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ABSTRACT

This study investigated learning engagement and its dimensions (i.e., cognitive, behavioral and emotional engagement) as factors influencing students' academic performance and attitude towards biology in a garden-based learning environment. A descriptive-correlational research design was employed to provide a relevant interpretation of the relationship between variables such as respondents' demographic profile, dimensions of engagement in garden-based learning, academic achievement of students and their attitude towards Biology.

The study consisted of seventy (70) Grade -11 students enrolled in a public senior high school of City Schools Division of Tanauan taking up the core subject Earth and Life Science during the first semester of School Year 2020-2021. Over the course of eight weeks, garden-based learning approach was used to teach plant-related topics and students were given the task to complete fourteen (14) garden-based learning activities. Data were collected using expert-validated researcher-made instruments tested for reliability such as the Learning Engagement Survey Questionnaire (LESQ) and Life Science Achievement Test (LSAT) and Students' Perception toward Garden-Based Learning (GBL), in addition to the researcher-developed Garden-based Learning Manual and the adopted instrument on Attitude Towards Biology Survey (ATBS). These three self-report survey questionnaires and the achievement test were all administered at the end of eight weeks of exposing the students to garden-based learning activities. Data obtained were analyzed using both descriptive and correlational tests. The descriptive statistics computed were measures of central tendency, frequency, and percentages. The scores on Life Science Achievement Test obtained by the student were used in analyzing their level of academic achievement by comparing it to the DepEd standards. On the other hand, Kendall's Tau Rank Correlation and Cramer's V was employed to determine the association between the extent of engagement, profile variables, academic performance, and attitude towards Biology. In addition, qualitative analysis was conducted through focus group interviews, attitude questionnaires, activity reports, reflection journals, and in-depth probing interviews to better understand students' perceptions of garden-based learning.

The study found that GBL, as a teaching strategy, effectively promotes learning engagement and fosters positive attitudes towards Biology among students across age and sex groups. Academic performance of the students was discovered to have a low association towards the extent of learning engagement in garden-based learning. On the other hand, Cognitive,

Behavioral and Emotional Engagements have weak positive association towards the students' attitude towards Biology.

Given the demonstrated benefits of garden-based learning, policy makers, curriculum designers and developers should consider incorporating this method into the broader Biology curriculum. Additionally, the curriculum should be designed to allow for personalization of learning experiences, catering to individual students' strengths and requirements.