

Effect of Programmed Instruction on Students' Attitude towards Structure of the Atom and the Periodic Table among Kenyan Secondary Schools

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Abstract:

This study examined the effect of Programmed Instruction on students' attitude towards Structure of the Atom and the Periodic Table (SAPT) among mixed (co-educational) secondary schools of Butere district, Kakamega County, Kenya. The quasi-experimental research design was adopted, using the nonrandomized Solomon four-group as a model. The sample comprised of 300 form two (2nd grade in the Kenyan secondary school education cycle) students and 8 Chemistry teachers who were purposively sampled. Instructional software was developed, validated and used by subjects in the experimental groups while the control groups learned the conventional way. The Students' Attitude Determination Questionnaire (SADQ) was created, validated and used to collect raw data, which was analysed both descriptively (using mean, mean gain and standard deviation) and inferentially (using one-way ANOVA) at $\alpha=0.05$. It was concluded that Programmed Instruction is more effective in improving students' attitude towards SAPT than the popular conventional approaches because the results indicated that the attitude mean scores of the sampled students were statistically the same before intervention. However, the experimental groups obtained significantly higher attitude mean scores than the control groups after intervention. This significant change was attributed to the treatment that the experimental groups received.

Key words: programmed instruction, conventional approaches, attitude, SAPT, mixed school.

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