

# Technology-Enhanced Learning Aide as Supplemental Tools in Teaching Science 4

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## Abstract

The study determined the performance of grade four pupils using a module with technology-enhanced learning aide video lesson as supplemental tool in teaching science. The quasi-experimental pretest-posttest design was employed. The participants of the study were 60 grade four pupils in Science 4 class in a public school elementary school in Aklan. The pupils were divided into the control and experimental groups. Thirty (30) pupils in the control group were taught using pure modular learning while the other 30 pupils in the experimental group were given modules with technology-enhanced learning aide using video lessons as supplemental material. The study applied match-pairing in choosing the participants of the study. A diagnostic pre-test and post-test, which consisted of forty (40) multiple choice items with four options in each item, was used. Results revealed that based on the pre-test performance of the learners in the control and experimental group, both reached average level, a significant difference was obtained in the post-test performance between the control and experimental group. A significant difference was also obtained in the post-test and post-test result, both in the control group using pure modular learning and in the experimental group using technology-enhanced learning aide. Thus, pupils who were given modules with technology-enhanced learning aide performed better as shown in the result of the post-test wherein they reached the mastery level. The results suggest that using technology-enhanced learning aide as supplemental tool in teaching science 4 was remarkably effective compared to pure modular learning.

**Keywords:** *Technology-enhanced learning aide, supplemental tool, teaching science, pure modular learning*

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## **Introduction**

Technology makes information instantly accessible, which is why having it in the classroom is essential. For both students and teachers, smartphones, computers, and tablets are already a part of daily life. It makes sense that efforts to develop engaging educational opportunities for kids of all ages using technological tools in the classroom are being made. Nowadays, teachers' find ways to innovate, to discover strategies that would best be used in delivering the lesson as there is a need for interventions to close the gap between the teaching and learning processes. The Use of video classes as an additional resource, which are designed to be at the students' level is one of them (Esguerra, 2021). It is also noted that the ability of instructors to apply knowledge can be improved by using video in teacher education (Seidel, 2013).

For schools, teaching science subject in Grade Four has become challenging. Realizing the increasing impact of technology on vitalizing classroom instruction, the researcher came out to use the technology-enhanced learning aide video lesson as supplemental tool to enhance learning and motivation aside from their modules to cope up from transition to face-to-face classes.

The purpose of this study is to determine the performance of the grade four pupils using modular with technology-enhanced learning aide video lesson as supplemental tool in teaching science compared to pure modular learning. With the current situation, it aims to find out whether the technology-enhanced learning aide video lesson as supplemental tool in teaching science 4 would increase their performance and that would be the basis for further adaptation to other grade levels.

## **Methodology**

To quantify the effectiveness technology-enhanced learning aide in teaching science in grade 4, a quasi-experimental research design is employed that tests the hypotheses. The study group consisted of sixty (60) Grade 4 pupils for the School Year 2022-2023. Thirty (30) in control group and thirty (30) in experimental group. Their ages range between nine (9) to ten (10) years old.

Participants of this study were selected and matched paired using their general weighted average in science subject in grade 3. One section was assigned in the experimental group while the remaining 30 pupils were assigned in the control group. Pupils from the control group came from different sections selected to match with the general weighted average in the experimental group. The data gathering started from the first week in month of September-October 2022

covering the first quarter of the School Year. The researcher used a 40-item test which consisted of multiple-choice questions. The study underwent three stages: pre-intervention, intervention, and post-intervention. During the pre-experimental stage, the researcher prepared the instrument which was used for the pretest and posttest. In the intervention stage, thirty (30) pupils from the control group were given pure modular method. The experimental group consisted of thirty (30) pupils from Grade 4 were given module with technology-enhanced learning aide video lessons as supplemental tool.

After the intervention, post-test was given to the participants. The data was tabulated and analyzed using appropriate statistical procedures. The result of the pre-test and post-test were tabulated, analyzed, compared, and interpreted. Pre-test and post-test answers was scored one (1) point for every correct answer and 0 for every incorrect response. The maximum points a student can obtain was forty (40) points and the lowest was 0. The mean score was rounded off to determine the verbal description of the result. All statistical analyses were set to 0.05 significance level.

## **Findings**

The pre-test performance of learners in science 4 was average or satisfactory, with the control group having a very high proficiency level and the experimental group reaching the mastery level. There was a significant difference between the pre-test and post-test performance of learners in science 4 in the controlled (Pure Modular Learning) and experimental (Technology-Enhanced Learning Aide) groups. The use of technology-enhanced learning aide significantly improved the performance level of the pupils, from satisfactory proficiency to excellent/exceptional proficiency. The null hypothesis was rejected, as the use of technology-enhanced learning aide significantly improved the performance compared to pure modular learning alone.

## **Conclusion**

Based on the pre-test performance of the learners in science 4 between the control and the experimental group, findings revealed that both have almost the same over-all mean scores and have reached the average or the satisfactory proficiency level. Therefore, results implied that during the match-paring, pupils were grouped accordingly as shown in the result. The result of the post-test revealed that, pupils exposed to technology-enhanced learning aide came out to have reached the mastery level as compared to those who were given pure modular lesson. Findings revealed that there was a significant difference between the pre-test and post-test performance of

learners in the control group exposed to conventional pure modular learning, therefore, rejecting the null hypothesis. Findings revealed that there was a significant difference in the post-test performance of the learners using technology-enhanced learning aide. Therefore, it only proved that aside from the modules, video lessons helped them understood the lesson well as shown in the result of the post-test. There was no significant difference between the result of the pre-test performance in the control group and the experimental group, as shown in the result wherein pupils ovel-all mean scores were almost the same and reached the average level. Based on the findings of the post-test result between the control and the experimental group, the latter showed a very high result wherein pupils who were exposed to technology-enhanced learning aide have reached the mastery level as compared to the pupils exposed to pure modular learning who obtained a very high proficiency level.

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