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Enhancing students' development of Collaborative skills in learning Chemistry using Computer-Aided Instruction Program

Abstract

Collaboration is one of the core competences that is crucial in the 21st Century learning. For this reason, there is a need to devise teaching strategies that enhance students' development of collaborative skills in learning. This paper presents a section of study in Kenya which determined students' development of collaborative skills in learning Chemistry when taught using Computer-Aided Instruction (CAI) Program. The study adopted Quasi Experimental design based on Solomon Four- Group, Non-equivalent Control Group Design. The participants were 174 Form Two secondary school Chemistry students of Tharaka Nithi County in Kenya. Four schools were purposively sampled and randomly assigned as either Experimental groups or Control groups. The students of the Experimental groups were taught through Computer-Aided Instruction Program while the Control groups were taught through Conventional Instruction methods. Data was collected using Classroom Observation Schedule (COS) and was used to rate the development of collaborative skills of students on a scale of one to four points (1-4) during teaching and learning of Chemistry. The quantitative data was analyzed using both descriptive and inferential statistics with the aid of the SPSS version 20 program. Mean and standard deviation was used to describe the data while One-way Analysis of Variance (ANOVA) was used to test the hypothesis. The study revealed that the students who were taught Chemistry with computer-aided instruction program obtained higher collaborative skills scores than the students who were taught with conventional instruction methods. Thus, Chemistry teachers, should adopt the Computer-Aided Instruction Program in their teaching to help in enhancing students' development of collaborative skills, and by extension improve performance in Chemistry.

Keywords: Computer-Aided Instruction, Conventional Instruction Methods, Students' Collaborative Skills

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