

EFFECTIVENESS OF A DIGITAL SEWING MACHINE IN TEACHING SEWING MACHINE PARTS IN HOME ECONOMICS AMONG GRADE 9 LEARNERS

ABSTRACT

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This study determined the effectiveness of a digital sewing machine in teaching sewing machine parts in Home Economics. The participants were Grade 9 learners from two sections taking Sewing and Textiles at Kalayaan National High School and were selected through purposive sampling. Data were collected using survey questionnaires, a pretest, and a posttest and were analyzed using percentages and weighted means. The study employed a quasi-experimental research design involving 71 purposively selected Grade 9 students enrolled in Home Economics, specifically Sewing and Textiles. The respondents were assigned to a control group, which received traditional instruction, and an experimental group, which was taught using the interactive digital sewing machine. Data were collected through survey questionnaires, pretests, and posttests. The statistical procedures included frequency and percentage, z-test, Likert-scale interpretation, weighted mean, standard deviation, ranking, Wilcoxon signed-rank test, Mann–Whitney U test, Kolmogorov–Smirnov test, and Shapiro–Wilk test. Most Grade 9 learners (76%) were 14 years old or older, and 52% were male. Before the intervention, both groups obtained “Below Average” pretest scores, with mean scores of 4.61 for the control group and 5.16 for the experimental group. After the intervention, the experimental group achieved a mean score of 11.11 (“Above Average”), compared with 6.76 (“Average”) for the control group. The Mann–Whitney U test result ($z = -6.054$, $p < 0.001$) indicated a statistically significant difference and was interpreted as evidence that the digital sewing machine improved students’ class participation and performance tasks. The study concluded that the interactive digital sewing machine was more effective than traditional instruction in improving class participation, performance tasks, and knowledge of sewing machine parts. It recommends that teachers use digital sewing machines to support students’ understanding. Parents are encouraged to support their children’s sewing practice, while administrators are advised to provide teachers with training in the use of digital tools. Future studies may examine other digital tools and conduct similar investigations to improve learning outcomes.

RECOMMENDED CITATION

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