

# FULFILLING INFORMATION SYSTEMS LITERACY NEEDS

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## ABSTRACT

*The Department of Business Information Systems (BIS), Central Michigan University, Mt. Pleasant, Michigan, recently surveyed students enrolled in a College of Business Administration (CBA) core course, BIS221 and another course, BIS327 to establish a change in levels of Information Systems Literacy. This paper outlines the details of the study, survey and plans for future course developments.*

**Keywords:** Information Systems, Literacy, Computers, Business, Information Technology

## INTRODUCTION

The 'Computers in Business I' course instructed by the Business Information Systems (BIS) Department serves as a core introductory course in the business curriculum. Students bring various levels of information systems literacy to the course. A pre-test provides an examination of information systems literacy levels at the beginning of the course. An identical test given to the 'Web Page Development' course assesses the change in various levels of information systems literacy between the two levels of students. The basis for establishing literacy levels is to ensure that the BIS Department is fulfilling expectations provided by the College of Business Administration as well as recruiting businesses in keeping up with continuing advances in information technology.

The College of Business Administration (CBA) at Central Michigan University requires that admitted students complete the BIS221, Computers in Business I, course as part of any degree program in the school. The primary purpose of BIS221 is to provide the students with a broad understanding of all aspects of Information Systems and Technology in order to prepare them for careers in a business environment. Areas of lecture coverage include Networking, Telecommunications, Software, Hardware, Database Management, E-Commerce, Enterprise Systems, Systems Development and Design, Ethics and Security as well as various subtopics. In addition to the lectured materials listed, the students are required to attend a structured laboratory course each week presently based upon the Microsoft Office tools. Given the extensive range of information covered in the course, the need to assess for a desired level of Information Systems Literacy became a reality. Students are expected to review, learn and retain material taught in each of these areas. This study serves to assure the retention of this information is carried forward into higher-level courses as well. There is a growing need, not only a demand, to expand university-level education in information systems. The BIS Department strives to enhance the marketability of its students by educating them in the latest technology advancements. Therefore, this study also serves to establish a need for additional topics in the BIS221 course.

## **INFORMATION SYSTEMS LITERACY DEFINED**

It is fairly simple to determine an individual's computer literacy, yet more difficult to establish information systems literacy levels. One common view of Information Systems literacy is to say the "computer literate" people are those who are able to utilize a personal computer and its basic software applications such as word-processing and spreadsheets. However, Information Systems literacy is more than the specific abilities a person may possess in using a computer. The use of the term "Information Systems Literacy" should be compared with the conventional literacy term referencing an individual's ability to read and understand the material read. Therefore, Information Systems Literacy does not simply pertain to an individual's use of a computer, but rather the familiarity with the advantages of using Information Systems in all its capacities. Of course, it should not be overlooked that literacy fades if not practiced. The fact that someone could and did write COBOL programs in a college course does not make him a COBOL programmer 15 years later. Information Systems literacy is not something you accomplish and you're done. Technology is constantly changing, so literacy must constantly be updated.

## **SURVEY OF IT EXPERIENCE**

In two BIS summer courses, students were given a survey relating to Information Systems usage and understanding. The general objective of the survey was to test the assumptions that were being made about the degree to which students were beginning their university careers with already high levels of IT awareness and competence following their secondary school experience. This exercise was completed in a 200 and a 300 level course. The 200 level course is required in the CBA curriculum for all majors. The 300 level course is an elective course.

Information was collected from students in the first week of classes. The entire class was targeted. This study served as a pilot and will be conducted again in the Fall as well as Spring semesters with larger samples of students in order to compare and contrast results.

## **PARTICIPANTS**

The IT Skills and Literacy survey was completed by 42 students. These students were enrolled in BIS221 and BIS327 courses only during the semester of the survey. For these participants, they could have also been enrolled in other BIS or IT related courses in previous semesters. As a result, this survey measures participant skill levels based not only upon the present semester, but also those courses completed prior.

### **Sample Characteristics**

The sample consisted of 55% male and 45% female students. One survey question requested students select an age bracket. Students ranged in age from 18 to over 40 in the BIS221 class while the BIS327 students were all between the ages of 21 and 30. The table below portrays these responses:

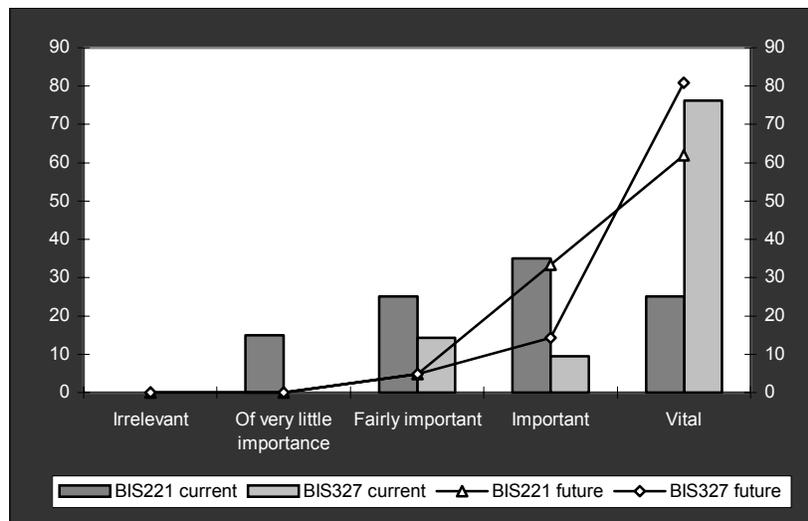
**Table 1: Age Distribution of Students Surveyed**

	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21-25</u>	<u>26-30</u>	<u>31-40</u>	<u>Over 40</u>
<b>BIS221</b>		2	5	3	7	2	1	1
<b>BIS327</b>					19	2		

**Students Perspective of Computer Use Importance**

When students were asked to identify their perspective towards the importance of using computers currently in their university courses, 35 percent of the 221 students believed it was important. However, when asked to give their opinion relative to the importance of their familiarity with computers upon graduation, vital was the response for 61.9 percent. In the 327 pilot group, 76.2 percent felt the use of computers were vital in their computers thus far and 80.9 percent believed their familiarity with computers would be vital upon graduation. Figure 1 illustrates the comparisons.

**Figure 1: Students’ Perspective Regarding Importance of Using Computers in College Courses**



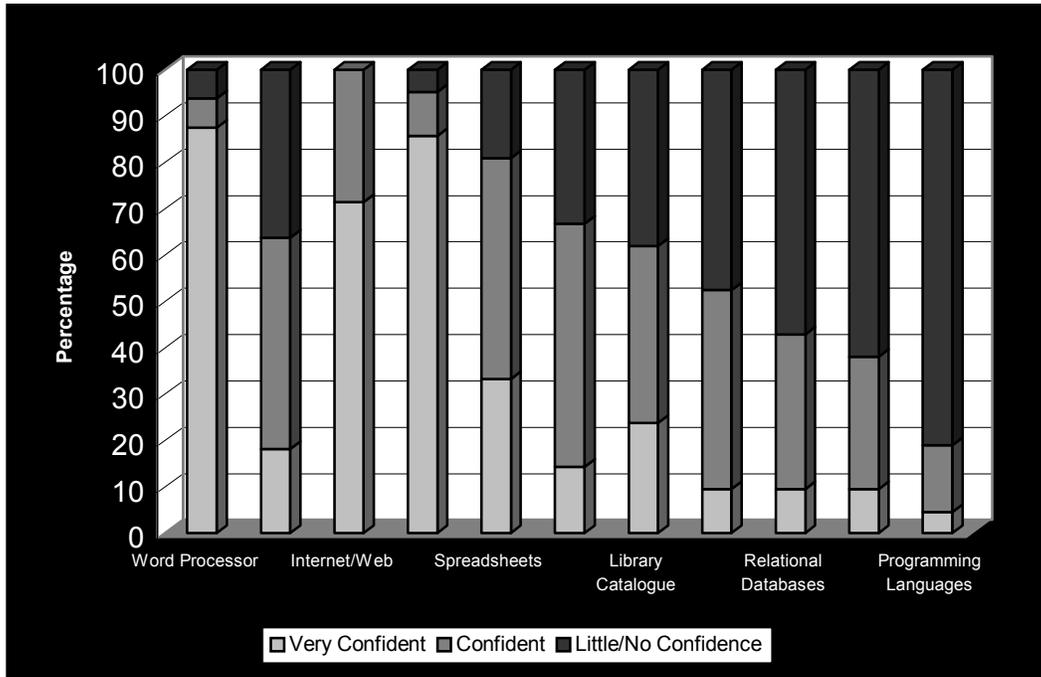
The majority of the pilot group participants are full-time students, are studying in the CBA, and have been attending state-maintained universities. Some students have worked before coming to college but the majority enter straight from high school. Over 80 percent of both pilot group participants own their own desktop computers, as compared to a laptop, with over 89 percent running under some version of Microsoft Windows.

**Confidence Levels**

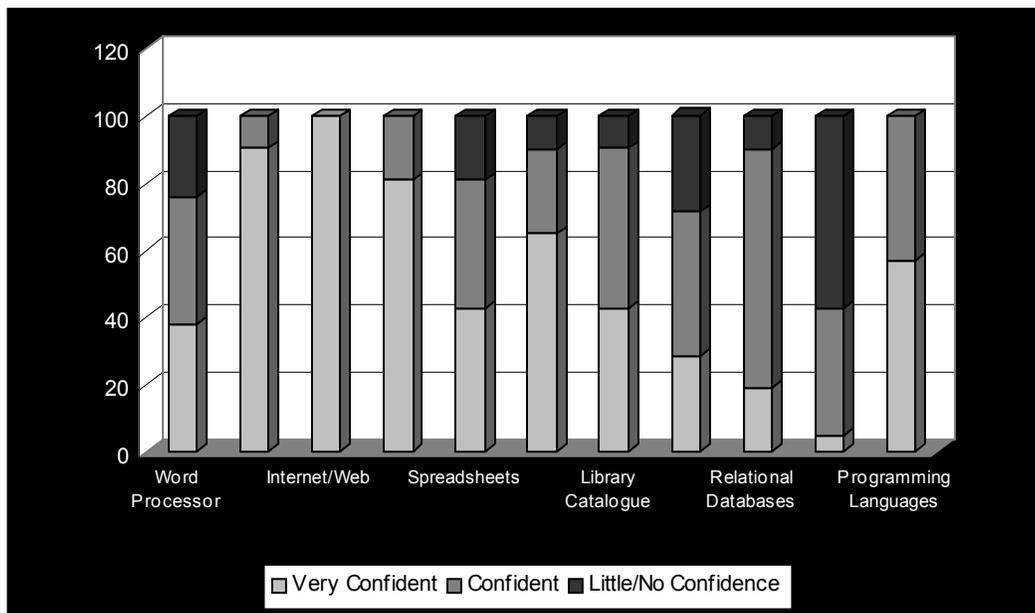
Figure 2a and 2b represent students’ levels of confidence in their ability to use various software applications. The 221 pilot group appear to be most confident in word processing, internet, and e-mail applications while the 327 pilot group appear to be more confident in the graphic,

internet, and relational database applications. The differences in levels of confidence may be attributed to the 327 students maturity level and exposure to more classes with application education.

**Figure 2a: BIS221 Students' Confidence Levels**



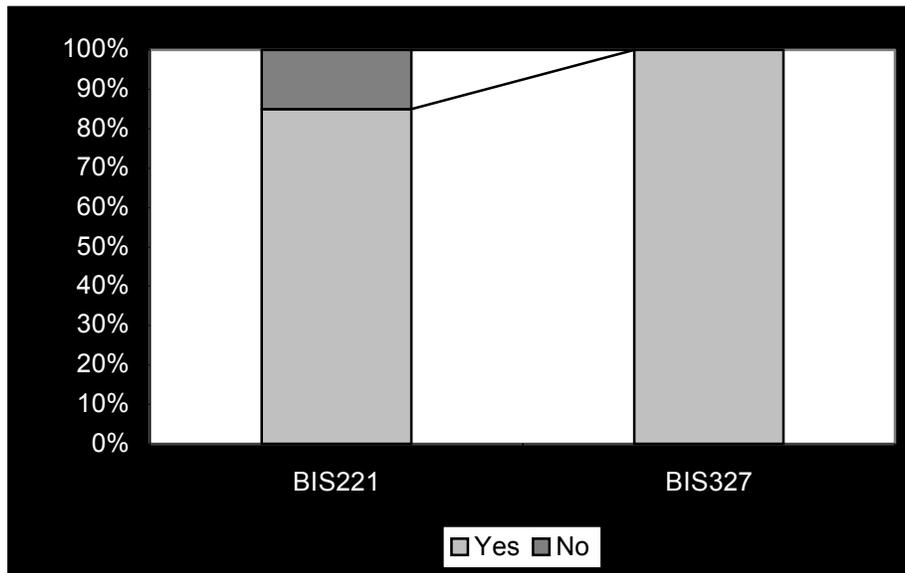
**Figure 2b: BIS327 Students' Confidence Levels**



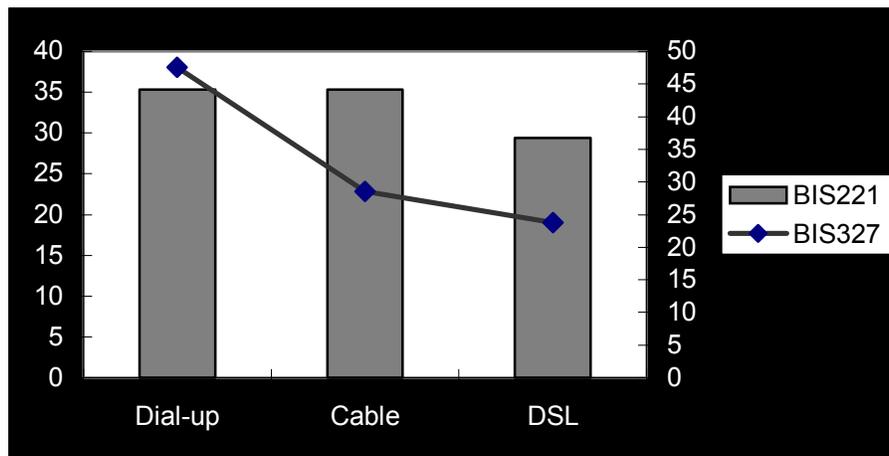
**Internet Accessibility**

A general question regarding Internet accessibility drew very expected responses. Survey results clearly indicate that students enter the BIS221 and BIS327 classes having access to the Internet, 85 percent and 100 percent respectively. When asked as to their choice for Internet access, the two pilot groups appear to be somewhat divided among dial-up, cable, and DSL. Some speculation as to these choices may be in the fact that DSL and cable are not as readily available as dial-up access. Figures 3 and 4 graphically portray these results.

**Figure 3: Access to the Internet**



**Figure 4: Internet Access Method**



## CONCLUSION

Responding to the demand from recruiting businesses and the College of Business Administration's core requirements, the 'Computers in Business I' course is designed to train students to become literate in the area of information systems and technology. This study allowed faculty to assess students' information systems literacy levels in order to ensure the adequate preparation of individuals for those businesses recruiting our students. Plans to continue the study will be implemented starting in the Fall 2003 semester and throughout successive semesters. As students continue to enter into the classroom with increased knowledge of Information Systems and related technology, the classroom must pose new challenges. Some recommended additions to the BIS221 course would be Web Page Development, Small Business Software packages, Enterprise Systems and the possibility of testing out of laboratory course materials. An active mind is a learning mind. It is our desire as faculty to keep our students both interested and challenged.

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