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HOME-BASED LEARNING ACTIVITIES IN GRADE 9

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ABSTRACT

This study developed supplemental learning activities and materials anchored on the learning modules under the Most Essential Learning Competencies and determine the students' experiences in the performance of inquiry-based activities and improvisation, using quantitative and qualitative research methods. The effect on the student's conceptual understanding, process skills, and appreciation of the local use of resources in the activity was also evaluated as it answered the following questions: (1) What home-based activities in Physics may be developed with the following features: (a) Localization (b)Improvisation (c) Experiential (d) Inquiry; (2) What are the experiences of the students in the performance of (a)Inquiry-based activities (b) Improvisation activities, and 3. What are the effects of the developed home-based activities on students (a)Conceptual understanding, (b) Process skills, and (c) Appreciation of local resources?

The pretest-posttest quasi-experimental design was employed to provide more supporting data on the effect of home-based learning activities by comparing the results and responses of the two groups using the following instruments: (1) developed home-based learning activity; (2) pretest and posttest on conceptual understanding; (3) pretest and posttest on process skills; (4) Appreciation of local resources questionnaires; (5) Students' journal; and (6) juror's evaluation tools. The effects of the developed home-based learning

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activity were determined through the pretest and posttest of conceptual understanding, process skills, and appreciation of local resources administered to the experimental group and the control group.

From this, seven (7) home-based learning activities were developed with the following features: (a) localization, which required students to utilize locally available resources (b) improvisation, which provided students with procedures to make improvised models (c) Experiential, which required students to input their day to day experiences in making activity, and (d) Inquiry, which provided the students with a guide questions every learning activity to answer their curiosity. These home-based learning activities covered the topics and competencies about (1) Projectile Motion, (2) Impulse-Momentum and Collison, and (3) Conservation of Mechanical Energy based on DepEd MELCs. The developed home-based learning activities were anchored on DepEd learning modules for Grade 9 Science, particularly for the Physics component, fourth quarter; including (2) The experiences of the students in the performance of inquiry-based activities were categorized along with the conduct of investigation, exploration, and analysis. The experiences in improvisation activities include easy-to-do, enjoyable, exciting, challenging, efficacy, meaningfulness, creativity, and relevant experiences. This also included (3) the effect of home-based learning activities on students' a. conceptual understanding was enhanced significantly and supported by a p-value of ≈ 0.00 and an effect size of 1.6; b. process skills were enhanced significantly with a p-value of ≈ 0.00 and an effect size of 2.43, and c. appreciation of local resources was enhanced significantly and a p-value of ≈ 0.00.

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Based on the findings, the following conclusions suggest that the developed seven (7) home-based learning activities in Physics with the features of localization, improvisation, experiential, and inquiry are aligned to DepEds' Most Essential Learning Competency in Grade 9 Science which can be used as supplementary instructional materials. These seven home-based learning activities are on the topics of Projectile Motion, Impulse-Momentum and Collisions, and Conservation of Mechanical Energy in Grade 9 Physics with the features of localization, improvisation, experiential, and inquiry. Students exposed to home-based learning activities developed inquiry-based and improvisation skills. The developed home-based learning activities in Physics for Grade 9 as supplemental learning materials substantially enhanced the students' conceptual understanding, process skills, and appreciation of local resources. It is recommended that the developed home-based learning activities in this study can be adapted by Grade 9 Science Teachers either in modular distance or asynchronous classes.

Keywords: *home-based learning activities, Physics for Grade 9, Projectile Motion, Impulse-Momentum, Collisions*