE students in English writing performance of the pre-service technical teachers taught through PBIa and MIA based on the field of study Analysis of covariance was conducted. Table 5 shows this.

**Table 5:** ANCOVA Analysis on the Significant Difference in the English Writing Performance of the Pre-service Technical Teachers Taught through PBIa based on Field of Study

Significance at 0.05

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	2.046 <sup>a</sup>	4	.511	2.410	.068
Intercept	1673.795	1	1673.795	7887.347	.000
Field of Study	2.046	4	.511	2.410	.068
Error	197.994	95	.212		
Total	9803.880	100			
Corrected Total	200.040	99			

a. R Squared = .010 (Adjusted R Squared = .006)

Table 5 shows the results on the significant difference in the English writing performance of the pre-service technical teachers when exposed to PBIa based on their field of studies. It indicates that the calculated F-value is 2.410 with a p-value of 0.68 computed at a 0.05 level of significance. Since the calculated p-value is greater than the 0.05 level of significance, the null hypothesis is retained. This means that there is no significant difference in the English writing performance of the pre-service technical teachers when exposed to PBIa based on their field of studies.

**Hypothesis three:** *There is no significant difference in the English writing performance of the pre-service technical teachers expose to PBIa based on their writing attributes.*

In an attempt to determine whether there is any significant difference among COE students in English writing performance of the pre-service technical teachers taught through PBI based on writing attributes Analysis of covariance was conducted. Table 6 shows this.

**Table 6:** ANCOVA Analysis Showing Significant Difference in the English Writing Performance of Pre-service Technical Teachers Exposed to PBIa based on Writing Attributes

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	469.023 <sup>a</sup>	4	117.256	3.919	.087
Intercept	3979.417	1	3979.417	132.998	.061
At PBIa	469.023	4	117.256	3.919	.017
Error	598.417	20	29.921		
Total	7726.000	25			
Corrected Total	1067.440	24			

a. R Squared = .439 (Adjusted R Squared = .327)

T  
Significance at 0.05

The result in Table 6 indicates the significant difference in the English writing performance of pre-service technical teachers exposed to the Problem-based Instructional Approach (PBIA) based on their writing attributes. It indicates that  $F_{3,919} = .017$ ,  $P > 0.05$ . This means that the significance p-value (.017) is greater than the 0.05 level of significance, which means that there is no significant difference in the English writing performance of pre-service technical teachers exposed to the Problem-based Instructional Approach (PBIA). Hence, the null hypothesis is hereby retained. Thus, there is no significant difference in the English writing performance of the pre-service technical teachers exposed to a Problem-based Instructional Approach (PBIA) based on writing attributes.

## VI. SUMMARY OF THE MAJOR FINDINGS

The following are the summary of the major findings of this study:

1. There was no significant difference in the English writing performance gain of the pre-service technical teachers in the South Western Nigerian Colleges of Education taught through Problem-based Instructional Approach (PBIA).
2. There was no significant difference in the English writing performance of the pre-service technical teachers taught through the Problem-based Instructional Approach (PBIA) based on gender, with the performance of both groups being “fairly high”.
3. There was no significant difference in the English writing performance of the pre-service technical teachers exposed to the Problem-based Instructional Approach (PBIA) based on the field of studies, having pre-service teachers from the various departments recording “fairly high” performance.
4. There was no significant difference in the English writing performance of the pre-service technical teachers exposed to the Problem-based Instructional Approach (PBIA) based on writing attributes with their performance being “fairly high” on all the attributes.

## VII. CONCLUSIONS

Based on the discussion of the findings of this study, the conclusion drawn was that the general level of performance of students in English writing performance in the experimental approaches and convention approaches was low before treatments but better after the treatments. This finding implies that all the approaches for English writing, Problem-based Instructional Approach (PBIA), are important variables because they better predict students' writing performance in the English Language than the conventional method of teaching.

## THE IMPLICATION OF THE STUDY

The findings on the significant role of problem-based instructional approach. The approaches serve as a tool for setting learners on the path of self-actualisation, self-regulation, error-detection, information-processing and activities monitoring in the process of teaching and learning writing. Since the problem-based instructional approach

(PBIA) is a strong determinant of the writing performance of pre-service technical teachers of colleges of education in South-western Nigeria. Preservice technical teachers would need to be guided through these approaches to develop their skills in all forms and genres of writing. They would also need to be adequately prepared and equipped to make use of learner-centred strategies in their teaching during practicum before graduation and their post-graduation career.

## RECOMMENDATIONS

Based on the findings and conclusions of this study, recommendations are offered to teachers, curriculum planners, textbooks writers and publishers as well as the government on effective ways of using problem-based and multimedia instructional approaches in facilitating learners' writing performance. Second language teachers are enjoined to incorporate problem-based strategies in their language lessons. It is recommended that teachers, curriculum planners and textbook writers should be encouraged and supported to attend seminars, workshops and in-service training that could improve their professional skills and enrich their experiences in learner-centred pedagogy.

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