DE LA SALLE UNIVERSITY

DEVELOPMENT OF MOLECULAR MODELS
FOR USE IN TEACHING SELECTED
TOPICS IN ORGANIC CHEMISTRY

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by

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ABSTRACT

Title: Development of Molecular Models For Use In Teaching Selected Topics In Organic Chemistry.

This study was an attempt to develop a set of molecular models intended for freshmen students who are non-science majors. It is of a developmental type of study where the resulting product developed was assessed.

This study involved three phases: 1) Development phase 2) Lesson preparation and 3) Evaluation phase.

Phase I: Development phase - resulted in the production of molecular models. This model system consisted of 78 atoms, 3 functional groups, 101 rods, and 6 orbitals. These were made of indigenous materials such as bamboo, wood, and rattan.

Phase II: Lesson preparation - these models were used in the following lessons: uniqueness of carbon atoms, functional groups, structural formulas, nomenclature, isomerism, the right-handed and left-handed molecules, and geometry.

Phase III: Evaluation phase - involved the evaluation of the models by the students and teachers using
the interview and questionnaire methods. This evaluation was intended to assess the instructional characteristics of the models as to usefulness, physical properties, versatility, adaptability, simplicity, cost, replicability, presentability, reliability, and durability.

The development and evaluation of the models was conducted at the Catanduanes State Colleges, Virac, Catanduanes, during the second semester, 1990-1991.

The evaluation of the models by the teachers and students showed that the models possessed the characteristics of an effective instructional material.