Effectiveness of using Synchronous, Two-way IP Video to Teach Basic Electrical Knowledge and Skills to First Year 4-H Electric Members

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PURPOSE

The purpose of this research study was to determine the effectiveness of using distance education technology to teach knowledge and skill-based concepts to elementary-aged youth. This study focused on the use of synchronous, two-way IP video and the use of this technology to propagate knowledge and skills particularly focused around 4-H project areas. The Indiana 4-H Electric 1 project was used to examine youth’s ability to gain knowledge and skills about electrical wiring and related topics.

ABSTRACT

The purpose of this research study was to determine the effectiveness of using synchronous, two-way IP video to teach knowledge and hands-on skills to elementary-aged youth in comparison to traditional, face-to-face educational methodologies. This study focused on the use of synchronous, two-way IP video to propagate knowledge and hands-on skill. Pretests and posttests were used to examine youth’s knowledge and skill gains on material covering basic electrical concepts, theories, and skills.

A comparative field study was conducted in the spring of 2004. Fifty-two Indiana 4-H members enrolled in the Indiana 4-H Electric 1 project voluntarily participated in this study. The participants came from a total of nine sites from across the state of Indiana. The sites were selected from a randomly stratified sample to participate in the study. Each site received one of the two educational methodologies, traditional, face-to-face instruction or instruction via synchronous, two-way IP video.

Based on the findings of the study in comparison of the two methodologies, it was found that participants in both the traditional, face-to-face methodology and the synchronous, two-way IP video methodology were able to increase knowledge and hands-on skills from pretest to posttest. Additionally, the study found there to be no statistically significant difference in participants’ knowledge or skill gains between the two educational methodologies.