

The Effect of Learning by Doing in the Instrumentation Course at Pontifical Catholic University of Puerto Rico

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Learning by doing has been used extensively in teaching science courses. It has proven to be an invaluable tool in helping students learn even intricate concepts. Our program has applied this teaching strategy in the Instrumentation course for the past six years. The students were divided into groups. Each group selected an instrument or technique they wanted to demonstrate. They had to prepare a model of their instrument using common arts and crafts materials. Each group had twenty minutes to present their prototype, its accompanying brochure, and make a sales pitch to the rest of the class. Since the students have always been very creative and so motivated by this activity, this year we wanted to determine quantitatively, if it was a valuable tool for learning. The professor gave the lectures as usual. After all the topics were discussed, a pretest was administered. A week later, the students made their presentations. A posttest was administered a week following the presentations. The average of the posttest scores showed an 11% increase over the average of the pretest scores. The results are very encouraging and it is our intention to keep doing this activity and gathering more data. We are also planning this kind of strategy in other courses with the intention of identifying which activities yield a higher improvement in the students' performance.