

# READINESS AND ATTITUDE TOWARDS ONLINE LEARNING AMONG VIRTUAL STUDENTS\*

BY

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## **Abstract**

This is a survey of 139 virtual students enrolled in undergraduate programs from the faculties of Business Administration, Information Technology and Social Science and Humanities in Universiti Tun Abdul Razak (UNITAR). The main objective of the study is to determine the students' readiness and attitudes towards online learning. Online learning is a new phenomenon in many institutions of higher learning in Malaysia. However many universities in the world have capitalized on the tremendous advancement in ICT to enhance their students learning. With this new technology, UNITAR is able to establish itself as the first virtual university in the region. It promotes itself with a new learning environment driven by the latest technology and proposes a more flexible learning, that is, learn from anywhere, anyplace and at your own pace. The questions asked in the research are: (1) Are the students ready for online learning? (2) What is their attitude towards online learning? (3) What is their level of computer knowledge on selected computer applications and its relationship to readiness and attitude towards online learning? (4) What are the relationships between some selected personal characteristics and readiness and attitude? This research attempts to answer these questions and forward some recommendations on improving online learning.

## **Introduction**

Online learning is a recent phenomenon. It is a learning that requires the use of the network environment. In this kind of environment students are not learning in a place, as we usually understand in the ordinary sense but in a shared "space" usually called the "cyberspace". "Your learning network 'classroom' is anywhere that you have a personal computer, a modem, and a telephone line, satellite dish, or radio link. Dialing into the network turns your computer screen into a window on the world of learning" (Harasim, et. al., 1997, p.3). Harasim et. al (1997) concluded that learning networks are groups of people who come to learn together, at the time, place and pace that suits them.

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Online learning had been introduced into the university system. It comes in three forms, that is, the adjunct mode, the mixed mode and the totally online mode .

(Harasim, 1997). Most universities in Malaysia use online learning in the adjunct mode, where the network learning is used to supplement the regular campus instruction.

Universiti Tun Abdul Razak or in short UNITAR is established as the first virtual university in Malaysia. The Minister of Education in 1998 officially launched the university. As a virtual university it conducts online learning in the mixed mode. In a mixed mode online delivery, networking is fully integrated into the curriculum. The networking activities constitute a regular part of the curriculum and part of the course requirements. Mixed mode online delivery has many variations. In UNITAR the learning model basically consists of three main elements:

- (1) UNITARNET and VOISS (The Virtual Online Instructional Support System)
- (2) The learning materials that has been packaged for students in the form of web-based courses
- (3) The support to online learning such as the virtual library, learning centers, call center and administrative services.

Online learning provides the main form of interactions through email, computer conferencing, online tutorials and forums. Interactions are done both asynchronously and synchronously. Course materials are also provided online. Information, announcement and course registrations are provided online. However face-to-face meetings are also conducted to support online teaching.

The online teaching-learning experience is new to students enrolled in the university. One of the key success to learning online is a positive attitude (Harasim et. al, 1997). Daing Zaidah Ibrahim in her ongoing research on self-directed learning among working adult students participating in distance education in Malaysia found that students' positive attitude is very important for the completion of their studies.

Boone (1990) characterized the successful self-directed learner as having positive feeling about one's ability to learn any intellectual task regardless of its difficulty. It is a very important feeling when undergoing a program, where one is not familiar with, such as online learning. They are not familiar with the new environment, the technology, the styles of learning that is student-centered and many other aspects of online learning that are different from face-to-face campus-based learning.

In many ways, online learning require students to be more self-directed than the conventional learning. In being self-directed a student requires certain amount of independence and maturity. They must assume certain characteristics most related to adults.

Another important factor that influence students' success in online learning is their readiness to learn in the network environment. Moss (1987) suggested that one of the eight principles of learning is readiness. Many adult learning principles pointed to the fact that students will learn better if they are ready to learn. Daing Zaidah Ibrahim in her ongoing research found that readiness is one of the themes that emerged among the principles of adult learning being used by distance learners. It concurs with her analysis of adult learning theories and principles written in the literature. Guglielmino (1977) developed the Self-directed Learning Readiness Scale (SDLRS) as a measure for those participating in self-directed learning. Students' readiness can be a major factor for participation in learning.

### **Objectives of the Study**

The main objective of the study is to determine students' readiness and attitudes towards online learning provided by UNITAR. The specific objectives of the study are:

1. To determine the personal characteristics of the students related such as age, gender, academic achievement (CGPA), permanent residence, employment status, income, working experience, computer ownership, access to Internet and number of hours using computers per week.
2. To determine the level of computer knowledge and skills on selected computer applications. Computer knowledge and skills were measured based on the level of familiarity, level of competency and frequency of usage of selected computer applications.
3. To determine the levels of readiness and attitude towards online learning.
4. To determine the differences of selected groups such as gender, residency, employment status and computer ownership in relation to levels of readiness and attitude.
5. To determine the relationship of selected variables such as age, income, working experience and computer knowledge and skills to levels of readiness and attitude.

### **Methodology**

The research employs the survey method for data collection. Questionnaire schedules were distributed to students who attended a Business Communication course. They were from four different classes and each class was made up of students from different programs, namely from the faculties of Information Technology, Business Administration and Social Science and the Humanities. The questionnaire consists of three major sections:

- (1) Items related to personal characteristics such as field of study, gender, permanent residence (rural or urban), employment status (working or not working), academic performance (CGPA), age, salaries and working experience, computer ownership, access to Internet and number of hours using computers per week.
- (2) Characteristics related to computer knowledge and skills on selected computer applications such as the level of familiarity, level of competency and frequency of usage of those applications. Those applications include word processing, spreadsheet, CD-ROMS, email, Internet search, developing a homepage, presentation tools and developing multimedia materials.
- (3) Items related to attitudes - 25 items are presented for measuring attitudes
- (4) Items related readiness- 34 items are included for measuring readiness.

The items for both measures show high reliability with quotients of 0.86 for measure of attitudes and 0.92 for measure of readiness.

The research questions asked in this study are:

1. Is there any relationship between selected personal characteristics and students' level of readiness and level of attitude toward online learning? The personal characteristics selected are age, income, working experience
2. Is there any relationship between computer knowledge and skills such as levels of familiarity, level of competency and frequency of usage to readiness and attitude?
3. Is there any difference between selected groups and their level of readiness towards online learning? The groups selected are gender (male and female), employment status (working and non-working), permanent residence (urban and rural), computer ownership (students with computers and students without computers) and Internet access (students with Internet access and students without Internet access).

## **Findings**

This section of the paper discusses the findings of the study. It includes the personal characteristics of the respondents and the levels of respondents' readiness and attitude towards online learning.

### **Personal Characteristics**

From the study it can be concluded that most of the respondents are relatively young with an average age of 21.5 years, enrolled in the BIT (61.1%) and BBA

(22.3%) programs, slightly with more males (52.5%) than females (47.5%) and a high proportion of them (80.6%) came from the urban areas. A majority (76.5%) of them performs moderately with CGPA of 2.00-3.00 points. Only a handful (3.9%) of them perform badly in their studies with a CGPA of less than 2.0 and also a small proportion (4.9%) is included in the Dean's list. About 14.7% perform reasonably well in their studies with a CGPA of 3.00-3.49 points (Table 1).

The findings also indicated that about one-fifth (21.7%) of the respondents are working. Those working are comparatively older with an average age of about 24.4 years as compared to those who are not working with an average age of 20.7 years. The means of their ages were found to be significantly different when the t-test was conducted. A majority of the working adults are new in their jobs and work less than four years with an average income of RM1501.00 per month (Table 1).

A majority of them (79.1%) owned computers with the Internet connection (81.3%). The respondents used the computers for about three hours per day. Their computer usage is an average of 22.5 hours per week. The working respondents have a slightly higher average of 23.2 hours per week in using the computers as compared to the average usage of non-working people of 22.3 hours per week.

### **Level of Computer Knowledge and Skills**

A high proportion of the respondents indicated they are familiar with computer applications such as email (92.7%), Internet search (90.4%), word processing (80.3%) and CD-ROMS (71.5%). A smaller proportion of them are familiar with other applications such as the spreadsheet (48.2%), developing a home page (46.0%), presentation tools (57.7%) and developing multimedia materials (24.4%). Refer to Table 2 for illustrations.

Similarly a high proportion of respondents felt that they are competent in those applications such as word processing (65.4%), CD-ROMS (62.5%), Internet search (68.4%) and email (75.7%) (Table 3). They also use those applications often (Table 4). They said that they are less competent in those applications that they are not familiar with and use them less often.

### **Respondents' Level of Readiness towards Online Learning**

Based on the findings, it can be concluded that about three-quarters of the respondents (74.8%) are only moderately ready for online learning. Only a very small proportion (2.2%) showed low level of readiness and about one-quarter (23.0%) showed high level of readiness towards online learning (Table 5).

**Relationship of Selected Variables to Level of Readiness:** Based on the Pearson Correlation analysis it can be said that age and frequency of utilization of selected computer applications have positive and low but significant

relationship with level of readiness at the 0.05 confidence level. Working experience and CGPA have weak and non-significant relationship with level of readiness (Table 6).

**Selected Groups Differences Related to Level of Readiness:** The results of the study indicated that working students tend to have higher level of readiness toward online learning. This was based on the t-test to see significant differences between means of the selected group. The results showed that only the group of working students and non-working students showed a significant difference. Groups related to gender, field of study, residence, computer ownership and Internet connection showed only slight differences but not significant (Table 7).

### **Respondents' Level of Attitude towards Online Learning**

Based on the study, it can be concluded that the respondents have only a moderately positive attitude towards online learning. A very high proportion (86.3%) of the respondents showed only a moderate level of positive attitude towards online learning. A small proportion (2.2%) showed a low level of attitude and slightly more (11.5%) of the respondents showed a high level of positive attitude towards online learning (Table 8).

**Relationship of Selected Variables to Level of Attitude towards Online Learning:** Based on the Pearson correlation analysis conducted, the level of familiarity, the level of competence and frequency of usage of selected computer applications showed significant relationship with level of attitude at the 0.05 confidence level. On the other hand, other variables such as working experience and CGPA indicated weak and non-significant correlation with level of attitude (Table 9).

**Selected Groups Differences Related to Attitude towards Online Learning:** The results of the study showed that respondents with computers and male students tend to have more positive attitude towards online learning. Comparison of selected groups differences in the level of attitude towards online learning were conducted using the t-test. Groups related to field of study, employment, residence, computer ownership and Internet connection showed only slight differences but not significant (Table 10).

## **Discussion and Conclusion**

Are UNITAR virtual students ready for online learning? Do they have positive attitudes towards online learning? Are there relationship between respondents' demographic characteristics with levels of readiness and attitude towards online learning? Are there relationship between respondents' level of computer knowledge and skills with levels of readiness and attitude?

These are the major questions asked in the research. From the study it can be concluded that the respondents had only a moderate level of readiness and also a moderate level of attitude towards online learning. Several statistical analyses were conducted to determine the general descriptions of the respondents' characteristics and also to establish relationship between those characteristics and the level of readiness as well as the level of attitude.

The study concluded that working respondents tend to have higher level of readiness. Age and frequency of usage of selected computer applications also showed significant relationship with level of readiness. Working respondents are significantly older than the fresh-school leavers. Reviews of past research and literature showed that maturity is important in self-directed learning. Online learning is more self-directed than face-to-face learning. This research indicated that maturity is the key to readiness in online learning. This is reflected through the identification of age and working as the major factors that influence the level of readiness towards online learning.

Computer skills also indicated a significant relationship with level of readiness. In this case, frequency of computer utilization showed significant relationship with level of readiness while level of familiarity and level of competency related to computer applications showed weak relationship and not significant. From the study, those who use computers more often tend to have higher level of readiness. The respondents did use the computer quite often with an average of 22.5 hours per week or slightly more than three hours per day. A majority of them indicated that they use the word processing, the email, the CD-ROMS and the Internet search most often.

Other factors such as field of study, gender, permanent residence, computer ownership, access to Internet and working experience did not have significant differences or relationship to level of readiness.

From the study it can also be concluded that the level of attitude among the respondents was only moderate. That is to say that a majority of them had moderate positive value towards online learning.

Bivariate analyses were conducted, using t-test to determine group differences and Pearson Correlation to determine relationship between level of attitude with selected personal characteristics. The study found out that male respondents had significantly more positive attitude than female respondents and those with computers had significantly more positive attitude than those without computers.

Knowledge and skills on selected computer functions were also tested for relationship with level of attitude using the Pearson Correlation. The study found

out that those with higher level of familiarity, level of competency and frequency of usage were more positive towards online learning.

It is interesting to note that among the respondents, the usage of certain computer applications such as email, Internet search and word processing is almost universal. Their knowledge and skills that relate to these computer applications were found to be high. Thus online learning to some extent had prepared those students with computer skills and knowledge that are vital for them to function as virtual students.

Are the respondents ready for online learning? Yes, they are moderately ready. This readiness is higher among working students than non-working students, older students and those using selected computer applications more often.

Do the respondents have positive attitude towards online learning? Yes, their attitudes are moderately positive. Respondents with computers have more positive attitudes than those without computers. More positive attitudes are also observed among male respondents and those with higher income.

In conclusion maturity is a critical factor in being more ready for online learning in UNITAR. The results showed that working students are more ready than non-working students and older students are more ready than younger students towards online learning. These findings concur with past research that flexible learning offered through distance education favors the working adult. The online learning provided by UNITAR provides some flexibility that allows them to follow the programs without taking leave from their jobs.

On the other hand, owning computers is important for UNITAR students to have more favorable attitude towards online learning. Being in a virtual university, owning computers is a must for them to function effectively as students. This explains the fact that a majority of the students own PCs with Internet access. It is to ensure them that they can follow their studies without “handicap”. Male students also tend to have higher level of attitude than female students towards online learning.

The knowledge and skills on selected computer applications are significantly related to level of readiness and level of attitude towards online learning. Those students who use the selected computer applications more often are more ready to learn on line. On the other hand, students with higher level of computer knowledge and skills show more positive attitude towards online learning.



## Recommendations

Based on the study various recommendations can be put forward for further research:

1. Research can be conducted to compare online learning among universities in Malaysia.
2. Research can be conducted related to performance in online learning.
3. Research can be conducted related to learning motivations and styles among virtual students.
4. Research can be conducted to focus on self-directed online learning.
5. Research can be done on learning among working adults – their participation, motivations, needs and learning styles.

Based on the study several recommendations can be made to improve online learning in UNITAR:

1. To ensure that virtual students in UNITAR can own PCs. Data indicated about 20.0 percent of the respondents do not own computers. This is a significant proportion.
2. To ensure those students are given adequate knowledge and skills related to computer applications, especially the most frequently used applications.
3. To focus on attracting more working adults to enroll in UNITAR programs.
4. To increase the intake from rural areas so that the virtual education in UNITAR can help to transcend the digital divide in the country. Presently the number of rural students is only about 20 percent.
5. To provide training in more sophisticated computer applications such as spreadsheet, development of homepage, presentation tools and developing multimedia materials. These applications may also help the students in their studies.

**TABLE 1: DISTRIBUTION OF RESPONDENTS ACCORDING TO SELECTED PERSONAL CHARACTERISTICS, 2000.**

<b>Characteristics</b>	<b>n</b>	<b>Percent</b>
<b>Field of Study (n=139)</b>		
Information Technology	85	61.1
Business Administration	31	22.3
Social Science & Humanities	26	16.6
<b>Gender (n=139)</b>		
Male	73	52.5
Female	66	47.5
<b>Permanent Residence (n=139)</b>		
Rural	27	19.6
Urban	112	47.5
<b>Employment Status (n=138)</b>		
Working	30	21.7
Not working	108	78.3
<b>Academic performance (n=102)</b>		
Weak (CGPA <2.00)	4	3.9
Moderate (CGPA 2.00-2.99)	78	76.5
Good (CGPA 3.00-3.49)	15	14.7
Excellent (CGPA >=3.50)	5	4.9
Mean 2.62 SD 0.45		
Min 1.69 Max. 3.82		
<b>Age (years) (n=136)</b>		
<20	31	22.8
20-24	88	64.7
25-29	13	9.6
>=30	4	2.9
Mean 21.46 SD 2.97		
Min. 18 Max 35		
<b>Salaries (RM) (n=29)</b>		
Low (<1000.00)	8	27.6
Moderate (1000.00-19999.00)	14	48.3
High (>=2000.00)	7	24.1
Mean 1501.45 SD 660.63		
Min. 500.00 Max. 3000.00		
<b>Working experience (years) (n=27)</b>		
1-3	16	59.3
4-6	7	25.9
>6	4	14.8
Mean 3.57 SD 2.96		

Min. 1 Max. 11

**TABLE 2: PERCENTAGE DISTRIBUTION OF RESPONDENTS' FAMILIARITY WITH COMPUTER APPLICATIONS, 2001**

<b>Computer Applications</b>	<b>Not Familiar</b>	<b>Slight-Average</b>	<b>Familiar</b>
Word Processing (n=137)	2.9	16.8	80.3
Spreadsheet (n=137)	2.9	48.9	48.2
CD-ROMS (n=137)	2.2	26.3	71.5
Email (n=137)	0.7	6.6	92.7
Internet Search (n=136)	0.7	8.8	90.4
Developing a homepage (n=137)	8.0	46.0	46.0
Presentation tools (n=137)	4.4	38.0	57.7
Developing multimedia materials (n=137)	13.9	57.7	24.4

**TABLE 3: PERCENTAGE DISTRIBUTION OF RESPONDENTS' COMPETENCY LEVEL OF COMPUTER APPLICATIONS, 2001**

<b>Computer Applications</b>	<b>Percent (n)</b>		
	<b>Not Competent</b>	<b>Slight-Average</b>	<b>Competent</b>
Word Processing (n=136)	3.7	30.9	65.4
Spreadsheet (n=136)	5.9	59.6	34.6
CD-ROMS (n=136)	4.4	33.1	62.5
Email (n=136)	0.7	23.5	75.7
Internet Search (n=136)	1.5	30.1	68.4
Developing a homepage (n=136)	8.9	59.3	31.9
Presentation tools (n=136)	4.4	50.0	45.6
Developing multimedia materials (n=136)	12.5	63.2	24.3

**TABLE 4: PERCENTAGE DISTRIBUTION OF RESPONDENTS' FREQUENCY OF USAGE OF COMPUTER APPLICATIONS ACCORDING, 2001**

<b>Computer Applications</b>	<b>Percent (n)</b>		
	<b>Not at all</b>	<b>A little-sometimes</b>	<b>Often</b>
Word Processing (n=138)	3.6	18.1	78.3
Spreadsheet (n=138)	9.4	65.9	24.6
CD-ROMS (n=138)	3.6	31.2	65.2
Email (n=138)	0	5.1	94.9
Internet Search (n=138)	0	11.6	88.4
Developing a homepage (n=138)	12.3	66.7	21.0
Presentation tools (=138)	6.5	60.1	33.3
Developing multimedia materials (n=138)	18.4	66.2	15.4

**TABLE 5: CATEGORIES OF RESPONDENTS ACCORDING TO LEVEL OF READINESS TOWARDS ONLINE LEARNING**

Level	Frequency	Percent
Low (34-79)	3	2.2
Moderate (80-124)	104	74.8
High (125-170)	32	23.0
Total	139	100.0
<b>Mean</b>	113.3	<b>Minimum</b> 68
<b>SD</b>	15.7	<b>Maximum</b> 164

**TABLE 6: RELATIONSHIP BETWEEN SELECTED RESPONDENTS' PERSONAL CHARACTERISTICS, COMPUTER KNOWLEDGE AND SKILLS LEVEL OF READINESS TOWARDS ONLINE LEARNING, 2001**

Variables	n	r	p
<u>Personal Characteristics</u>			
Age	136	.351	.000
Income	29	.356	.058
Working Experience	27	.125	.535
CGPA	102	-.091	.362
<u>Computer Knowledge and Skills</u>			
Level of familiarity	139	.122	.151
Level of competency	139	.155	.069
Frequency of utilization	130	.312	.000

**TABLE 7: COMPARISON OF RESPONDENTS ACCORDING TO SELECTED GROUPS AND THEIR LEVEL OF READINESS TOWARDS ONLINE LEARNING, 2001**

<b>Variable</b>	<b>n</b>	<b>Mean</b>	<b>t</b>	<b>p</b>
<b>Gender</b>				
Female	66	110.92	-1.705	.091
Male	73	115.45		
<b>Field if study</b>				
IT/Computer	85	111.82	-1.394	.166
Others	54	115.63		
<b>Residence</b>				
Rural	27	112.26	-1.382	.703
Urban	112	113.15		
<b>Working</b>				
Yes	30	120.73	3.018	.003
No	108	111.18		
<b>Computer ownership</b>				
Yes	110	113.95	.951	.343
No	29	110.83		
<b>Internet connection</b>				
Yes	87	113.92	-.172	.864
No	20	114.65		

**TABLE 8: CATEGORIES OF RESPONDENTS ACCORDING TO LEVEL OF ATTITUDE TOWARDS ONLINE LEARNING, 2001**

Level	Frequency	Percent
Low (25-58)	3	2.2
Moderate (59-91)	120	86.3
High (92-125)	16	11.5
Total	139	100.0
<b>Mean</b>	80.89	<b>Minimum</b> 25
<b>SD</b>	11.70	<b>Maximum</b> 125

**TABLE 9: RELATIONSHIP BETWEEN RESPONDENTS' SELECTED PERSONAL CHARACTERISTICS, COMPUTER KNOWLEDGE AND SKILLS AND LEVEL OF ATTITUDE TOWARDS ONLINE LARNING, 2001**

Variables	n	r	p
<u>Personal Characteristics</u>			
Age	136	.165	.055
Income	29	.327	.084
Working Experience	27	.177	.377
CGPA	102	-.047	.642
<u>Computer knowledge and skills</u>			
Level of Familiarity	139	.335	.000
Level of competency	139	.190	.025
Frequency of utilization	130	.342	.000



**TABLE 10: COMPARISON OF RESPONDENTS ACCORDING TO SELECTED GROUPS AND THEIR LEVEL OF ATTITUDE TOWARDS ONLINE LEARNING, 2001**

<b>Variables</b>	<b>n</b>	<b>Mean</b>	<b>t</b>	<b>P</b>
<b>Gender</b>				
Female	66	78.44	-2.390	.018
Male	73	83.11		
<b>Field of study</b>				
IT/Computer	85	80.99	.121	.904
Others	54	80.74		
<b>Residence</b>				
Rural	27	78.33	-1.269	.207
Urban	112	81.57		
<b>Working</b>				
Yes	30	84.23	1.776	.078
No	108	79.96		
<b>Computer ownership</b>				
Yes	110	82.34	2.910	.004
No	29	75.41		
<b>Internet connection</b>				
Yes	87	82.54	.837	.404
No	20	80.50		

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