

## Effectiveness of Contextualized Learning Activity Sheets (LAS) to the Academic Performance of Grade 8 Science Students in Quarter 2

**AZIEL P. CAPUYAN**

Teacher II

Western Leyte College

Master of Arts in Education

Major in School Administration and Supervision

[aziel.capuyan@deped.gov.ph](mailto:aziel.capuyan@deped.gov.ph)

**Abstract** — This study determined the effectiveness of Contextualized Learning Activity Sheets on the Academic Performance of Grade 8 Science in Quarter 2. Specifically, it sought to answer the following questions: 1. What is the pre-test performance of the Grade 8 students in Science before the implementation of the LAS? 2. What is the posttest performance of the grade 8 students in Science after LAS? 3. Is there a significant difference in the pre-test and posttest performances of Grade 8 students before and after LAS implementation? 4. What improvement plan can be proposed based on the findings of the study?

This study utilized the Quasi-Experimental type of research in gathering the responses employing the quantitative approaches. One hundred ninety-nine students used the intervention, which served as the subjects of the study.

Findings revealed that students had a fair performance before implementing the intervention with a weighted mean of 12.92. After the treatment, students performed better with the use of the Contextualized Learning Activity Sheets. With a weighted mean of 35.52 interpreted as very good performance; there was an increase of 22.6 weighted mean achieved after the implementation, 92 % of the students performed very good, and 8% were excellent. The t- value was 5.223 greater than the 1.226 critical value, which contributed to the decision to reject the study's null hypothesis. The result shows a significant difference between pre-test and posttest performance of learners who used contextualized learning activity sheets. Therefore, the Contextualized Learning Activity Sheets are effective.

**Keywords** — *Academic Performance, Contextualized Learning Activity Sheets*

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## I. Introduction

In the Philippines, the secondary science education curriculum has been reformed towards providing more significant opportunities for students to realize that principles studied in class are relevant to everyday life. However, students viewed Science as a difficult subject. The perception of Science being complex is entwined with the notion of student self-efficacy. As Quinn and Lyons (2011) find, there is an increased likelihood that students will make science-related choices if they have high expectations of success in Science. Thus, students' struggles with the subject may lead to poor academic performance.

The student's academic performance has a great impact on the learner's self-esteem and motivation. Learners' poor academic performance may result negatively in the different aspects of their lives. The poor academic performance is evident in their examinations, assignments, quizzes, and other graded points related to the subject.

School as an educational institution is the place where the learning process is deliberately carried out to develop the personality and potential of all students so that they can grow and develop following the goals and functions of the Department of Education. To achieve the Department of Education's dream, the teacher's role as a professional is vital at all grade levels. So it is because learning strategies and processes are connected to the tasks of being a teacher.

Learning is influenced by the belief that intelligence is a reality that students must memorize. Students have a hard time relating classroom content or topics to real-life scenarios. Instead, students tend to remember ideas found in books and taught by teachers. Furthermore, learning is mostly based on delivering theoretical skills instruction, resulting in learning experiences that cannot be linked to a variety of real-world problems. Science subject attained a low Mean Percentage Score in Dolores National High School, which was below the mastery standard in previous years. The overall Mean Percentage Score of 68.7% was well below the passing score of 75 percent and the school goal of 80 percent. The school is introducing various initiatives to enhance students' academic success to meet the Department of Education's standards.

Amidst the Covid-19 pandemic, the school is adopting Print Modular Distance learning, where teachers are required to print the modules given by the Central Office in the first and second quarters. In the implementation of Print Modular Learning, the academic performance of students was recorded. It was noted that Science 8 obtained a 65.53 % Mean Percentage Score in the first quarter. Still, the result did not meet the expectation.

The students' low academic performance urges the researcher to find a new intervention which will help to improve the students' achievement in Science subject through the Contextualized Learning Activity Sheets. Moreover, in the second quarter, teachers are required to make the Contextualized Learning Activity Sheets and were given to the students to continue

learning despite the challenge faced by the educators. Following the format and guidelines, Learning Activity Sheets (LAS) should be crafted following the Contextualization of Learning Materials criteria set by the Ormoc City Division Learning Resource Evaluators to ensure that the students can understand the material even without the presence of a teacher at home.

As a novel way to teaching Science, contextualization and localization have been stressed in the K–12 curriculum. The core principle of using contextual learning exercises is straightforward. It understands that by embedding instructions in adult learners' circumstances, the instructions are more easily understood and absorbed. For this reason, teachers must contextualize the learning process to prepare our students to be globally competitive through a K–12 curriculum. The use of contextualized and localized resources for excellent education and scientific literacy in our country.

These significant changes are identified in Dioneda (2019) study under the Philippine Republic Act 10533, recognized as "The Enhanced Basic Education Act of 2013". It stated that: "The curriculum shall use the spiral progression approach to ensure mastery of knowledge and skills. After each level, the curriculum shall be contextualized and global. It shall be flexible enough to enable and allow schools to be localized, indigenous and enhance the same based on their respective educational context." (Rule II, Curriculum Section, 10-10.2).

As a result, contextualization is becoming a common strategy for achieving high-quality education and science literacy goals. Each school is deemed important to contextualize for students to learn in their context and connect in their community. A novel approach to science teaching and learning in which students can easily link the subject matter to their personal experiences in the local setting.

According to Ambrose et al. (2013), The Contextualized Teaching and Learning Approach is a method of teaching that incorporates real-life scenarios and activities. The student's critical thinking, problem-solving, and creative abilities are improved. Through learning by doing, it ties information to its many applications in the lives of students. This style of learning cannot be separated from behaviorism and constructivism theories. It is a conception of teaching and learning that helps teachers relate subject matter content to a real-world situation and its application. This theory emphasized student's interests and experiences. Overall, contextual teaching and learning is an approach that focuses on the students' center. This approach aims to motivate the learners to take charge of their learning and relate knowledge and its application to the various contexts of their lives (Satriani et al., 2012). Contextual teaching and learning motivate the learner to take charge of their learning and relate knowledge and its application to their lives' various contexts (Satriani et.al, (2012). In addition, it can give benefits, which can produce the process of learning more meaningful because the students can enjoy their own learning by doing a practical activity and can strengthen students' memory and understanding of the concept because the students are learning through the material that has taken from their experience and new knowledge.

As Seifert and Sutton (2012) described, motivation theory focuses on students' perceptions of the style of teaching and the development of self-efficacy, which is a crucial component of the Contextualized Teaching and Learning (CTL) Approach. Learners are encouraged to reflect on their ideas and experiences due to the instruction and materials. The CTL Approach emphasizes thinking about the content within the context of real-world experience because students recognize the relevance of what they are learning in the actual world. As a result, they become engaged and motivated.

To provide an intervention from the prevalent issues with the poor performance of the students in Science subject, the researcher conducted this study to determine the effectiveness of Contextualized Learning Activity Sheets (LAS) on the Academic Performance of Grade 8 Science Students of Dolores National High School, District VIII, Ormoc City Division.

This study determined the effectiveness of the Contextualized Learning Activity Sheets to improve the academic performance of Grade 8 Science in Dolores National High School. Specifically, this study sought to answer the following questions:

1. What is the pre-test performance of the Grade 8 students in Science before the implementation of the LAS?
2. What is the posttest performance of the grade 8 students in Science after the implementation of LAS?
3. Is there a significant difference in the pre-test and posttest performances of Grade 8 students before and after Contextualized LAS implementation?
4. What improvement plan can be proposed based on the findings of the study?

## II. Methodology

**Design:** A quasi-experimental one-group pretest and posttest design was administered to determine the academic performance of Grade 8 Science students. The method was employed mainly because of its strength which lies in the fact that the advantages of each approach complement those of the other, making a more substantial research design that yields more valid and reliable findings Opie (2004), as cited in the study of Cubillas (2018). The paired t-test (pretest/posttest) was the main instrument used to ascertain the effectiveness of the developed and validated Contextualized Learning Activity Sheets, which was designed to help teachers improve the students' academic performance in Science 8.

The specified group of students was given a pretest and a posttest. The students' success in Science Grade 8 serves as the study's experimental component. A quantitative analysis was used to decide if there is a significant difference between the pretest and posttest outcomes.

**Sampling:** The subjects of this study were the Grade 8 students at Dolores National High School, District 8, Ormoc City Division. The school has five (5) sections comprised of 207 students who took the pretest. In the posttest, 199 took the test. Eight (8) of them did not accomplish the test since they were not in good health and following the IATF protocol to exclude them from the group.

**Research Procedure:** Before the conduct of this study, the researcher asked permission from the Schools Division Superintendent, the Public Schools District Supervisor, and the School Principal to implement the research.

The first phase included the administration of the pretest in all Grade 8 Science students. A 50-item teacher-made test was developed and validated by the pool of Division validators which covered the 2nd quarter Most Essential Learning Competencies in Grade 8 Science. A letter was sent to the Superintendent, Principal, and Inter-Agency Task Force to ask permission to have a limited face-to-face in administering the pre and posttests. A span of one hour was given to the students to complete the test. The results of the trial were recorded and kept for comparison purposes.

The second phase of implementation focused on the intervention of materials. The identified students were given the printed Contextualized Learning Activity Sheets crafted by the researcher, one of the Division pool of writers. The learning materials were distributed to the identified group of students. Distribution of the printed learning materials was done by purok every week. Retrieval and checking of their outputs were done every week as reflected in the Weekly Home Learning Plan. This phase lasted for about two months until all students' competencies and printed learning materials accomplished the contextualized learning activity sheets.

The third and final phase was the administration of the posttest to the subjects of the study. Same in the pretest, a letter asking permission from the IATF was sent to conduct a face-to-face examination. A span of one hour was be given to the students to answer the said questionnaire. It was also recorded and kept to compare the results finally.

**Treatment of Data:** Quantitative analysis was utilized to determine any difference between the pretest and posttest scores of Grade 8 students in Science after they were exposed to the Contextualized Learning Activity Sheets. Simple frequency count and the measure of central tendency were employed in generating the descriptive statistics.

To identify the effectiveness of Contextualized Learning Activity Sheet on the academic performance of Grade 8 students in Science, the researcher compared the results of the pretest and posttest of the students to see the comparison before and after utilization of the intervention. A t-

test: paired two samples for means was used to determine a significant difference among the results. The test was subjected to a 0.05 level of significance.

**Ethical Considerations:** The researcher strictly followed the guidelines in conducting research. A letter asking the principal's approval, the Public Schools District Supervisor, and the support of the Superintendent of the Division was given. Students' Orientation was conducted to provide direction and acquire parents' permits. Before the examination, the researcher sought permission from the IATF, and the students followed Health protocols. The anonymity of the subjects who took part in the study was maintained throughout the implementation of the intervention.

### III. Results and Discussion

**Table 1**  
**Performance Of Grade 8 Science Students Before Using LAS**

Score Range	Description	PRE-TEST	
		Frequency	%
41-50	Excellent	0	0
31-40	Very Good	0	0
21-30	Good	0	0
11-20	Fair	100	50.25
1-10	Poor	99	49.75
Total		199	100
<b>Weighted Mean</b>		<b>12.92</b>	<b>Fair</b>

Table 1 presents the pre-test performance of Grade 8 students in Science. Based on the results shown in the data given, a weighted mean of 12.92 was interpreted as fair, where out of 199 subjects, 100 of them, 50.25% were classified as fair, and 99 students or 49.75 % have poor performance.

It implies that the students did not perform well before the implementation of the Contextualized learning activity sheets. It is because the students were not yet exposed to any learning material in the Science subject.

The Department of Education had implemented a solution to improve student's learning outcomes, according to Dacusmos (2016), as indicated in Jandoc's (2018) study. Learning outcomes is not a mastery of training results but rather a behavior change. Learning is the process of changing one's behavior as a result of one's interaction with the environment. As a result of contextualized learning, behavior change occurs. Learners acquired learning if they can do something that has never been done before. The behavior Knowledge (cognitive), attitude (affective), and skills are all involved in the conduct (psychomotor). As a result, achieving optimal

learning outcomes necessitates a thorough grasp of how to best link course content to our various student types and make the course relevant to our students' needs and life experiences Aziz et al., (2012). With this note, learners must be exposed to the appropriate learning materials to acquire the desired learning outcomes they need in their real-life context.

**TABLE 2**  
**Performance of Grade 8 Students After Using LAS**

Score Range	Description	POST-TEST	
		Frequency	%
41-50	Excellent	5	2
31-40	Very Good	183	92
21-30	Good	12	6
11-20	Fair	0	0
1-10	Poor	0	0
Total		199	100
<b>Weighted Mean</b>		<b>35.52</b>	<b>Very Good</b>

Table 2 presents the data on the performance of grade 8 students after using the contextualized learning activity sheets. Data revealed that there was a 35.52 weighted mean interpreted as Very Good. Out of 199 takers, 12 of them performed good, 183 were very good, and five (5) students had excellent performance.

The data indicate that the students had a very good performance after they have treated with the intervention. Their performance increased from 12.92, described as fair, to 35.92, interpreted as very good. It implies that the students performed better after they utilized the intervention.

The findings support Bunagan's (2012) study, which found that learning resources are designed to re-teach concepts and forgotten abilities. These materials are provided to students to assist them in mastering competencies that they could not develop in a traditional classroom setting. It can be challenging to adopt new teaching ideas. Many teachers are not learning strategy experts, and many have not read the rich literature on teaching and learning. Teachers are experts in their fields, and many educate using traditional approaches that reflect how learners learn. Alternatives such as contextualization, on the other hand, may provide greater learning benefits. Moreover, According to Hasibuan et al. (2019), designing learning materials should be valid, practical, and successful to promote students' problem-solving skills and learning independence.

Teachers should use learning resources to assist students in learning. As Samuel (2018) points out, learning materials are an alternate mode of communication that teachers utilized to communicate instructional content to students. When creating learning materials, it is vital to consider the range of senses that students use to learn, and the various materials utilized to convey information through those senses. As a result, learning materials are the medium via which information is shared between the teacher and the students. In connection to the result after they have utilized the Contextualized Learning Activity Sheets, these materials have contributed to the improvement of their academic performance.

**Table 3**  
**Test Of Difference Between The Scores In The Pre-Test**  
**and Post-Test Of Grade 8 Students**

<b>Participants</b>	<b>Test Scores</b>		<b>Computed T</b>	<b>Critical T</b>	<b>Decision</b>	<b>Interpretation</b>
<b>Grade 8 Students</b>	Pre	12.92	5.223	1.226	Reject H <sub>0</sub>	Significant
	Post	35.52				

Table 3 shows the difference between the pre-test and posttest results. An increase of 22.6 was observed in their test scores which indicated that the students performed better using contextualized learning activity sheets as a material to support the print modular distance learning adopted by the school.

As shown in the table, the computed T value was 5.223 higher than the critical value of 1.226. With these data, the null hypothesis of the study is rejected. The result indicates a significant difference between the pre-test and posttest performance of the learners who utilized the contextualized learning activity sheets.

The findings associate with the study of Espada (2015) said that the contextualized activities improved many children's perceptions of science. Students chose more interactive events, such as presenting their science posters at Closing Night, visiting a science laboratory, and receiving guest scientists at the school. The findings demonstrate that producing culturally relevant and contextualized science teaching material is a viable strategy. Moreover, the results of this study are consistent with Rahardiana's (2015) research, which found that contextual learning has an impact on learning activities. Learning activities cannot be formed independently by the students but are formed through processes and factors that influence them.



#### **IV. Conclusion**

This conclusion is based on the findings of the study. The Contextualized Learning Activity Sheets (LAS) were used to support printed modular learning (LAS) in Quarter 2 grade 8 Science students. It was found out that the students have fair performance before the implementation of the intervention. After they have treated with the Contextualized LAS, students achieved a very good performance. They performed better after they have utilized the LAS as a learning material at home. The results showed a significant difference between the students' pre-test and posttest performance. Learners have improved their level of performance based on the set parameter of limits, as indicated in the results. When compared statistically, students who used the intervention performed better. Therefore, the Contextualized Learning Activity Sheets are effective.

#### **V. Recommendation**

The following recommendations were given based on the findings of the study.

1. Contextualized Learning Activity Sheets should be made and utilized not only in Science 8 but in all subject areas and grade levels.
2. Encourage the teachers to develop LAS as supplementary materials, activity sheets, modules, and instruction-based materials to support the print modular distance learning.
3. Conduct further research or studies on the utilization of Contextualized LAS to other subject areas.
4. The school administration, the Parent-Teachers Association (PTA), DepEd Personnel, the Local Government Unit (LGU), and Non-Government Organization (NGO) should aid teachers in the preparation and reproduction of the Contextualized LAS through the provision of computers, printers, resource materials, and other printing materials
5. Conduct training workshops in the Crafting of Contextualized LAS Assessment of these learning materials for quality assurance.
6. Conduct another study on the effect of contextualized LAS on other subjects using other experimental designs to further prove this intervention's effectiveness.

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### Author's Profile



**AZIEL P. CAPUYAN**

The author was born on May 15, 1985, in Ormoc City, Philippines. She finished her Bachelor of Secondary Education major in General Science at Eastern Visayas State University-Ormoc City Campus. She is currently taking her master's degree major in Administration and Supervision at Western Leyte College of Ormoc.

She is a Secondary School Teacher II in the Department of Education and assigned at Dolores National High School, Brgy. Dolores, Ormoc City. She teaches Grade 8 Science for almost 12 years. Her study was about the Effectiveness of Contextualized Learning Activity Sheets (LAS) to the Academic Performance of Grade 8 Science Students in Quarter 2.