

A COMPARISON OF THE COMPUTER SKILLS OF BUSINESS STUDENTS VERSUS THOSE OF INCOMING FRESHMEN

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ABSTRACT

This paper compares the computer skills of business students with those of incoming freshmen. While the data provides only cursory information about the levels of the computer skills of students in institutions of higher education, it does provoke questions that faculty teaching computer classes need to address. The speed with which technology changes has made the college classrooms more challenging for everyone involved in education but especially for the faculty responsible for their students' learning. Suggestions for mediating the situation are discussed.

Keywords : Computer skills, computer literacy

INTRODUCTION

Faced with the turbulence of contemporary technologies, business schools are caught in a balancing act—providing undergraduate students with current software to enhance their technical skills as well as providing upgraded computer hardware. This paper compares the computer skills of business students with those of incoming freshmen at a regional Midwestern university. The results reveal some interesting facts that should aid business school decision makers about needed computer facilities.

PURPOSE OF THE STUDY

Many faculty speculate that students today are more computer literate than their peers several years ago. In fact, professional publications such as *Fortune*, *Business Week* and *Computerworld* often have features on young adults who possess high-tech skills. There is a need for faculty to raise the "bar" for the students they teach. For example, while students know how to surf the Internet, they may not know how to evaluate the information that they find. Students may also lack the critical thinking skills to analyze and categorize the information related to specific issues within the eCommerce context. There is also less need to teach students how to use emails. Instead, they need to learn netiquette or the legal ramifications of email (2).

METHODOLOGY

A questionnaire was designed and distributed to all students in the Business Information Systems classes in a regional midwestern university in 1998 and 1999. In 2001, incoming freshmen were surveyed with regard to their computer skills. The survey instrument was a self-explanatory, three-page questionnaire. Demographic data about course enrollment, class standing, and declared or intended major were collected. The remaining questions were

designed to provide descriptive data about application software knowledge, hardware, and software availability. A five-point Likert scale running from high to none was used to rank student responses, and the data analysis was completed using SPSS software.

ANALYSIS OF DATA

The following section discusses the analysis of the data collected. Figure 1 illustrates the comparison of male to female respondents. In 2001, nearly 70 percent of the respondents were female while in 1998 and 1999, there were similar number of males and females in the respondents.

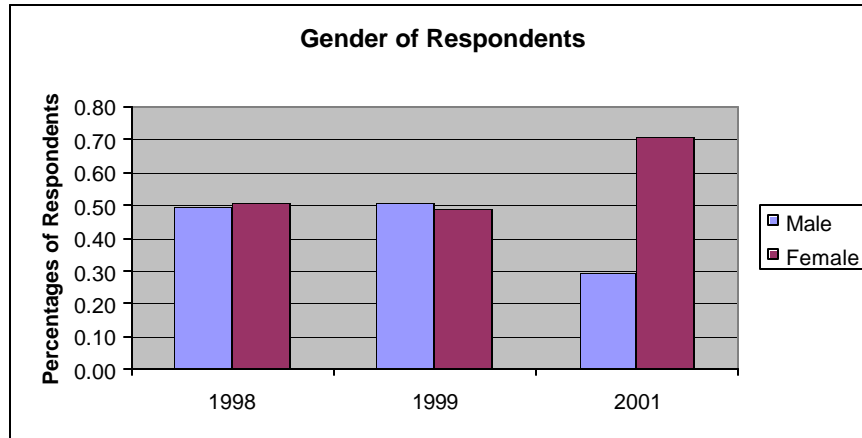


Figure 1

In 1998, the distribution of undergraduates across their classifications, i.e., freshmen, sophomores, juniors, and seniors varied between 20 to 25 percent (see Figure 2). In contrast, in

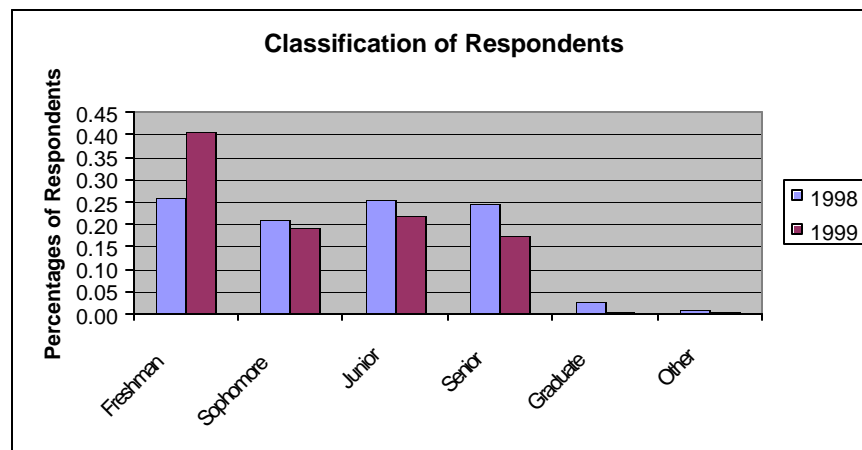


Figure 2

1999, freshmen accounted for more than 40% of the respondents. In 2001, all the respondents were freshmen.

Figure 3 illustrates how the students acquired their computers. In looking at the chart, it is clear that, in 2001, most freshmen had access to their computers at college. If they did not

have their own computers, their roommates would have computers. Almost 40 percent indicated that their computers were gifts from their parents. Fifteen percent in 1998, 24 percent in 1999, and 26% in 2001 indicated that they bought their own computers. It was also interesting to note that more than 35 percent had no computers in 1998 but only less than 10 percent had no computers in 2001.

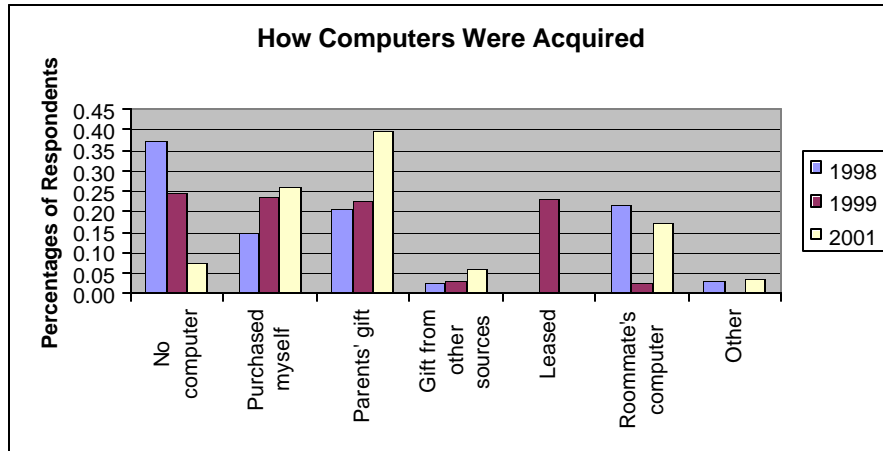


Figure 3

Respondents were also asked to indicate their skill levels in various applications (wordprocessing, spreadsheet, email, database, etc.). Figure 4 illustrates the levels of self-reported skills among the respondents for applications. As may be expected, the percentage of respondents who rated their skills in wordprocessing as high and average was high in all three years. However, it is interesting to note that in 2001, the percentage of freshmen who rated their skills as high was noticeably lower than those in 1998 and 1999.

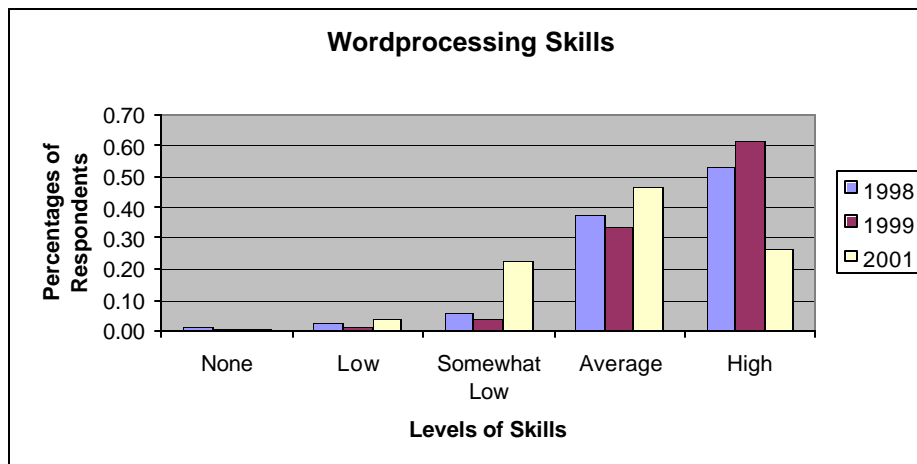


Figure 4

In Figure 5, more freshmen rated their skills in database as somewhat low in 2001 than the business students in 1998 and 1999. Fewer freshmen rated their database skills as average and high than the business students.

Figure 6 illustrates the presentation software, e.g., PowerPoint, skills of the students. In 2001, more freshmen rated their skills as somewhat low. However, almost the same percentages of students in 1998, 1999, and 2001 rated their skills as average. When comparing the students who rated their skills as high, the percentage of freshmen was the lowest.

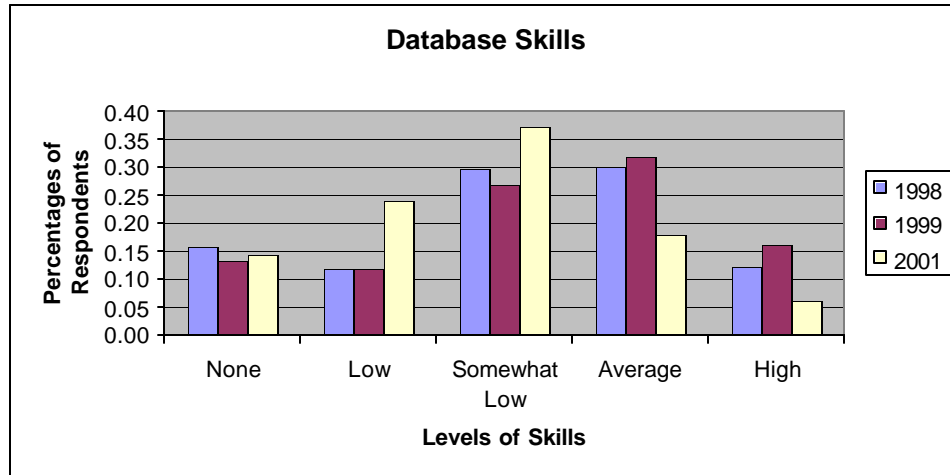


Figure 5

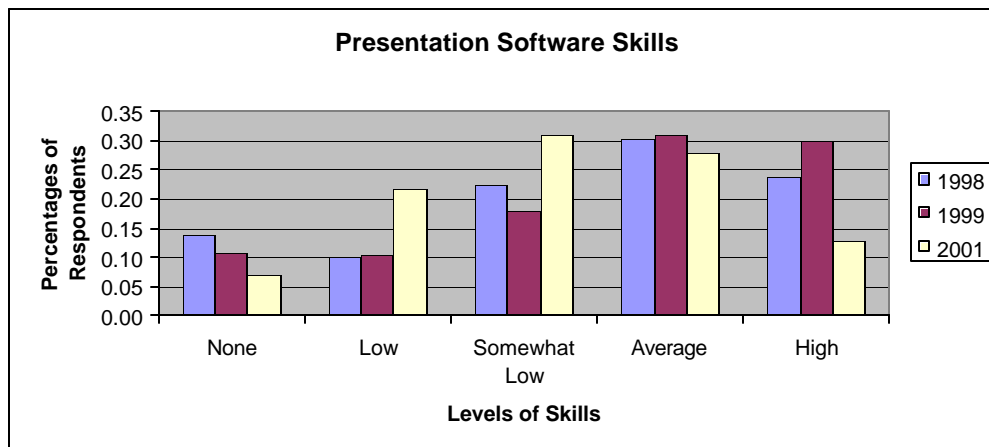


Figure 6

As can be expected, very few students rated their statistical software skills as high (see Figure 7). In fact, students in all three years, rated their skills as None and Low. Slightly more than 20% percentages of students rated their skills as somewhat low.

In all three years, the lowest percentages of students rated their email skills as none or low (Figure 8). Slightly more than 10 percent of business students indicated that they had no email skills in 1998 and 1999. In 2001, only about one percent of freshmen responded that they did not know how to use email. Instead, 72 percent stated that their email skills were high.

Approximately 35 percent business students in 1998 and 1999 indicated that they had no web development skills while, 24 percent freshmen in 2001 stated the same (see Figure 9). Almost 52 percent freshmen responded that they had low or somewhat low skills in web development. At the same time, similar percentages of students claimed that they had an average level of skills in web development. However, only 15 percent in 1998, 17 percent in 1999, and only 8 percent indicated that their web development skills were high.

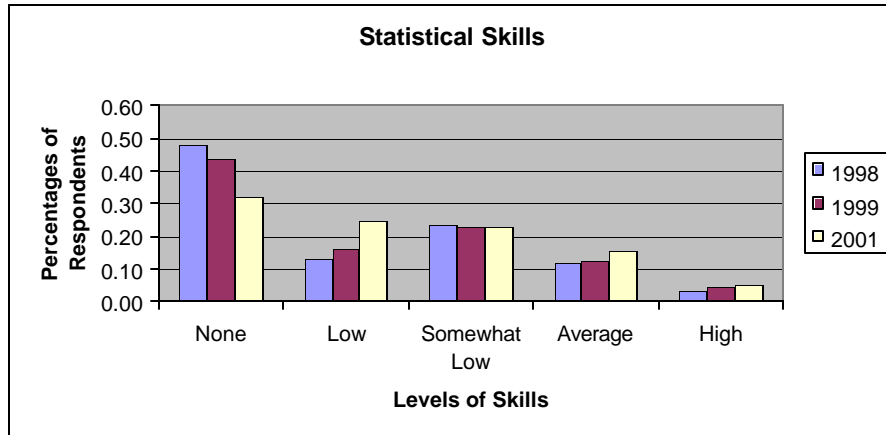


Figure 7

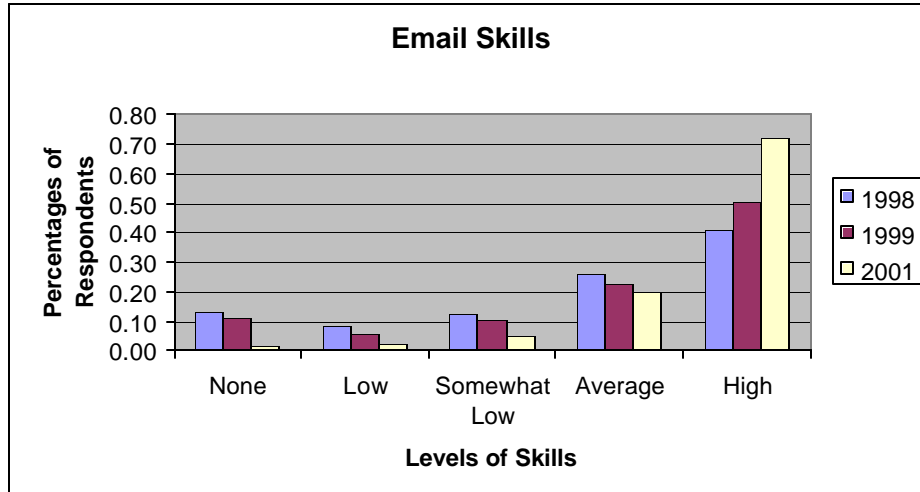


Figure 8

It is generally known that young adults like to play computer games. Thus it is interesting to note that in Figure 10, in all three years, the majority of the students indicated that their gaming skills are average or high. In fact, almost 50 percent of students in 1998 and 1999 claimed that their gaming skills were high while only 33 percent of freshmen stated the same situation.

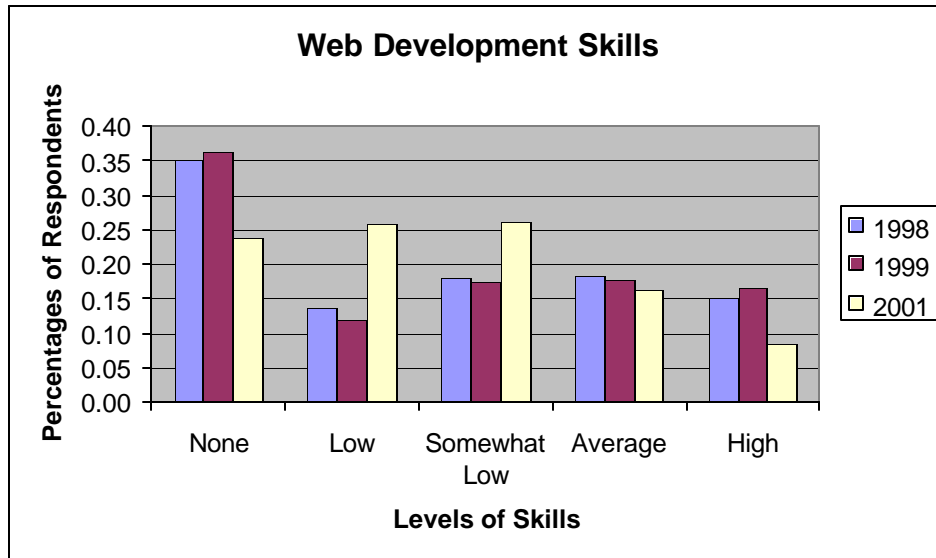


Figure 9

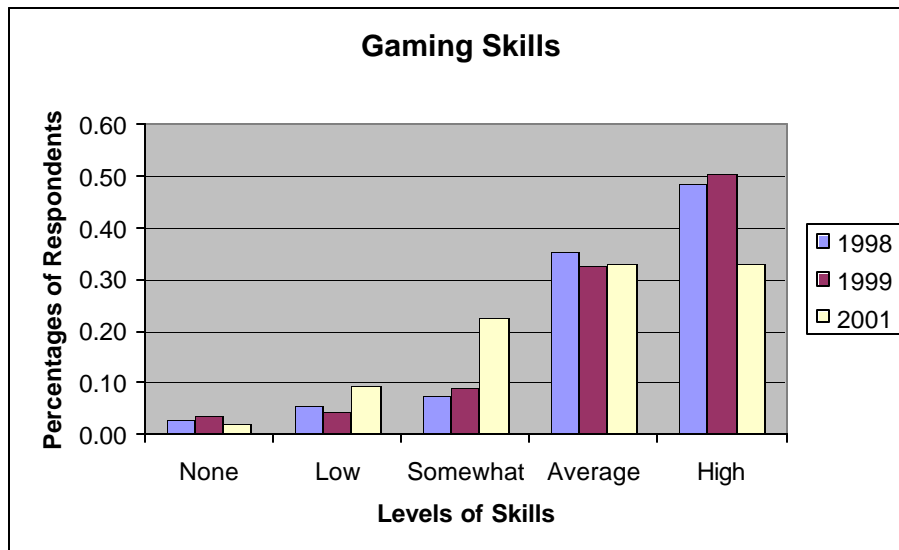


Figure 10

CONCLUSION AND RECOMMENDATIONS

While colleges have to accommodate incoming students who may still lack basic computer skills, very likely the majority of the incoming students will have had some computer instruction. For example, many high schools today teach their students how to surf the web as well as build web pages. Since over 80 percent of students surveyed reported skill with the World Wide Web, perhaps teaching this skill should be limited to the lower-level classes, possibly only in the freshman courses. Another option might be targeted, special topics courses. A similar suggestion was made by Levsen and Goettel (3).

The data clearly shows that students have computers at their campus homes in increasing numbers. A further examination of the data shows that the freshman class has the highest reported incidence of such availability. Apparently more and more students are arriving on campus with their own computers. This trend is likely to increase as parents see the benefits of providing a necessary tool for students. This situation demonstrates that parents believe that computers are a necessity for college, and not necessarily that they were better off financially. Computers may be purchased through leasing. The trend is for freshmen to head to college with their computers. This situation is expected in light of the pervasive nature of email in the home and workplace. Email is used for many purposes, i.e., keeping in touch with family members, communicating with faculty members, staying abreast of current events, and even tracking stocks and sales.

One might reasonably infer that these students have exposure to basic computer applications—word processing, World Wide Web, spreadsheets, and perhaps databases. The relative lack of knowledge of statistical software is not surprising given the number of responses from freshman and sophomore and the sophistication of such software. Since the growth of the Internet has fueled the creation of web sites, it is to be expected that the students would demonstrate a higher level of skills in 2001.

Further examples of how the findings from this and subsequent research might be used include:

- Allow business instructors to adapt curriculum and fine tune the ways they are delivering instruction in computer courses.
- Allow instructors in higher-level courses to use more complex computer projects.
- Provide business schools with an insight into the possibility of providing remote access to the software required in courses.
- Require business schools to take an active part in freshman orientation so that incoming students would have appropriate computers and software. Parents and students could be encouraged to purchase hardware and software which will match instructional goals.
- Require business schools and even universities to define computer literacy.

An extension of this research would be to investigate the kinds of computer classes that are being taught in high schools. Although the authors are aware of certain high schools teaching programming languages such as COBOL, C++, and Visual Basic, college-bound high school students usually do not take computer literacy courses (1). Perhaps working with the high schools will give their students more opportunities in terms of choice of careers. It would also make college-bound high school students aware that more computer classes will give them a head start on their college careers.

REFERENCES

Available from the authors.