UNIVERSITI TEKNOLOGI MARA

PROSIDING



Seminar INSIGHTS 2002
Universiti Teknologi MARA

BRC (Biro Penyelidikan & Perundingan), Universiti Teknologi MARA, 40450 Shah Alam

Biro Penyelidikan dan Perundingan
Universiti Teknologi MARA
40450 Shah Alam, Selangor
Malaysia

© 2001. Biro Penyelidikan dan Perundingan. Hak cipta Terpelihara.

Sila majukan sebarang pertanyaan kepada:

Penolong Naib Canselor(Penyelidikan)
Biro Penyelidikan dan Perundingan
Universiti Teknologi MARA
40450 Shah Alam
Selangor, Malaysia

Tel : 603 5544 2094 / 2093 / 2092
Fax : 603 5544 2096
e-mel : azniz132@salam.uitm.edu.my



Jawatankuasa Penyunting

Penaung	:	Y. Berbahagia Datuk Prof. Dr. Ibrahim Abu Shah Naib Canselor Universiti Teknologi MARA
Penasihat	:	Yang Berbahagia Dato' Prof. Dr. Abdul Halim Mohd.Nawawi Timbalan Naib Canselor (Pembangunan dan Penyelidikan Universiti Teknologi MARA
Ketua Penyunting	:	Prof. Dr. Azni Zain Ahmed Penolong Naib Canselor(Penyelidikan) Universiti Teknologi MARA
Penyunting	:	Prof. Madya Dr. Zainon Mohd. Noor Koordinator Penyelidikan (Sains dan Teknologi) Prof. Madya Dr. Rosmimah Mohd.Noor Kooordinator Penyelidikan (Sains Kemasyarakatan dan Kemanusiaan)
Lembaga Penyunting:		Prof. Madya Ir. Dr. Hj. Abdul Rahman Omar Dr. Rashidah Abd. Rahman Cik Dapeah Ahmad

THE LEVEL OF COMPUTER LITERACY AMONG BACHELOR OF ACCOUNTANCY GRADUATING STUDENTS IN MALAYSIAN PUBLIC HIGHER INSTITUTIONS

Siti Noor Hayati Mohamed Zawawi[a]
Dr. Rashidah Abdul Rahman
Faculty of Accountancy

ABSTRACT

Information age in the 21st century is witnessing the dramatic increased in computer-related jobs. Since employers are now eyeing candidates who have knowledge and experience in information technology or those who are computer literate, students must master at least some level of computer literacy. Thus, the current study attempts to analyse the level of computer literacy among graduating Bachelor of Accountancy students in Malaysian Public Higher Institutions.

The total number of questionnaire respondents are: 378 from UiTM, 20 from UIA; 22 from UKM; 41 from UM; 30 from UPM; 25 from UTM and 108 from UUM. The result provides evidence that graduating accountancy students in Malaysian Public Higher Institutions are computer literate, namely at the basic, advanced and self-efficacy level.

The result in the current study also shows that the level of basic and advanced computer literacy of male students is significantly higher than female students. Current study also provides evidence that those who owned computers are significantly more computer literate than those who do not owned computers in terms of basic and advanced computer literacy. In addition, previous computer experience is not generally related to computer literacy achievement, except for self-efficacy computer literacy level.

INTRODUCTION

Information technology is rapidly changing at an alarming pace (German, 2000). More and more government bodies and agencies as well as other organisations are using information technology to enhance activities, to provide efficient and better services and for businesses especially, to have a competitive edge. Almost all jobs in the 21st century involve computers in some way (Yildirim, 2000). The remarkable developments in computer technology have influenced expectations from educational institutions (Yildirim, 2000). Fleming and Raptis (2000) also agreed that new technology has significantly changed the world of educational thought and practice.

PROBLEM STATEMENT

As such, members of many professional fields have recognised that persons entering the workplace require additional computer training (Wells and Rogers, 1999). Rani, Vani and Devi (1996) and Klein, Cerullo and Cerullo (1991) stated that accountants who are not knowledgeable of computer applications will find themselves at an ever-increasing disadvantage. It is expected that the educational institutions prepare the next generation of citizens for the technological oriented global world (Yildirim, 2000). Yet many academics are not supportive in their efforts to incorporate these changes in their teaching (Kryder, 1999). Thus, it is important for students to become computer literate, since, almost all workplace require the use of information technology. Furthermore, most jobs requiring the use of computers are held by graduated students (Jones and Berry, 2000).

OBJECTIVES

Since possessing computer literacy seems to be important in today's environment, this study attempts to assess whether graduating accountancy students in Malaysian Public Higher Institutions are computer literate or otherwise. Other objectives include determining whether there is a significant difference in the level of computer literacy between male and female students, between the students who own and those who do not own computers, and between students who have and those who do not have prior computer experience.

SIGNIFICANCE OF THE STUDY

It is hoped that the results of this study will benefit the Malaysian Public Higher Institutions by providing some indication to educators whether their graduating accountancy students are computer literate or otherwise, as well as the extent of their level of computer literacy. This study is necessary in ensuring graduating accountancy students meet the needs of the current market and the increasing demand of becoming a computer literate society.

PREVIOUS EVIDENCE

Researches on computer literacy in Malaysia are still low. Rani, Vani and Dewi (1996) found that all five Institutes of Higher Learning (IHL), namely Universiti Malaya (UM), International Islamic University (IIUM), Universiti Kebangsaan Malaysia (UKM)), Universiti Putra Malaysia (UPM), and Universiti Technologi MARA (UiTM), have already integrated information technology courses into the accounting curriculum. However their exploratory study did not examine the successful implementation of such courses. Majid and Mansor (1996) found that the graduate students and faculty members at the University of Malaya (UM) and the International Islamic University Malaysia (IIUM) felt it is difficult to use CD-ROM at the library for searching and that the CD-ROM are not convenient to use. One of the reasons put forward is due to the low level of computer literacy among the users.

Studies in US by Karsten and Roth (1998) and Kryder (1999) found students exposed to electronic documents, hypertext Web documents, and presentation software can see the advantages and disadvantages in their use as well as develop skills in visual literacy and collaborative writing, and increase their communication skills. Smith and Necessary (1996) found that students with more years of computer experience at a large Midwestern university in US scored significantly higher on the Computer Ability Scale (CAS), developed by Kay (1983), than those students with lesser years of computer experience. Similarly, statistically significant differences were found with students who owned their own computer, students' perceived knowledge of computers, and with students who were more than 23 years of age. In addition, Woodrow (1991) found that prior programming experience and prior computer literacy were correlated with computer literacy achievement. However, her finding shows that the correlations were minimal. She also found that age and prior word-processing experience are generally not related to computer literacy achievement.

In examining the effect of gender on computer performance and skills acquisition, Woodrow (1991) and Qutami and Abu-Jaber (1997) found that gender was not related to computer literacy achievement. On the other hand, Smith and Necessary (1996), Qutami and Abu-Jaber (1997), Harrison et al. (1997) and Mathews (2000) found that males, are more proficient than females in computing activities.

RESEARCH DESIGN

Questionnaires are used in the current study and distributed from August 2001 to September 2001 to all Bachelor of Accountancy students in Malaysian Public Higher Institutions who were graduating that semester. Part one of the questionnaire contains demographic items. Part two employed the computer self-efficacy (CSE) scale, an adaptation to that used by Karsten and Roth (1998), to measure computer literacy. Computer literacy in the current study is defined as possessing basic computer skills (CS), that is, the ability to use a computer and Internet. Even though this measurement of computer literacy is subjective, Karsten and Roth (1998) argued that it is difficult to capture timely the objective measure of computer literacy since information technology is fast changing.

FINDINGS

There are 378 respondents from UiTM, 20 from UIA; 22 from UKM; 41 from UM; 30 from UPM; 25 from UTM and 108 from UUM. However, 19 UiTM respondents did not indicate their gender in their questionnaire. Table 1 shows the percentages by gender, having or not having prior computer experience and own or do not own computers for respective university respondents. Overall the percentages for female respondents are higher than male respondents except for UIA and UTM (where there are more male than female respondents). The percentages of those who have computer experience are higher than those who do not have prior computer

experience. Similarly, the percentages of those who own computers are also higher than those who do not own computers.

Table 1: Percentage of University Respondents by Gender, Having or Not Having Computer Experience and Having or Not Having Own Computer

University	Gender				Computer Experience				Own Computer			
	Male (n)	Female (n)	Male (%)	Female (%)	Yes (n)	No (n)	Yes (%)	No (%)	Yes (n)	No (n)	Yes (%)	No (%)
UiTM	114	245	31.8	68.2	311	67	82.3	17.7	279	98	74.0	26.0
UIA	14	6	70.0	30.0	15	5	75.0	25.0	16	4	80.0	20.0
UKM	10	12	45.5	54.5	18	4	81.8	18.2	14	7	66.7	33.3
UM	17	23	42.5	57.5	37	4	90.2	9.8	32	9	78.0	22.0
UPM	4	25	13.8	86.2	23	7	76.7	23.3	22	8	73.3	26.7
UTM	6	3	66.7	33.3	23	1	95.8	4.2	23	2	92.0	8.0
UUM	15	91	14.2	85.8	82	26	75.9	24.1	80	28	74.1	25.9
TOTAL	180	405			509	114			466	156		

Figure 1 shows that the highest percentages of UiTM, UKM, UPM and UTM's respondents use computers between 1 to 3 hours per week; UM and UUM respondents use between 4 to 6 hours per week; and UIA respondents use between 7-10 hours per week.

Figure 1 : Weekly Use of Computers

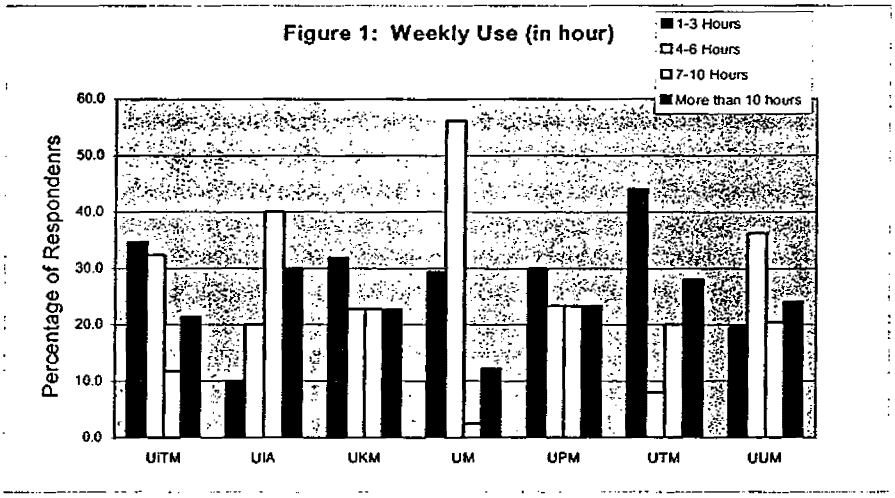
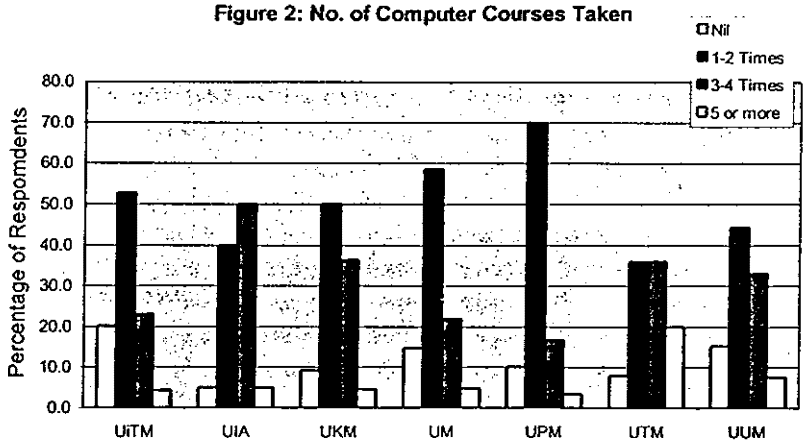


Figure 2: No. of Computer Courses Taken Prior to Joining the Bachelor Program

Figure 2: No. of Computer Courses Taken



Overall result in Figure 2 shows that most universities' respondents (more than 50%) had taken between 1 to 2 times computer courses before joining the Bachelor program at their respective universities, except UIA respondents, where 50% of the respondents took between 3 to 4 computer courses prior to joining the Bachelor program.

Factor analysis used on the computer literacy items in the questionnaire classifies them into 4 groups namely, basic, advance self-efficacy and technical. ANOVA applied on all four-factor scores shows that there are significant differences in the computer literacy level, namely basic, advanced and self-efficacy, but there is no significant difference in the technical aspect of computer literacy among the graduating accountancy students.

Further analysis shows that there are significant differences in the basic and advanced computer literacy between students who own and those who do not own computers but there are no significant differences in terms of self-efficacy and technical aspect computer literacy. In addition, there is significant difference in self-efficacy among students who have prior computer experience, but not significantly different for basic, advance and technical aspect computer literacy.

LSD Post Hoc test and ANOVA descriptive statistics are then used to identify students level of computer literacy among universities. The result in the current study indicates that basic computer literacy among UIA students is higher than students in UUM, UTM, UiTM and UPM students but is not significantly different than those students in UM and UKM. This may suggest that those who spent more than 7 hours per week on computers are likely to be more computer literate in basic knowledge than those who spent less. As shown previously in Figure 1, 40% and 30% of UIA students spent between 7-10 hours and more than 10 hours per week on computer, respectively. Advance computer literacy of UIA students is significantly higher than students in UiTM but is not significantly different than students in other universities. On the other hand, self-efficacy among UIA students is lower than that in UTM.

The basic computer literacy of UTM students is lower than the students in UIA but not significantly different than those students in other universities. As mentioned earlier, students who spent less time on computer are likely to be less computer literate in basic knowledge. Figure 1 shows that majority of the students (44%) in UTM spent between 1-3 hours per week on computer. However, advance computer literacy and self-efficacy among UTM students are significantly higher than their counterparts in other universities. This may be due to the number of computer courses taken by students prior to joining the Bachelor program, their prior computer experience and owning computers. As shown in Figure 2, 20% of UTM students attended 5 or more computer courses before joining their Bachelor degree while the percentages for students in other universities are less than 8%. In addition, 95.8% and 92% of UTM students have prior computer experience and own computer respectively, whereas the percentages for other universities are lower.

As regards to UiTM, the basic computer literacy of the students is significantly lower than students in UIA and UUM, but is not significantly different than those in other universities. The advance computer literacy of students in UiTM is also significantly lower than students in UIA and UTM, but is statistically no different than their counterparts in other universities. The results indicate that the basic and advance computer literacy of students in UiTM is either lower or no difference relative to students in other universities. Again, this may be due to the amount of time the students spent on computers. The results show that only 11.7% and 21.3% of UiTM students spent between 7-10 hours and more than 10 hours weekly on computer, respectively. Similar to students in UTM, UKM and UPM, majority of the UiTM students (34.7%) spent between 1-3 hours per week on computer. In addition, it was shown in the current study that only 4.3% of UiTM students (relative to 20% UTM students) attended 5 or more computer courses before joining their Bachelor degree or while doing the course. Relative to UTM students, only 82.3% (UTM, 95.8%) and 74% (UTM, 92%) of UiTM students have prior computer experience and own computer, respectively. However, self-efficacy of students in UiTM is significantly higher than students in UM, UKM, UUM, significantly lower than students in UTM but no difference with students in UPM, UTM and UIA.

Analsying the results further into gender indicates that the level of basic and advanced computer literacy of male students is higher than that of female students. On the other hand, there are no significant differences between male and female as regards to their self-efficacy and technical aspect computer literacy.

Using two independent samples t-test, the result shows that the basic and advance computer literacy of male students in UiTM are significantly higher than female students, but no significant difference as regards to their self-efficacy and technical computer literacy level. In the case of UM students, the result indicates that technical computer literacy level of the female students is significantly higher than that of the male students, but not significantly different for basic, advanced and self-efficacy. The basic computer literacy of female students in UPM, however, is significantly higher

than that of male students. There are no significant differences between male and female advanced, self-efficacy and technical computer literacy. On the other hand,, there are no significant differences between male and female students for all types of computer literacy in UTM, UIA, UKM and UUM.

CONCLUSION AND FUTURE RESEARCH

The results indicate that the Bachelor of Accountancy graduating students in Malaysian Public Higher Institutions are computer literate. Thus, consideration in the respective universities should be given to assess whether this level is adequate or whether an attempt should be made to strengthen their computer literacy level.

Given that there is a significant difference between male and female students in terms of computer literacy, the implication is that, future planning to integrate computer into accounting curriculum should consider gender differences of the students. Owning computers, having prior computer experience and spending more than 7 hours a week on computers may help students in enhancing their computer literacy level.

Possible area of future research is to examine whether Accounting Information System (AIS) subjects offered by the faculties in the respective institutions help to increase students' level of computer literacy. Another area is to examine whether employers are actually moving towards recruiting new staffs that possess a certain degree of computer literacy.

BIBLIOGRAPHY

Fleming, Thomas and Raptis, Helen, (2000), "A Topographical Analysis of Research, 1990-99", *Teacher Librarian*, Vol. 27, Issue 5, pp9-15.

German, Mark, (2000, November 6), "In Achieving Full Computer Literacy", *New Straits Times- Management Times*, Malaysia.

Harrison, W. Allison and Rainer JR., R. Kelly, et al, (1997), "Gender Differences in Computing Activities", *Journal of Social Behaviour & Personality*, Vol. 12, Issue 4, pp849-868.

Jones, C. Mary and Berry, L. Ronald, (2000), "Knowledge About Information Technology -A Cross -Cultural Comparison", *Journal of Education for Business*, Vol. 75, Issue 3, pp173-177.

Karsten, R. and Roth, M. Roberta, (1998), "The Relationship of Computer Experience and Computer Self-Efficacy to Performance in Introductory Computer Literacy Courses", *Journal of Research on Computing in Education*, Washington, Vol. 31, Issue 1, pp14-24.

Kay, H. Robin, (1993), "A Practical Research Tool for Assessing Ability to Use Computers: The Computer Ability Survey (CAS)", *Journal of Research on Computing in Education*, Vol. 26, Issue 1, pp16-27.

Klein, A. Lawrence, Cerullo, J. Micheal and Cerullo, M. Virginia, (1991), "Comparative Longitudinal Study on Microcomputer Availability and Usage in Accounting Curriculums", *Computers Education*, Vol. 16, No. 3, pp257-265.

Kryder, G. LeeAnne, (1999), "Integrating Computer Literacy: Why and What Can Be Done", *Business Communication Quarterly*, Vol. 62, Issue 2, pp81-86.

Majid, Shaheen and Mansor, Yushiana, (1996), "Usage and Promotion of CD-ROM services in Malaysian Academic Libraries", *Computers in Libraries*, Vol. 16, Issue 9, pg51-54.

Mathews, G. Jerry, (2000), "Predicting Teacher Computer Use: A Path Analysis", *International Journal of Instructional Media*, Vol. 27, Issue 4, pp385-392.

Qutami, Yusuf and Abu-Jaber, Majed, (1997), "Students self-Efficacy in Computer Skills as a Function of Gender and Cognitive Learning Style at Sultan Qaboos University", *International Journal of Instructional Media*, Vol. 24, Issue 1, pp63-74.

Rani, Usha, Vani G.M., and Devi, Indra (1996, August 21), "Reengineering Accounting Education Towards "IT" Intelligence", Paper presented at National Accounting Seminar on Accounting Education in Malaysia at the Crossroads, Shah Alam, Selangor.

Smith, N. Brien and Necessary, R. James, (1996), "Assessing the Computer Literacy of Undergraduate College Students", *Education*, Vol. 117, Issue 2, pp188-193.

Wells, B. James and Rogers A. Lee, (1999), "Curriculum Development for a University- Level Computer Applications Course in Corrections", *Journal of Criminal Justice Education: Jcje*, Vol. 10, Issue 2, pp265-276.

Woodrow, E.J. Janice, (1991), "Determinants of Students Teacher Computer Literacy Achievement", *Computers Education*, Vol. 16, Issue 3, pp247-256.

Yildirim, Soner, (2000), "Effects of an Educational Computing Course on Preservice and Inservice Teachers: A Discussion and Analysis of Attitudes and Use", *Journal of Research on Computing in Education*, Vol.32, Issue 4, pp479-496.