



DIDACTIC DESIGN FOR DIVERGING AND ENHANCED ENGAGEMENT TOWARDS 21ST CENTURY SKILLS (3DEE21 MODEL): A PEDAGOGICAL MODEL FOR PHILIPPINE SENIOR HIGH SCHOOL STEM

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ABSTRACT

This study focused on determining pertinent pedagogical practices of SHS science teachers based on priori constructs to develop and design a pedagogical model for Philippine Senior High School STEM and lesson exemplar to support science teachers in giving quality instruction framed on 21st century education. Realizing the objectives, the researcher employed a mixed method incorporating concurrent quantitative and qualitative approach to gather and interpret data generating practical themes. In the light of the priori domains, quantitative approach was realized through a researcher-made, validated and pilot-tested questionnaire (with 4-point Likert scale). In the qualitative phase, semi-structured interview, formal and informal classroom observation with memos, and pertinent school documents were utilized adopting the procedures of case study. Themes and subthemes underwent data saturations to form the components of the model. The model underwent two-phase validation process through focus group discussion (FGD) with the participation of administrators, school heads, master teachers and teacher researchers. Finally, lesson exemplars were crafted based on the developed and validated model. Based from the findings of the study, STEM science courses in senior high school program can be effectively delivered through pedagogical practices that are strongly connected to curriculum, instruction, feedback system and learning environment. From the union and intersection of survey and cross-case analysis constructs, Didactic Design for Diverging and Enhanced Engagement Towards 21st Century Skills (3DEE21 Model) was developed and validated. The model has three primary domains (pedagogical prisms) such as Curriculum, Instruction and Learning Environment with embedded quality control through Feedback and Assessment. Validation process confirmed that the model is feasible and suitable for the target learners, holds gains and benefits on varied teaching opportunities, and finds deep engagement in DepEd goals.

Keywords: Pedagogical Model, Philippine Senior High School, STEM, K-12 Basic Education Program, 21st Century Skills