

Utilization of Problem-Based Learning in Improving Grammar Skills of Grade 8 Students

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Abstract: This research was a product of the pursuit of finding a more effective teaching strategy that would give rise to the realization of the attainment of a reasonable improvement on grammar skills of the students through the employment of the Problem-Based Learning.

The study entitled Utilization of Problem-Based Learning in Improving Grammar Skills of Grade 8 Students sought to find out the effectiveness of utilizing PBL in teaching grammar to Grade 8 students of Florentino Torres High School during the academic year 2018-2019.

Based on the analysis of the data, the significant findings of the study are as follows: First, there was a significant difference that existed in the post-test performances of two groups in grammar since the computed t-value of 3.25 was greater than the tabular t-value of 1.99. Second, there was also a significant difference that existed between the pre-test and post-test performances of the PBL group in grammar since at 5% significance level, the computed t-value of 14.38 was higher than the tabular t-value of 2.02. Lastly, by comparison, the mean learning gains of PBL group was 16.69% higher than that of the non-PBL group.

In addition, the researchers recommend usage of PBL in the end means of improving the students' performance, the utilization of the results of this study in the aspect of designing their own instructional delivery using PBL, the affordance of trainings and workshops for the teachers so that they can see the other useful benefits of PBL in other academic disciplines, and the conduct of future research as regards PBL bearing in mind the benefits that the teachers as well as the students can gain from it.

Keywords: Verb, Function of given word, Grammar skills, Parts of speech, Problem-based learning, Subject-Verb Agreement, and Simple Tenses.

I. INTRODUCTION

Twenty-first century education setting besets several challenges in achieving quality education for every student. With such, various approaches have been considered in creating and enhancing curriculum content yet, students' results drastically declined academically. One of the undeniably alarming issues is the English proficiency in the Philippines.

Long ago, Philippines was known as one of the largest English-speaking nations around the world. It was an advantage because the foreign investors considered it as one of the main factors in placing their business. Proficiency in the English language was one of the country's strengths that have helped drive the economy and even made the country as the top voice outsourcing destination in the world surpassing India in 2012. However, this recognition has started to fade due to the declining of English proficiency of Filipino students. The aforementioned remarks were stated by Cabigon (2012).

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Based on the study conducted by Hopkins International Partners, an official Philippine representative group, in its Test of English for International Education (TOEIC), the level of English Proficiency of College graduates from the Philippines is lower than the target English proficiency of High school students in Thailand. In addition, Filipinos are ranked only third or fourth among ASEAN countries in terms of English proficiency and that the Philippines' proficiency is on the decline while others are on the rise.

In relation to this sad plight, Liu (2018) argued that despite a long debate and the accompanying call for changes in the past few decades, grammar instruction in college English classes, according to some scholars, has remained largely disempowering, decontextualized, and remedial.

To search for more effective and empowering grammar teaching, *Liu's study Making Grammar Instruction More Empowering: An Exploratory Case Study of Corpus Use in the Learning/Teaching of Grammar* published in 2018 explores the use of corpora for problem-based learning/teaching of lexicon grammar in a college English grammar course. This pedagogy was motivated by research findings that corpora are a very useful source and tool for language research and for active discovery learning of second/foreign languages, and problem-based learning (PBL) is an effective and motivating instructional approach.

The teacher-researcher, being a mentor for almost a decade, who has tried and applied several teaching strategies and approaches in her classes to help the students learn the English language better, more especially in honing the grammar skills of students; she made a bold move of trying out PBL as a teaching strategy in her class. As a matter of fact, this was utilized during her National Demonstration Teaching where English teachers, Public School District Supervisors, Education Program Specialists, English language experts and selected junior high school students took part in enjoyment.

The employment of the Problem-Based Learning in the different learning tasks proved that students learn better, and learning becomes more permanent and effective once they are exposed to real-life problems that entail the use of English communication. This kind of experience gained from the National Demonstration Teaching has given the researcher significant insights in the realm of language teaching.

As a language teacher, in order to make her students analyze and improve their language performance, it is a requirement for them to know their basic grammar. Being able to understand the use of noun, verbs, adverb, adjective, phrase or clause helps them to write English better.

As regards the aspect of reading, knowing basic grammar is an important tool for readers to understand what they are reading. It is considered to be a handle of literature. By analyzing the grammar of sentences and paragraphs, the readers can understand what they read better.

As students are being prepared for their future careers, acquisition of grammar skills is useful in every aspect of their lives from education to leadership, and social life to employment opportunities.

Just as they are being trained to be the future of the nation, a tool of importance is the attainment of grammar skills for them to be effective leaders. As it cannot be delineated, communication skills are indispensable to effectively give direction and provide assurance of leading ability.

Proper grammar is also essential for understanding English as a second language as well as for learning a new language, since all languages follow grammatical patterns. Being able to use correct grammar in a is a tool to opening doors by being heard and understood more clearly.

An analogy can be drawn between rules and grammar rules in the sense that just as rules are necessary in everyday situations, grammar rules are likewise essential in everyday life for clarity of meaning and intent.

Since language skills, solving problem and thought-provoking skills are not acquired by direct lessons but emerge from experience of doing, this logical reasoning prompted the researcher into venturing on the procedure of Problem-Based Learning in enhancing the grammar skills of Grade 8 students.

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English language has been the lingua franca up to now. Doors of opportunities and success are widely open to those who are proficient in speaking the language (Jimenez, 2018). A student who can read confidently and write clearly opens doors to world of opportunities. One cannot delineate the importance of learning the English grammar in developing student's ability to express his / her ideas through writing and speaking.

As specified under the K to 12 Basic Education frameworks, education focuses on the needs of the students and ensures that they learn the English language pragmatically. This can be done by linking real-life experience with the core of learning. In line with this, working collaboratively makes the students become more focus in school activities as they know that there is a certain task assigned to them. Students comprehend fast knowing that they are part of a group.

Albeit, there is point that students can comprehend the lesson through collaborative tasks, still they fail in application of the lessons specifically in grammar.

As pointed out by Wornyo (2016), the English language has its grammar governed by rules. Bearing that in mind, speakers of the language have to make concerned effort to learn how words are put together to form sentences to enable them to effectively communicate in the language.

As such, the role of English grammar in one's progress in academic work cannot be ignored. The teaching of English grammar in schools, colleges and universities is essential. This is because for learners to be able to construct well-formed sentences, they need to understand the basic rules that govern sentence construction in the language. This would enable them to write the language that conforms to English. Inadequate knowledge of English grammar or poor language proficiency affects the students in various disciplines.

Grammar overall, is a challenging language skill. Even experienced English lecturers may face difficulties in explaining grammar to students. This can be the result of different students' needs in learning. Hence, it is crucial for English lecturers to figure out their students' proficiency and issues in learning English grammar. One of which is the students and lack of experience as the main challenge of teaching grammar. However, the researcher believes that more challenges can be explored if more participants are involved. Therefore, English lecturers or language instructors should find a more strategic method in teaching the skill. A good mastery of grammar ensures students' ability to master other language skills such as writing.

As English language continues to be the lingua franca up to know which paves the way for the opening of doors of opportunities and success for those who are proficient in speaking the language (Jimenez,2018), one can choose from the various teaching approaches as afforded by (Guanera, 2018) in teaching English as a second language.

But for the researchers who adhere to Chua (2014), the challenge in molding critical thinkers and life-long students can only be attained through PBL as a pedagogical approach for the many benefits that it offers as attested by Dwright (2016), Allen (2016),Hayles (2016), Bayley (2017) , and others.

If there is one thing that is certain, it is the notion that the utilization of the Problem-Based Learning is suited in teaching grammar lesson. It conforms with the criteria of Howes (2014) who affirmed that PBL problems should be chosen from topics that are concrete enough for students to investigate meticulously, considering the students will get the essential information.

In the same line of thinking, Tabach and Schawartz (2017) suggested a strategy that enables the students to use the English language. They stressed that by having a small-group activity; students adhere to the instructions given by the teacher knowing that they are working as a group. Collaborative learning helps the students to build up their confidence by sharing their respective thoughts in a small group. It is also a good environment which enables the students to practice correct usage of grammar as well as listening to the speakers which serve as their model.

"Grammar is the structural foundation of one's ability to express himself or herself. In the case of a teacher-student relationship role, the more the teachers are aware of how it works, the more they can monitor the meaning and effectiveness of the way their students use language.

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This study sought to find out the utilization of Problem-Based Learning (PBL) in improving the Grammar Skills of Grade 8 students currently enrolled at Florentino Torres High School in the academic year 2018-2019. Furthermore, it addressed the following questions:

1. How comparable are the PBL and non-PBL group based on their final grade in English 7?
2. What were the pretest and posttest performances of the PBL group in terms of their skill in:
 - a. using verb that agrees with its subject?
 - b. using the correct verb for the time of action (tense) indicated in sentences?
 - c. identifying the function of given words in sentences?
3. What were the pretest and posttest performances of the non-PBL group in terms of their skill in:
 - a. using verb that agrees with its subject?
 - b. using the correct verb for the time of action (tense) indicated in sentences?
 - c. identifying the function of given words in sentences?
4. What are the pre-test and post-test performances in grammar of the PBL and non-PBL group?
5. Is there a significant difference between the:
 - a. pre-test performances in grammar of the PBL and Non- PBL group?
 - b. post-test performances in grammar of the PBL and Non-PBL group?
 - c. pre-test and post-test performances in grammar of the two groups of respondents?
6. What are the mean learning gains in percent (%) of the two groups?
7. Is there a significant difference between the mean learning gains in percent (%) of the two groups of respondents?

So as to determine the effectiveness of the utilization of the Problem-Based Learning approach in improving the grammar skills of Grade 8 students, the following hypotheses were tested:

1. There is no significant difference between the pre-test results in grammar skills of the PBL and Non-PBL group.
2. There is no significant difference between the post-test results in grammar skills of the PBL and Non-PBL group.
3. There is no significant difference between the pre-test and post-test results in grammar skills of the two groups of respondents.
4. There is no significant difference between the mean learning gains of the two groups of respondents.

This research focused on the utilization of Problem-Based Learning approach in improving the grammar skills of Grade 8 students. These grammar skills that were part of the lessons in the first quarter include the following: using verb that agrees with its subject, using the correct verb for the time of action (tense) indicated in sentences, and identifying the function of given words in sentences.

The respondents of the study were only two sections from Grade 8 junior high school students of Florentino Torres High School that were purposively selected out of the six sections that the researcher handled. They were selected based on their final Grade in English 7 and were grouped into non-PBL and PBL group whereby following an experimental method approach.

II. BODY OF ARTICLE

This study sought to find out the utilization of Problem-Based Learning (PBL) in improving the Grammar Skills of Grade 8 students currently enrolled at Florentino Torres High School in the academic year 2018-2019.

The figure below shows the paradigm of the study.

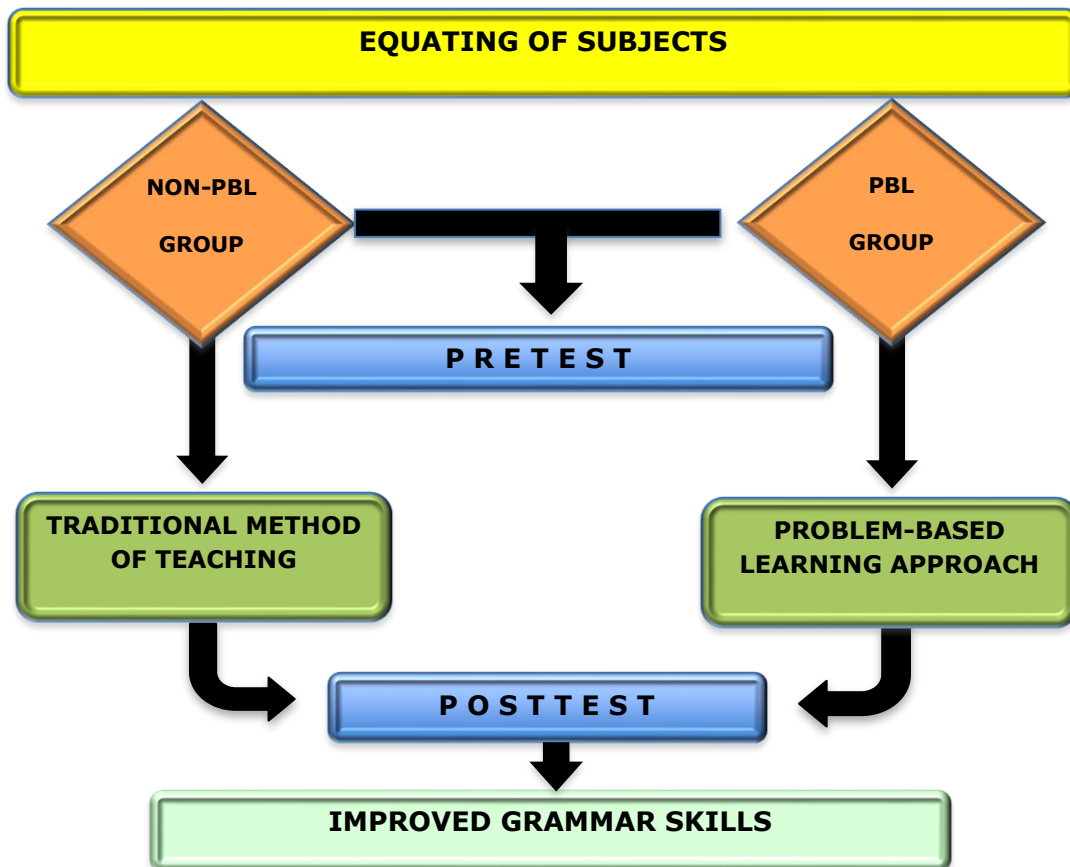


Figure 1

Paradigm of the Study

Two groups were equated academically using their final grades in English when they were in Grade 7. This was done to ensure the avoidance of biases and prejudices.

After establishing the Non-PBL group and PBL group, both of them were given a pretest to find out the areas that needed enhancement, this is where the PBL approach came into play. All throughout the intervention phase, traditional teaching was used in the non-PBL group while the problem-based learning approach was used in the PBL group. After that, the two groups were given a posttest so as to establish the effectiveness of the utilization of PBL approach in improving the grammar skills of the students.

III. RESULTS AND DISCUSSIONS

Comparability of the Two Groups Based on their Final Grade in English 7

The comparability of the two groups based on their final grade in English 7 is deemed significant to the researcher in choosing the Non-PBL group and PBL group.

Table 1: Distribution of Final Grades in English 7 of the PBL and non-PBL Group

Grading Scale	Descriptors	PBL		NON-PBL	
		f	%	f	%
90-100	Outstanding	3	6.82	5	10.64
85-89	Very Satisfactory	30	68.18	22	46.81
80-84	Satisfactory	11	25.00	20	42.55
75-79	Fairly Satisfactory	0	0.00	0	0.00

Below 75	Did Not Meet Expectations	0	0.00	0	0.00
TOTAL		44	100.00	47	100.00
MEAN		85.93/Very Satisfactory		85.47/Very Satisfactory	
SD		1.95		2.96	

Table 1 shows the distribution of the final grades in English 7 of the PBL and non-PBL group. The mean grades of the PBL and the non-PBL group were 85.93 and 85.47, respectively.

As shown on the table, the PBL group’s final grade were as follows: three or (6.82%) of the students got grades ranging from 90-100; 30 or (68.18%) of the students got grades of 85-89 and 11 or (25.00%) of the students got grades of 80-84. The mean grade was 85.93 which indicates a very satisfactory grade.

On the other hand, the non-PBL group’s final grade were as follows: five or (10.64%) of the students got grades ranging from 90-100, 22 or (46.81%) of the students got a grade of 85-89 and 20 or (42.55%) of the students got a grade of 80-84. The mean grade was 85.47 which indicates a very satisfactory grade. Though the mean grade of PBL group was 0.46 higher than the mean grade of the non-PBL group, still both of them falls under the indicator very satisfactory.

Table 2 displays the comparability of the PBL and Non-PBL group in terms of their final grade in English 7 which has been the basis of the researcher in the selection of respondents who took part in the study.

Table 2: Comparability of the Two Groups based on their Final Grade in English 7

Groups	Mean	SD	Computed t	Tabular t	Description	Decision
Non-PBL group	85.47	2.96	0.88	1.99	Not Significant	Accept Ho
PBL Group	85.93	1.95				

The mean of the Non-PBL Group was 85.47 while the mean of the PBL Group was 85.93. There was 0.46 difference in their mean scores. Upon taking into consideration the standard deviation, the Non-PBL group’s yielded 2.96 as compared to PBL group which was 1.95, this signifies that the grades of the Non-PBL Group were more spread out than that of the PBL Group.

It can be inferred in the table that at 0.05 significance level, the computed t- value of 0.88 was lower than the tabular t- value of 1.99. Being the case, the null hypothesis was accepted. Thus, it follows that there was no significant difference that existed between the final grade in English 7 of the two groups which indicates that the two group were equated academically.

Adriano (2018) in her study, Problem-Based Learning(PBL): A Heuristic Approach in Solving Word Problem Involving Systems of Linear Equations in Two Variables reiterated the importance of equating the control and experimental group which was highlighted by Reis (2014) entailing that matching student’s scores in different aspects can greatly lessen the selection bias and thus strengthen causal inferences.

Pre-test and Post-test Performances of the PBL Group in Three (3) Grammar Skills

The succeeding three (3) tables present the pre-test and post-test performances of the PBL group in three (3) grammar skills: using verb that agrees with its subject; using the correct verb for the time of action (tense) indicated in sentences; and identifying the function of given words in sentences.

Table 3 indicates the pretest and posttest performances of the PBL Group in terms of their skill in using verb that agrees with its subject. PBL group had 44 respondents.

The pretest mean score of the PBL Group in terms of their skill in using verb that agrees with its subject was 11.36 with a standard deviation of 1.97 which shows which shows a good performance level while the posttest mean score was 17.09 with a standard deviation of 3.51 which shows a very good performance. There was 5.73 difference in their mean scores which specifies that there is an improvement in their scores after the utilization of PBL in teaching this grammar skill.

Table 3: Pre-test and Post-test Performances of the PBL Group in Terms of their Skill in Using Verb that Agrees with its Subject.

Test Score	Performance Level	PBL PRETEST		PBL POSTTEST	
		N	%	N	%
21– 25	Excellent	0	0.00	6	13.64
16 – 20	Very Good	0	0.00	22	50.00
11 – 15	Good	29	65.91	15	34.09
6 – 10	Fair	15	34.09	1	2.27
1– 5	Poor	0	0.00	0	0.00
Total		44	100.00	44	100.00
Mean		11.36/Good		17.09/Very Good	
SD		1.97		3.51	

As shown on table 3, the PBL group’s pre-test performances in terms of their skill in using verbs that agree with their subject were as follows: 29 or (65.91%) of the students got scores ranging from 11-15; and 15 or (34.09%) of the students got scores of 6-10. The mean was 11.36 which shows good performance level in the pretest.

Consequently, the PBL group’s post-test performances in terms of their skill in using verb that agrees with its subject were as follows: six or (13.64%) of the students got scores ranging from 21-25; 22 or (50.00%) of the students got scores ranging from 16-20; 15 or (34.09%) of the students got scores ranging from 11-15; and one or (2.27%) of the students got scores of 6-10. The mean was 17.09 which shows a very good performance level in the posttest.

The result was quite a surprise for in the study of Mabuan (2015), one of the most pervasive errors committed by the freshman students is on subject-verb agreement. PBL in this situation, as mentioned by Chua (2014), has engaged learners to think critically thereby improving their performance in this particular grammar skill.

Table 4 indicates the pretest and posttest performances of the PBL Group in terms of their skill in using the correct verb for the time of action (tense) indicated in sentences.

The pre-test mean score of the PBL group was 4.89 with a standard deviation of 1.66 which shows a fair performance level in the pretest. Whereas the PBL group’s posttest mean score was 8.07 with a standard deviation of 1.25 which indicates a very good performance in the posttest considering their skill in using the correct verb for the time of action (tense) indicated in sentences.

Again, in comparison, in Mabuan’s (2015) study, freshmen were having difficulty in their verb tenses, but in this study, Grade 7 students performed better. Here, as Sanchez (2016) pointed out, application of principle put into practice was performed by the students yielding a better performance level.

Table 4: Pre-test and Post-test Performances of the PBL Group in Terms of their Skill in Using the Correct Verb for the Time of Action (tense) Indicated in Sentences

Test Score	Performance Level	PBL PRETEST		PBL POSTTEST	
		N	%	N	%
9– 10	Excellent	0	0.00	15	34.09
7 – 8	Very Good	8	18.18	23	52.27
5 – 6	Good	18	40.91	6	13.64
3– 4	Fair	14	31.82	0	0.00
1– 2	Poor	4	9.09	0	0.00
Total		44	100.00	44	100.00
Mean		4.89/Fair		8.07/Very Good	
SD		1.66		1.25	

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As exposed on table 4, the PBL group's pre-test performances were as follows: eight or (18.18%) of the students got scores of 7-8; 18 or (40.91%) of the students got scores of 5-6; 14 or (31.82%) of the students got scores ranging from 3-4 and four or (9.09 %) of the students got scores of 1-2. The mean was 4.89 which indicates a fair performance level in the pretest.

Subsequently, the PBL group's post-test performances were as follows: 15 or (34.09%) of the students got scores ranging from 9-10; 23 or (52.27%) of the students got scores ranging from 7-8; and six or (13.64%) of the students got scores of 5-6. The mean score was 8.07 which shows a very good performance in the posttest considering their skill in using the correct verb for the time of action (tense) indicated in sentences.

Table 5 indicates the pretest and posttest performances of the PBL Group in terms of their skill in identifying the function of given words in sentences.

The pre-test mean score of the PBL group was 4.41 with a standard deviation of 1.77 which shows a fair performance level in the pretest. Whereas, the PBL group's posttest mean score was 7.93 with a standard deviation of 1.59 which indicates a very good performance in the posttest considering their skill in identifying the function of given words in sentences.

The foreseen success could be attributed to Tabach and Schwartz (2017) observation that collaborative learning helps the students to build up their confidence by sharing their respective thoughts in a small group. It is also a good environment which enables the students to practice correct usage of grammar as well as listening to the speakers which serve as their model.

Table 5: Pre-test and Post-test Performances of the PBL Group in Terms of their Skill in Identifying the Function of Given Words in Sentences

Test Score	Performance Level	PBL PRETEST		PBL POSTTEST	
		N	%	N	%
9- 10	Excellent	0	0.00	16	36.36
7 - 8	Very Good	9	20.45	21	47.73
5 - 6	Good	8	18.18	5	11.36
3- 4	Fair	23	52.27	2	4.55
1- 2	Poor	4	9.09	0	0.00
Total		44	100.00	44	100.00
Mean		4.41/fair		7.93/Very Good	
SD		1.77		1.59	

As revealed on table 5, the PBL group's pre-test performances were as follows: nine or (20.45%) of the students got scores of 7-8; eight or (18.18%) of the students got scores of 5-6; 23 or (52.27%) of the students got scores ranging from 3-4 and four or (9.09 %) of the students got scores of 1-2. The mean was 4.41 which indicates a fair performance level in the pretest.

Whereas, the PBL group's post-test performances were as follows: 16 or (36.36%) of the students got scores ranging from 9-10; 21 or (47.73%) of the students got scores ranging from 7-8; five or (11.36%) of the students got scores of 5-6; and two or (4.55%) of the students got scores ranging from 3-4. The mean score was 7.93 which shows a very good performance in the posttest considering their skill in using the correct verb for the time of action (tense) indicated in sentences.

As the stipulation of Dwight (2016) suggested, PBL being a teaching method which utilizes the challenging real-life dilemma as the core of learning to promote students' capability in pointing out the concepts and principles instead of direct presentation of facts could boost the advance level of critical thinking skills and problem solving skills of the students. .

Pre-test and Post-test Performances of the Non-PBL Group in Three (3) Grammar Skills

The following three (3) tables below present the pre-test and post-test performances of the non-PBL group in three (3) grammar skills : using verb that agrees with its subject; using the correct verb for the time of action (tense) indicated in sentences; and identifying the function of given words in sentences.

Table 6 indicates the pretest and posttest performances of the non-PBL Group in terms of their skill in using verb that agrees with its subject. The non-PBL group had 47 respondents.

The pretest mean score of the Non-PBL Group in terms of their skill in using verb that agrees with its subject was 11.72 with a standard deviation of 2.05 which shows a good performance level while the posttest mean score was 14.45 with a standard deviation of 3.06, also show a good performance level. There was 2.73 difference in their mean score which indicates that there is an improvement in their scores after the utilization of traditional approach in teaching this grammar skill.

Table 6: Pre-test and Post-test Performances of the non-PBL Group in Terms of their Skill in Using Verb that Agrees with its Subject

Test Score	Performance Level	NON-PBL PRETEST		NON-PBL POSTTEST	
		N	%	N	%
21– 25	Excellent	0	0.00	1	2.13
16 – 20	Very Good	0	0.00	11	23.40
11 – 15	Good	30	63.83	33	70.21
6 – 10	Fair	17	36.17	2	4.26
1– 5	Poor	0	0.00	0	0.00
Total		47	100.00	47	100.00
Mean		11.72/Good		14.45/Good	
SD		2.05		3.06	

As shown on table 6, the non-PBL group’s pre-test performance in terms of their skill in using verb that agrees with its subject were as follows: 30 or (63.83%) of the students got scores ranging from 11-15; and 17 or (36.17%) of the students got scores of 6-10. The mean was 11.72 which shows good performance level in the pretest.

Consequently, the non-PBL group’s post-test performance in terms of their skill in using verb that agrees with its subject were as follows: one or (2.13%) of the students got scores ranging from 21-25; 11 or (23.40%) of the students got scores ranging from 16-20; 33 or (70.21%) of the students got scores ranging from 11-15; and two or (4.26%) of the students got scores of 6-10. The mean was 14.45 which shows a good performance level in the posttest.

Table 7 specifies the pretest and posttest performances of the non-PBL Group in terms of their skill in using the correct verb for the time of action (tense) indicated in sentences.

The pre-test mean score of the non-PBL group was 5.06 with a standard deviation of 1.22 which shows a good performance level in the pretest. Whereas, the non-PBL group’s posttest mean score was 7.53 with a standard deviation of 1.02 which indicates a very good performance in the posttest considering their skill in using the correct verb for the time of action (tense) indicated in sentences.

Table 7: Pre-test and Post-test Performances of the non-PBL Group in Terms of their Skill in Using the Correct Verb for the Time of Action (tense) Indicated in Sentences

Test Score	Performance Level	NON-PBL PRETEST		NON-PBL POSTTEST	
		N	%	N	%
9– 10	Excellent	0	0.00	6	12.77
7 – 8	Very Good	5	10.64	37	78.72
5 – 6	Good	28	59.57	4	8.51

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3- 4	Fair	12	25.53	0	0.00
1- 2	Poor	2	4.26	0	0.00
Total		47	100.00	47	100.00
Mean		5.06/Good		7.53/Very Good	
SD		1.22		1.02	

As shown on table 7, the non-PBL group’s pre-test performances were as follows: five or (10.64%) of the students got scores of 7-8; 28 or (59.57%) of the students got scores of 5-6; 12 or (25.53%) of the students got scores ranging from 3-4 and two or (4.26%) of the students got scores of 1-2. The mean was 5.06 which indicates a good performance level in the pretest.

Subsequently, the non-PBL group’s post-test performances were as follows: six or (12.77%) of the students got scores ranging from 9-10; 37 or (78.72%) of the students got scores ranging from 7-8; and four or (8.51%) of the students got scores of 5-6. The mean score was 7.53 which shows a very good performance in the posttest considering their skill in using the correct verb for the time of action (tense) indicated in sentences.

Table 8 indicates the pretest and posttest performances of the non-PBL Group in terms of their skill in identifying the function of given words in sentences.

Table 8: Pre-test and Post-test Performances of the non-PBL Group in Terms of their Skill in Identifying the Function of Given Words in Sentences

Test Score	Performance Level	NON-PBL PRETEST		NON-PBL POSTTEST	
		N	%	N	%
9- 10	Excellent	0	0.00	17	36.17
7 - 8	Very Good	5	10.64	19	40.43
5 - 6	Good	23	48.94	9	19.15
3- 4	Fair	16	34.04	1	2.13
1- 2	Poor	3	6.38	1	2.13
Total		47	100.00	47	100.00
Mean		4.81/Fair		7.66/Very Good	
SD		1.47		1.82	

The pre-test mean score of the non-PBL group was 4.81 with a standard deviation of 1.47 which shows a fair performance level in the pretest. Whereas the non-PBL group’s posttest mean score was 7.66 with a standard deviation of 1.82 which indicates a very good performance in the posttest considering their skill in identifying the function of given words in sentences.

As revealed on table 8, the non-PBL group’s pre-test performances were as follows: five or (10.64%) of the students got scores of 7-8; 23 or (48.94%) of the students got scores of 5-6; 16 or (34.04%) of the students got scores ranging from 3-4 and three or (6.38%) of the students got scores of 1-2. The mean was 4.81 which indicates a fair performance level in the pretest.

Whereas the non-PBL group’s post-test performances were as follows: 17 or (36.17%) of the students got scores ranging from 9-10; 19 or (40.43%) of the students got scores ranging from 7-8; nine or (19.15%) of the students got scores of 5-6; one or (2.13%) of the students got a score of 3-4 and one or (2.13%) of the students got scores ranging from 1-2. The mean score was 7.66 which shows a very good performance in the posttest considering their skill in using the correct verb for the time of action (tense) indicated in sentences.

Wornyo (2016), the English language has its grammar governed by rules. Bearing that in mind, speakers of the language have to make concerned effort to learn how words are put together to form sentences to enable them to effectively communicate in the language. This could explain why the Non- PBL group’s post-test was better as compared to their pre-test results.

Pre-test Performances of the PBL and Non-PBL Group in English Grammar Test

Pre-tests are preliminary tests administered to determine a student's preparedness for a specific course of study (Harcourt, 2016).

It was expounded by Kuehn (2017) that during the administration of the pre-test, students are not expected to know the answers to all the questions given to them, yet they are expected to use previous information to predict rational answers. When taking a post-test, students are expected to answer more questions correctly considering the increase in knowledge and understanding to a specific subject area has been attained.

Table 9 shows the pre-test performances of the PBL and non-PBL group in grammar that had 44 and 47 respondents respectively.

The pre-test mean scores of the PBL and the non-PBL group were 20.66 and 21.60 respectively which indicates good performance level.

As shown on the table, the PBL group's pre-test performance were as follows: two or (4.55%) of the students got scores ranging from 28-36; 29 or (65.91%) of the students got scores of 19–27 and 13 or (29.54%) of the students got scores of 10-18. The mean was 20.66 which shows good performance level.

Table 9: Pre-test Performances of PBL and Non-PBL Group in Grammar

Test Score	Performance Level	PBL PRE-TEST		NON-PBL PRE-TEST	
		N	%	N	%
37 – 45	Excellent	0	0.00	0	0
28 – 36	Very Good	2	4.55	2	4.26
19 – 27	Good	29	65.91	35	74.47
10 – 18	Fair	13	29.54	10	21.27
0 – 9	Poor	0	0.00	0	0.00
Total		44	100.00	47	100.00
Mean		20.66 / Good		21.60 / Good	
SD		3.87		4.01	

On the other hand, the non-PBL group's pre-test performance were as follows: two or (4.26%) of the students got scores ranging from 28-36; 35 or (74.47%) of the students got a score of 19–27 and 10 or (21.27%) of the students got scores of 10-18. The mean was 21.60 which also signifies good performance level. Though the pre-test mean of the Non-PBL Group was 0.94 greater than the mean of the PBL group, still both of them have shown good performance.

Consequently, the PBL and non-PBL group had a standard deviation of 3.87 and 4.01, respectively. The standard deviation indicated that pre-test scores of the PBL group was more consistent than the Non-PBL group. The outcome of the pre-test of the two groups clearly indicates that the students have prior knowledge in the content of the pre-test thereby getting good scores in the pre-test.

Kelly (2017) gave the significance of pre-tests by stating that these helps measure student's learning over a period of time which give students a preview of what will be expected during the unit. She also pointed out that pre-tests can be used diagnostically to determine if there are additional gaps in student learning.

Post-test Performance of the PBL and Non-PBL Group in Grammar

Subsequently, both groups were given a post-test to determine if there is an improvement in their scores in grammar test after exposing them to two different approaches. Kuehn (2017) said that during the conduct of post-test, students are expected to answer more questions correctly based on an increase in knowledge and understanding.

Table 10 reveals the post-test performances of the PBL and Non-PBL group in grammar. As revealed on the table, the PBL group's post-test mean score was 33.09 while the non-PBL group's mean score was 29.64.

Table 10: Post-test Performances of PBL and Non-PBL Group in Grammar

Test Scores	Performance Level	PBL POST-TEST		NON-PBL POST-TEST	
		N	%	N	%
37 – 45	Excellent	11	25.00	6	12.77
28 – 36	Very Good	31	70.46	24	51.06
19 – 27	Good	1	2.27	17	36.17
10– 18	Fair	1	2.27	0	0
0 – 9	Poor	0	0.00	0	0
Total		44	100.00	47	100
Mean		33.09/Very Good		29.64/Very Good	
SD		5.18		4.95	

The PBL group’s post-test performances were as follows: Out of 44 students, 11 or (25.00%) of the students got an excellent score ranging from 37-45; 31 or (70.46%) of the students got a very good scores ranging from 28-36; one or (2.27%) student got a good score ranging from 19-27; and one or (2.27%) of the students got a fair scores ranging from 10-18. On the other hand, the non-PBL group’s post-test revealed that six or (12.77%) of the students got scores ranging from 37-45; 24 or (51.06%) of the students got scores of 28 – 36 and 17 or (36.17%) of the students got scores of 19 – 27.

It is manifested in the table that the PBL group’s post-test mean score is higher than that of the Non-PBL group’s mean with a difference of 3.45. Though both still fall under the very good mark, still it can be comprehended that students who were exposed to Problem Based Learning approach learned better than the Non-PBL group. This is because the PBL group was given various activities that improved their grammar skills like role playing, brochure making, hosting and etc.

Taking into account the above-mentioned standard deviation, the PBL group’s standard deviation of 5.18 was higher than the Non-PBL group’s standard deviation of 4.95. It signifies that the post-test scores of the PBL group were more spread out than that of the post-test scores of the Non-PBL group. The result of the post test of the PBL group clearly indicates that the facilitation of the Problem-Based Approach can have a better impact to the students’ academic performance.

Kuehn (2017) emphasized that assessment through the use of post-test plays an integral part of instruction for it determines whether or not the goals of education are being met.

Adriano (2018) upheld the same principle as to what have mentioned above by insisting that other than the course’ content, the ability to think in a higher order, the prowess in finding the solution to a problem, and the skills to converse with one another, can be upheld thru PBL.

In realization, PBL’s core of acquisition is in the experience of the students in finding the solution to the problem rather than seeking the exact solution to it. It is the belief of Glover (2017), that PBL being a versatile approach, can be used in most disciplines, from the practically focused to the more theoretical. The approach works well as an activity for individuals but is especially effective when used with groups because it encourages the students to increase their aptitude in interpersonal, team-working, creativity and influencing skills.

Significant Difference in the Performances

This study tested whether there were significant differences between the pre-test performances of the PBL and non-PBL group; between post-test performances of the PBL and non-PBL group; between pre-test and post-test performances of the PBL group; and between the pre-test and post-test performances of the non-PBL group.

Kuehn (2017) stressed that while taking the pre-test at the beginning of a semester, students are not expected to know the answers to all of the questions; however, they should be expected to utilize previous knowledge to predict rational answers.

Table 11 specifies the test of difference between the two group's pre-test performances in grammar.

Table 11: Significant Difference between the Pre-test Performances of PBL and Non-PBL Group in Grammar

Groups	Mean	SD	Computed t	Tabular t	Description	Decision
PBL group	20.66	3.87	1.13	1.99	Not Significant	Accept Ho
Non-PBL group	21.60	4.01				

As gleaned on the table, the PBL and Non-PBL group's pre-test mean scores were 20.66 and 21.60, respectively, and standard deviation of 3.87 and 4.01 correspondingly.

The standard deviation of the PBL group is lower compared to the standard deviation of the Non-PBL Group which signifies that the pre-test scores of the PBL group was more consistent than that of the non-PBL group.

It can be concluded that at 5% significance level, the computed t-value of 1.13 was lower than the tabular t-value of 1.99, hence the null hypothesis has to be accepted. This implies that there was no significant difference that existed between the pre-test performances of both groups. The data shown indicates that both groups were closely related in terms of their pre-test scores.

Further, it suggests that the two groups are closely related considering their pre-test performances. At this scenario, it paves the way for the employment of PBL since there are two related groups to begin with.

Kuehn (2017) claimed that when taking the same test called a post-test, students are expected to answer more questions correctly based on an increase in knowledge and understanding.

Table 12 shows the test of difference between the post-test performances of two groups in grammar.

Table 12: Significant Difference between the Post-test Performances of PBL and Non-PBL Group in Grammar

Groups	Mean	SD	Computed t	Tabular t	Description	Decision
PBL group	33.09	5.18	3.25	1.99	Significant	Reject Ho
Non-PBL group	29.64	4.95				

The PBL and Non-PBL group's post-test mean scores were 33.09 and 29.64 respectively with a standard deviation of 3.83 and 4.13 respectively. The standard deviation indicates that the post-test scores of the PBL group were more dispersed than that of the Non-PBL group's post-test scores.

At 5% significance level, the computed t-value of 3.25 was greater than the tabular t-value of 1.99, therefore, it can be deduced that there was a significant difference that existed in the post-test performances of two groups.

Throughout the study, it was really evident that the grammar skills of the students under the PBL group were improved through differentiated tasks. The students were exposed to various communicative activities that are more challenging, more enjoyable, more interesting and more satisfying since their creativity and novelty in solving different problems were considered.

In the study of Othman (2013), she argued that in PBL class, when the students work with each other to solve complicated and authentic problems, they are expected to be so absorbed in the tasks that they will not only increase their content knowledge but simultaneously improve their grammar and thinking skills as they communicate, reason-out, assess the problem(s) at hand and solve them.

From the stand of Quincy (2016) Problem-based Learning (PBL), involves students being challenged to solve genuine problems from their discipline. Similarly, to developing general abilities such as critical thinking and abstract reasoning, PBL is an ideal way for students to apply their theoretical knowledge in a reliable way.

According to Kuehn (2017), pre and post-test can be used as teacher’s diagnostic tool for these tools identify the following: the very weak students and strongest students in a class, the topics which the students do not know and already know and the topics which the students have not learned. The results from the succeeding tables can attest to these claims.

Table 13 reveals the test of difference of the non-PBL group’s pretest and posttest performances in grammar.

Table 13: Significant Difference between the Pre-test and Post-test Performances of the Non-PBL Group in Grammar

Groups	Mean	SD	Computed t	Tabular t	Description	Decision
Pre-test	21.60	4.01	11.04	2.01	Significant	Reject Ho
Post-test	29.64	4.95				

As seen on the table, the pre-test mean score was 21.60 while the post-test mean score was 29.64 with a standard deviation of 4.01 and 4.95 respectively. The standard deviation affirmed that the pre-test scores of the non-PBL group were more consistent than that of their post-test scores.

It can be concluded that at 5% significance level, since the computed T- value of 11.04 was higher than tabular t-value of 2.01, the null hypothesis was rejected. Therefore, there was a significant difference between the pre-test and post-test performances of the non-PBL group.

Though this group was not exposed to PBL approach still, there was an improvement in their scores. The same findings have been evident in the study of Adriano (2018) that there was an improvement in the mean scores of pre-test as compared to the post-test mean scores of the non-PBL group. Other possibilities of having improvements in the performance are the other conventional techniques which fit the students’ interest and abilities. This can still give good results on the part of the non-PBL group.

As what has Kuehn (2017) stated, he said that traditional programs of education and training usually put tremendous emphasis on content. In addition, teachers must adhere very closely to the standardized syllabus.

Table 14 specifies the test of difference of PBL group’s pre-test and post-test performances.

Table 14: Significant Difference between the Pre-test and Post-test Performances of PBL Group in Grammar

Groups	Mean	SD	Computed t	Tabular t	Description	Decision
Pre-test	20.66	3.87	14.38	2.02	Significant	Reject Ho
Post-test	33.09	5.18				

As indicated in the table, the pre-test and post-test mean scores of the group were 20.66 and 33.09, respectively. The data revealed that students have significantly learned after the utilization of Problem-Based Learning (PBL).

The standard deviation of the pre-test and post-test scores of the PBL group were 3.87 and 5.18, consecutively which shows that the post-test score was more spread out than that of the pre-test scores.

Considering the computed t-value of 14.38 which was higher than the tabular t-value of 2.02; the null hypothesis was be rejected. Hence, there was a significant difference that existed between the pre-test and post-test performances of the PBL group.

The same findings have transpired in the study of Mandeville (2017) wherein he discovered that the students from the PBL group had improved their grammar skills, compared to the non-PBL students.

Problem-Based Learning has been one of the popular pedagogical strategies where students were engaged in complex, challenging problems and collaboratively work toward their resolution. PBL is about students connecting disciplinary knowledge to real-world problems— the motivation to solve a problem becomes the motivation to learn(Yingxue,2013).

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It was also found out in the study of Adriano (2018) that Problem-based learning had an effect on content knowledge which provides greater opportunities for the students to learn a content with more involvement and increase the student’s active participation, motivation and interest among the students. This leads the students to be optimistic as they delve themselves in the intricacies of Mathematics and help them to increase their achievement to a large extent.

Mean Learning Gains of the PBL and Non-PBL Group

From the standpoint of Lancaster (2016), mean learning gain is an improvement in the student’s learning between the beginning and end of a course. It is more about how students benefit from their time in classes or less about their background or pre-existing abilities.

Table 15 reveals the mean learning gains of the two groups in percent.

Table 15: Mean Learning Gains of the Two Groups

Groups	Mean Learning Gains in %	SD
PBL group	50.64%	0.22
Non-PBL group	33.95%	0.21

The mean learning gains of PBL and non-PBL group were 50.64% and 33.95%. From the table, it can be deduced that the mean gains of the PBL group was 16.69% higher than that of the mean gains of the non-PBL group.

The ability to compare learning gains and make comparative judgments is of potential value to the teachers, students and educational researchers. He also noted that it is the learning gain, rather than the absolute result, that indicates the effectiveness of pedagogy and the academic quality of the school (Lancaster,2016).

The researcher has a notable experience with the students who underwent PBL. During English Month Celebration last November 2018, some students who belong to PBL class won several spots in various contests. In the Essay Writing Contest, two students from PBL group won first place and third place in Cluster A category. Moreover, in Jingle Writing contest, PBL Group hailed as Champion in Grade 8 Level. Lastly, five students from PBL group qualified in championship round in Scribbage Contest.

Adriano (2018) highlighted the contention of Scott (2016) that the amount of learning that goes on outside the classroom makes quantifying what students have learned very difficult. To avoid hubris, though, there is a great need to remember that each student’s learning journey through higher education involves far more than that which we can deliver through degree programs and organized extracurricular activities.

Significant Difference between the Learning Gains of the PBL and non-PBL Group

Table 16 discloses the test of difference of the learning gains between the two groups.

Table 16: Significant Difference of the Learning Gains in Percent (%) of the Two Groups

Groups	Mean	SD	Computed t	Tabular t	Description	Decision
PBL group	50.64	0.22	3.70	1.99	Significant	Reject Ho
Non-PBL group	33.95	0.21				

As shown in the table, the PBL and non-PBL group’s mean learning gain in terms of percent were 50.64 and 33.95 respectively with a standard deviation of 0.22 and 0.21 correspondingly. The standard deviation indicates that the mean learning gains of both groups almost have the same scores since there is only 0.01 difference between them.

Seeing that at 5% significance level, the computed t- value of 3.70 was higher than the tabular t-value of 1.99, it can be deduced that there was a significant difference between the mean learning gains of the two groups.

Based on the findings and results, the following are the conclusions extrapolated from the study.

1. The traditional way of teaching can still be used in improving the grammar skills of students as supported by the mean learning gain of 33.95. The point of consideration would be the provision that it will be made more meaningful and interesting in the part of the students.
2. The PBL group performed better than the non-PBL group as regards grammar skills considering the significant differences in the post-test and their mean learning gains of 50.64 as compared to 33.95.
3. The utilization of PBL can improve the grammar skills of students significantly as this was revealed in the study wherein the PBL group obtained a very good performance in all three areas comprised of using verb that agrees with its subject, using the correct verb for the time of action (tense) indicated in sentences, and identifying the function of given words in sentences.

IV. CONCLUSIONS

The researchers anchored the study as regards the Utilization of PBL in Improving the Grammar Skills of Grade 8 Students on Jerome Bruner’s Constructivist Theory.

The diagram below illustrates constructivism as the springboard of PBL.

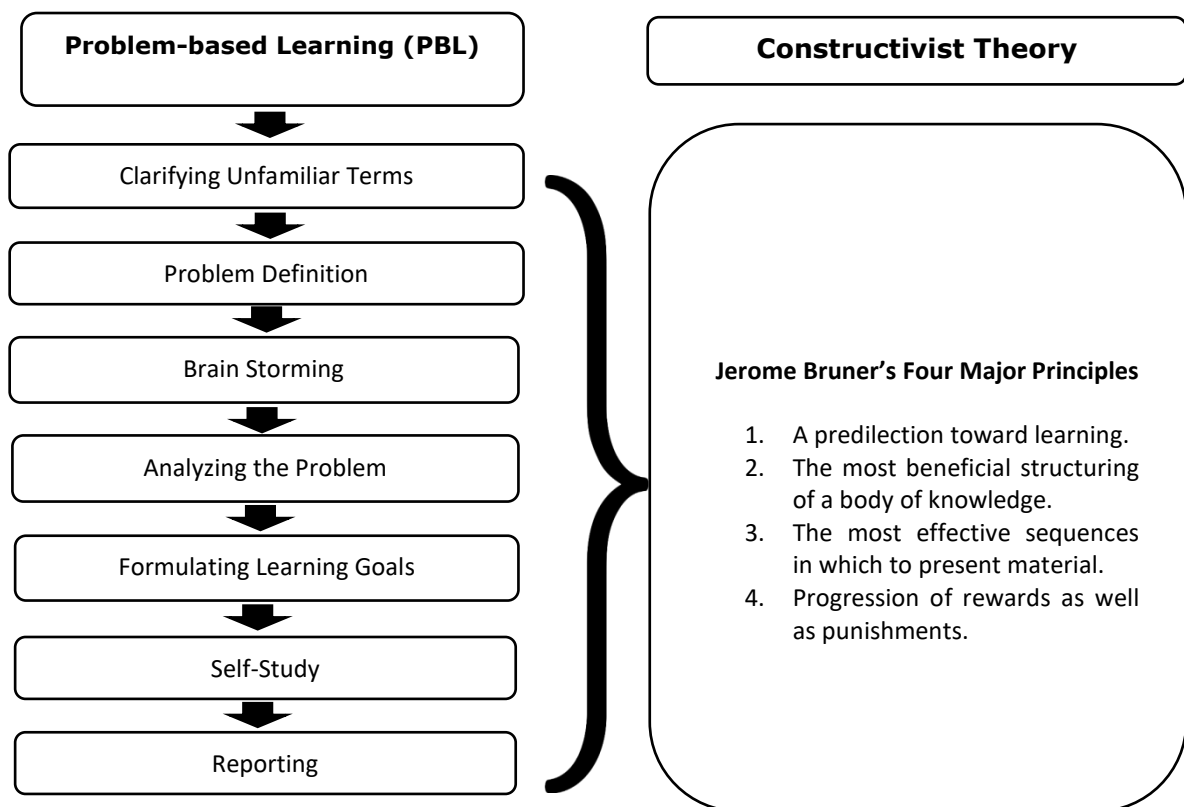


Figure 2

Constructivist Theory as Springboard of PBL

This diagram shows the seven steps of PBL in achieving collaborative learning within the small groups in each class. This procedure was utilized by Camp et.al (2014). The steps are as follows: 1) Clarifying unfamiliar terms; 2) Problem Definition; 3) Brainstorming; 4) Analyzing the problem; 5)Formulating learning goals; 6) Self-study; and 7) Reporting.

To exemplify the steps, for instance, in the topic regarding noun, *clarifying unfamiliar terms* was made by the teacher in the introduction of the Lines of song, Theme for nature, and Noun and its kind.

Next, a song for nature using kinds of noun was utilized so as to introduce the part *Problem Definition*.

For them to get a good grasp of the lesson, a Jingle song-happy mood was presented for them to *brainstorm* on Nature and Kinds of noun.

What followed after was the *Analyzing of the problem* where they were tasked to enumerate the kinds of nouns through the Theme for nature.

Afterwards, they were led into *Formulating learning goals* by instructing them to compose a song for nature.

For their *self-study*, it was posited that noun is an important part of speech because it serves as a topic of every sentence.

And lastly, they were asked to deliver their composition which was a song for nature.

As can be deduced, this is a collaborative approach wherein every group consists of the chair, the scribe, the tutor and the members who all act as participants. The chair plans the flow of an interactive discussion among the members of the group to achieve a high performance in the given task. On the other hand, the scribe serves as the secretary to take the important points of the discussion as well as the minutes during the activity. The tutor in turn, monitors the learning procedure of every task.

In similar fashion, this process helps to unfold skills including self-directed learning skills, problem-solving skills, learning-to-learn skills, teamwork skills, management skills and language skills as elucidated by Mailey (2013).

From Bruner's theoretical framework, acquisition is an active progression in which students create new ideas in connection with past experiences/knowledge. Gathering of learner's hypothesis directs to his/her decision pertains to structure of cognitive matter. In lieu of this, cognitive structure provides meaning and organization to experiences and allows the person to go ahead of the information given.

Being the case, an active dialog is a vital element of cognitive structure wherein the teacher encourages his / her students to discover tenet by themselves. In this light, the instructor converts ideas to be studied into a plan suitable to the learner's present condition of understanding. Nevertheless, the spiral structure of the curriculum should be systematic for the students to continually improve their prior knowledge.

Bruner further affirms that there are four facets of theory of instruction. The first facet is the predisposition towards learning. Second is the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner. Third is the most effective sequences in which to present material. Lastly, the impact of rewards and punishments. These facets will lead to good ways for structuring knowledge, and it will result to increasing the manipulation of information, propositions and simplifying.

Going back to the lesson of noun as an example, where the seven steps of PBL were illustrated, the four major principles were exemplified in collaboration with these aforementioned steps.

In the area of predisposition towards learning, teaching noun was presented by means of a song thereby, arousing the interest of the students. In fact, a game YOUR SONG SOUNDS FAMILIAR was used as a motivation wherein students were challenged to identify the company name based on the played jingle. These were actually commercials from television. In this particular instance, instruction was concerned with the experiences and contexts that would make the student willing and able to learn based on their readiness.

Under the second facet, the lesson was structured in such a way, motivation via a song jingle was used to introduce the lesson which was followed by a discussion through a power point presentation of noun and its type.

This was further enhanced by means of a controlled practice, where learners were asked to complete a table with the appropriate noun by choosing from the pool of nouns given. This was followed by a semi-controlled practice activity where they were tasked to fill in a grid by giving a proper noun for each common noun category with a requirement that the name of the proper name should start with the letters S,A, V, and E. Here, instruction was structured so that it can be easily grasped by the students via spiral organization.

Concerning, principle three, where instruction should be designed to facilitate extrapolation and or fill in the gaps that would require them to go beyond the information given, what better way of presenting the material through the

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forementioned structuring which was followed by the utilization of the seven steps of PBL where they were prompted with a problem of *How would you promote the importance of mother nature in today's world?* Of course, they would help to employ the use of nouns for this activity.

Through the employment of constructivism in Problem-Based Learning approach, the students are afforded to construct or generate alternatives, means, or ideas to address situations that bear some problems using the language of English correctly.

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