The Traditional Approach Versus the Information Systems Approach to Teaching Microsoft Office

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ABSTRACT

This study compares two instructional approaches to teaching the college of business microcomputer applications course. The two approaches are the traditional approach and the information systems approach. With the traditional approach, word processing receives the emphasis while the database application is downplayed. The information systems approach, on the other hand, emphasizes database and spreadsheet applications, while word processing is not emphasized. The pre-test/post-test methodology was utilized and the results will be available during the presentation. As well, textbooks will be considered as part of the equation since, until very recently, there have been few, if any, textbooks that emphasize the information systems approach.

PURPOSE

Today’s colleges of business graduates are expected to have computer proficiency skills. These skills include a working desktop knowledge of word processing, spreadsheet, database, presentations, electronic mail, and the World Wide Web. The majority of businesses and educational institutions use the Microsoft Office tools including Word, Excel, Access, PowerPoint, Outlook, and Internet Explorer. The evolution of these computer proficiency skills began with the administrative services curriculum. When the microcomputer was introduced to universities in the mid-1980’s its main function in the administrative services curriculum was word processing.

It was in the late 80’s that Microsoft introduced the first integrated software package, Microsoft Works. At this point the microcomputer applications course was introduced. Through different software packages such as the WordPerfect Suite, the Lotus Suite, and Microsoft Office, Office won out as the primary set of desktop software tools used in the course. As it stands, the computer proficiency course is still heavily influenced by the original administrative services curriculum. This is referred to as the “Traditional Approach.”

But hiring companies now are expecting more than a basic understanding of these desktop software tools in isolation. They want (or expect) the graduates to know how to use these tools as a means of processing data as well as interpreting and disseminating information, which requires a higher level of cognitive ability over the traditional skills based methodology. Unfortunately, the evolution of the microcomputer course has stopped with teaching the basics of the individual tools with no means of understanding the importance of manipulating and understanding data.
and information resources. In addition, the majority of textbooks use the “point-and-click” approach which requires very little problem solving and creativity abilities. When Access is used as the basis for the course where most emphasis is placed on that tool, then it is referred to as the “Information Systems Approach.”

Therefore, the purpose of this study is to redesign the CIT 1503 course as a pilot around the concept of using the software tools to process data and interpret and disseminate information resources and to teach the students how to solve problems using the software as well as to help develop their creativity in making decisions.

BRIEF LITERATURE REVIEW

Microsoft Access is the relational database tool that is used in most small businesses and as a desktop database in most large businesses as well. However, Access is the tool that is most often overlooked or relegated to the end of the semester when very little time is available for its use. In fact, in research conducted by Meier (2001) when a computer concepts exam was administered as part of college entrance requirements, 75 percent of the students scored above minimum for word processing, but only 40 percent scored above minimum for database. As well, Giovannini and Poyner (2001) reported that database entry and validation are used to a greater extent in businesses than they are covered in the business curriculum. Hindi, et. al.(2002) recommend that the microcomputer applications course add more emphasis to database and spreadsheet tools.

METHODOLOGY

During the first week of classes in January 2005, a pretest was administered to the students enrolled in all of the CIT 1503 classes in the College. This pretest was developed by randomly selecting equal numbers of questions for each tool from the test bank that is provided with the textbook. The test consisted of 50 multiple choice questions. In addition the students completed a questionnaire that sought information such as their previous background with each software component, their age, education level, major, and other demographic data.

All sections of the CIT 1503 course except one were taught using the traditional approach as prescribed by the textbook in use (Fox, et. al., 2004). This includes in the following order: Microsoft Word, Excel, Access, PowerPoint, and Integration exercises. The students used Outlook throughout the semester for electronically submitting assignments to their instructor. One section of the CIT 1503 course was taught as a pilot course whereby the software tools were learned as a means of processing data and producing information resources. To do this Microsoft Access was introduced first then Word, Excel, PowerPoint, and integration exercises were introduced. Three class periods were spent in lecturing about Access concepts. During the other tools, no lecturing was done except for an occasional clarification of directions or concept. During the last week of classes in May 2005, a posttest was administered to the students enrolled in all of the classes. The students also completed a posttest questionnaire. The study is being continued and refined during this semester (Fall 2005) based on the experiences with the pilot research and to take away instructor differences. During this semester,
the researcher is teaching two sections of the course. One section is using the traditional approach and the other is using the information systems approach. The sections were chosen randomly. The students were not given the opportunity to change course sections, as both sections were full. In addition, the researcher added 20 questions to the pretest for Excel and Access. The researcher felt that during the pilot research the students had most trouble with these two tools and decided to increase the study to include more information on both.

The text that is used, Essentials, Microsoft Office 2003 (Fox, et. al., 2004) has as Project 1 of each tool a “Tour of the specific tool” (i.e., Taking a Tour of Word 2003). Both classes worked through each of the tours at the beginning of the semester culminating with a productivity quiz that included Excel and Access. The scores on this quiz will be used to test the homogeneity of the two groups. This time allowed students to drop and add, get familiar with sending the instructor e-mail attachments, learning to use jump drives, and general beginning of semester housekeeping.

This semester, both sections took an Excel pretest and posttest, which included mathematical versions of a few of the formulas and functions that are covered in their Excel assignments. The pretest asked their highest level of math taken, and the posttest asked if they have taken Accounting I or Finance.

The traditional approach is following the textbook order of Word, Excel, Access, and PowerPoint. Because there was very little integration in the spring, it was dropped to allow more time for lectures. This section received lectures during two class periods of Word and received help on IF and FV functions during Excel. This section did not receive any discussion of the results of their Excel pretest.

The information systems approach went through Access first, receiving three class periods of lecture. In addition, the Excel pretest was reviewed and one day was devoted to lecture over the Excel concepts. No lecture was given on Word and PowerPoint.

DATA ANALYSIS AND CONTINUATION OF STUDY

The data analysis based on the data gathered during the spring and fall semesters of 2005 will be available for the presentation.

Up to this point textbook publishers have not been writing textbooks for the information systems approach. They have finally begun to listen to faculty regarding the problems with the point-and-click approach to teaching this course. Course Technology has risen to the challenge and have a new book on the market for the spring 2006 semester. The researcher will be continuing the research with one section of CIT 1503 and will be using this new textbook.

The textbook is titled, Succeeding in Business Applications with Microsoft Office 2003: A Problem-Solving Approach. The book description reads, “…prepares students to solve real-life business problems using Microsoft Office applications. Moving beyond a basic “point and click” focus, it challenges students to use critical thinking and analysis to find efficient and effective
solutions to real-life situations with business applications.” The pretest/posttest and Excel pretest/posttest will still be administered to compare to the previous semesters’ students. After analyzing the data, a decision will be made to either keep teaching the CIT 1503 course using the traditional approach or change it to the information systems approach.

REFERENCES


The system's approach to management is a scenario that plays a very important role in creating coordinative relations between all related business systems. The response or feedback in a system focuses on the information and data which is utilized for executing certain operations. These inputs aid in correcting the errors found in the processes. It is a management approach which enables the leadership to see the company as a unified part or a major section of the larger outside corporate environment. Even a small activity in a section of a company has a substantial effect on other sections of the company. Such a system may be biological, physical or social, and may enable the management to efficiently determine the long-term goals of the company. PROJECT MANAGEMENT: A Systems Approach to Planning, Scheduling, and Controlling. Tenth. Edition. Project Management. The traditional structure is highly bureaucratic, and experience has shown that it cannot respond rapidly enough to a changing environment. Thus, the traditional structure must be replaced by project management, or other temporary management structures that are highly organic and can respond very rapidly as situations develop inside and outside the company. Project management has long been discussed by corporate executives and academics as one of several workable possibilities for organizational forms of the future that could integrate complex efforts and reduce bureaucracy. Separate data files are created and stored for each application program. The traditional approach usually consisted of custom built data processes and computer information systems tailored for a specific business function. An accounting department would have their own information system tailored to their needs, where the sales department would have an entirely separate system for their needs.