A Comparison of Database Management Teaching Strategies

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The ability to organize data to support business problem solving and decision making has become one of the most important skills in this information age. Yet, limited empirical results are available on effective strategies in teaching database management application. This study investigated the effectiveness of two teaching strategies. Fifty-one students enrolled in three sections of an advanced microcomputer application class participated in this study. Each of the three sections was randomly assigned to one of the three groups: Control Group, Treatment Group I, and Treatment Group II. A traditional teaching approach was used in the Control Group, where the instructor demonstrated various Access features, and then students performed hands-on activities by following instructions listed in the textbook. In addition to these activities, students in Treatment Group I received instruction on general problem-solving steps, and students in Treatment Group II were given several business problems to solve. After five weeks of instruction on using Access, students were asked to solve a business problem with realistic business data.

Each student scheduled a one-hour appointment to solve the problem in a designated office with needed hardware and software. Multiple sets of data were collected: (a) a demographic questionnaire to assess students' background information, (b) video recordings using Camtasia to capture the screen displays while students attempted to solve the problem, (c) files created by students, and (d) the conclusions made and written by students at the end of the problem-solving activity. To ensure objectivity, the video recordings of all 51 students' problem-solving sessions were randomly assigned numbers, and these recordings and other data were analyzed by one educator (not the instructor) and one industry expert in the sequence of 1 to 51. The frequency of effective use, ineffective use, and misuse of various Access procedures were recorded. In addition, students' planning processes and the quality of conclusion were rated. These quantitative data were analyzed. The results of the study will be reported in the conference, as well as discussion and recommendations.