

Students' Competence in College Geometry: Basis for Development of Computer Generated Instructional Materials

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ABSTRACT

Purpose – This study presents the competence level of education students in College Geometry and the development of a Computer Generated Instructional Materials (CGIM).

Method – This research used the model for research and development by Borg and Gall (2003) with revision. The researchers developed a CGIM, specifically, the worktext paired with multimedia presentation. The process used were, inspection of the course syllabus, planning, product development and designing assessment instrument, first output production, validation by mathematics teachers, expert validation, and try out to students. The parts were objectives, learning concepts, exercises, evaluation, and performance task. The topics included were logic and reasoning, geometry of shapes and size, angles and perpendiculars, triangle congruence, quadrilaterals, similarity, circles, and plane coordinate geometry. Every topic has corresponding subtopics. The first phase of the study is the assessment. It involved eighty-three Bachelor of Elementary Education students. This research utilized a 90-item researcher-made test. Statistical tools employed were percentage, mean, standard deviation, and *t*-test for one sample. The second phase is the development and production using document analysis methods.

Findings – The result of the first phase shows that students have significantly low competencies in all the topics in College Geometry compared to the passing mean set by the PRC for teachers.

Significance – The result of the study may pave way for the inclusion of the CGIM developed by the researcher as materials in the course. Moreover, the result may serve the baseline information to recommend the use of the supplementary instructional materials.

Keywords: Students' competence, Computer Generated Instructional Materials, College Geometry