



Information Retrieval, Self-Directed Learning and Academic Performance among Facebook Users

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Abstract

Online social networking refers to social network sites such as Facebook, Twitter, LinkedIn, Meetup, Tribe and MySpace. Since the inception, the number of online social networking is being created rapidly with many sophisticated features being developed ever since. The Facebook has gained much popularity among the public mainly for interactions as well as for exchanging information. This study intends to investigate the information retrieval that occurs in the Facebook platform and if the process of retrieving information on the Facebook support academic performance. Fifty-nine self-directed adult learners participated in this research.

Keywords: Information retrieval; academic performance; self-directed learning; Facebook

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1.0 Introduction

The rapid development of computer technology particularly the internet has brought many changes to the Malaysian education system as to meet the current demands and challenges of globalization. The technological changes make teaching and learning become more liberalized. Previously, the teacher and student relationship occur through the face to face meetings but when computer technology was integrated in the education system the teaching and learning is done in a virtual environment. The creation of various technologies gave the educators more choices as what computer technology to be used in their teaching. In relation to that, internet usage has made the teaching and learning process to be more effective and efficient.

Facebook is one of the online social networking technologies crazed among the people around the world. It is used in the workplace, home, schools, universities, colleges and just about anywhere with the internet accessibility. Mahajan (2009) refers online social networking to the information of a community on the internet which facilitates the users to interact or share views for a common purpose. The definition by Mahajan (2009) fits the study conducted by Din and Haron (2012) regarding the sharing of knowledge over Facebook for common purpose. Their findings showed that the Facebook users were more willing to share on the common objectives but are reluctant to share information or knowledge that are classified as private or personal.

It is a powerful online tool if used correctly with the intended used. Therefore this study will explore three main variables, which are academic performance, information retrieval and self-directed learning readiness.

Objective of the research

Below is the main research question for this study that states:

Is there a relationship between information retrieval and academic performance among users of the online social networking mainly the Facebook users?

In addition, there are other specific questions for this study namely:

Is there a relationship between information retrieval and the level of self-directed learning?

Is the online social networking platform such as the Facebook can be a useful mechanism for information retrieval?

What is the level of self-directed learning among the adult learners?

What is the effect of the level of self-directed learning towards information retrieval and academic performance?

2.0 Literature Review

This section will describe the key elements related to the study. Information retrieval is generally an activity of information searching to meet the demands of an individual. This is a generic definition. The term information retrieval as a wide, often loosely-defined term and presented in a particular manner (Lin, 2006). Kobayashi and Takeda (2001) stated that the growth of the internet and technologies are useful for information search and retrieval on the Web and it is more than just a means of seeking information as claimed by Adam and Nor

Zairah (2011). Accordingly, Facebook is an online social networking tool that can be used for the said purpose. The current scenario in the virtual world, people meet people through the internet such as the Facebook services. In fact, it is one of the most popular online social networking in the world. Facebook is a modern approach of information retrieval where the system acts like a database, or the digital library mostly due to its features. On that note, Facebook is able to provide useful information retrieval application of representing, storing as well as organizing information for later accessed.

Student's academic performance has become a primary focus of today's education environments and it is an area of national concern. Kirschner and Karpinski (2010) in their findings posed that the Facebook services users tend to having lower GPAs and they spend fewer hours per week studying than non-users. It is good to note that the study was conducted on the young adult of the new generation learners that make use the myriads of electronic devices at their disadvantage. They are capable of using the computer technology but not really using it efficiently (Bullen et. al., 2008).

The second variable that is being studied here is self-directed learning. Knowles (1975) defined self-directed learning as a process in which learners take the initiative for analysis and diagnosis of their learning needs, formulation of relevant personal learning goals, identification of how to achieve them, and reflection of their achievement. He further added that an adult learner is an individual, who performs roles associated by our culture with adults such as spouse, parent, worker and responsible citizen. They were also individuals who perceived themselves as to be responsible for their own life.

In general self-directed learners are learners who are in charge of their own learning. They are in control of their learning, they are self motivated as well as they are responsible towards their learning processes. In the year 2000, Haggerty studied self-directed learning among his biology students. He also found that self-directed learning and academic achievement is related. Hiemstra (2008) says that much research on self-directed learning among learners are concentrated on the impact of the technology such as web based learning and online learning has on teaching and learning.

Haron (2009) studied the adult learners who use the web for learning. Haron's research focused on the learners in Malaysia and found out that self-directed learning and academic achievement is positively related. Her study was on the impact of internet learning and how technology can facilitate learning.

3.0 Research Methodology

This study adopted a descriptive quantitative methodology. It was conducted between the months of May to August 2012. A 32 item questionnaire was designed to answer the research questions. There were three main variables namely: information retrieval (IV), self-directed learning readiness (MV) and academic performance (DV). Fig. 1 below describes the research framework.

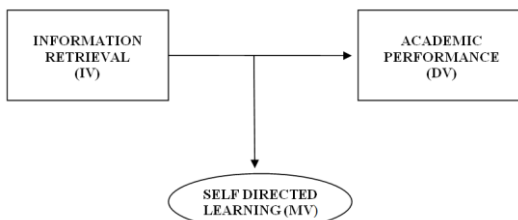


Fig.1. Research framework

The respondents of this study are 59 Facebook users. They are adult learners attending the online distance learning in the university. The sampling method was based on the simple random sampling. This sampling method was exercise by these protocols.

Identifying the final students of the distance learning diploma course in public administration in University Technology MARA, Malaysia.

To obtain respondent’s name list and identify those with the Facebook account. Only those with the Facebook account are qualified to become respondents of this study. From the list, the researcher only choose those with the student number that ends with number “5” to become the unit of analysis.

A reliability analysis was conducted on the instrument. The instrument was piloted to thirty students in late July 2012. The instrument has thirty two items, designed to generate data according to the research questions. The Cronbach’s alpha coefficient was computed to test the reliability of the questionnaire. The alpha value of the three construct is high which means that the instrument is reliable and valid. Table 1 shows the reliability of the construct variables used in this study.

Table 1 : Reliability Analysis

Construct	No of Items	Alpha Value (a)
Independent variable - Information Retrieval	27	0.95
Dependent Variable - Academic Performance	1	1.0
Mediating Variable - Self Directed Learning	5	0.83

4.0 Findings

The findings are reported in four sub-sections which are:

The profile of the respondents

The correlation between information retrieval and academic performance

Ability of the Facebook to support information retrieval
 The level of self-directed learning readiness
 The effect of the mediating variable (self-directed learning).

The five sections are explained as the following:

The profile of the respondents

Student’s profile helps identify the students’ background, their working experience and their learning outcomes. In this study the profiles of the respondents are as illustrated in Table 2. All the respondents are working adults, with the mean of age as twenty nine years old. The mean for working experience is seven years, and the average academic performance is 2.8 point, as measured through their CGPA (Cumulative Grade Point Average).

Table 2: Respondents profile.

Variables	N	Std deviation	Mean
Age	59	3.88	29
Working Experience	59	.472	7
Cumulative Grade Point average(CGPA)	59	4.08	2.8

The correlation between information retrieval and academic performance

There is a significant correlation between information retrieval and academic performance as shown in Table 3. The analysis shows that there is a significant relationship between information retrieval and academic performance at the .002 value. This is an important finding in this study.

Table 3 : The correlation between Information retrieval and academic achievement

Correlations

		INFvariable	Cumulative Grade Point Average
INFvariable	Pearson Correlation	1	.390**
	Sig. (2-tailed)		.002
	N	59	59
Cumulative Grade Point Average	Pearson Correlation	.390**	1
	Sig. (2-tailed)	.002	
	N	59	59

** . Correlation is significant at the 0.01 level (2-tailed).

Ability of the Facebook as a mechanism to support information retrieval.

In this category there are twenty seven items designed for the above research objectives. These items measured the perceptions and experiences of the users on Facebook as a mechanism to support information retrieval. The mean for information retrieval variable

category is 96.2. It shows that the information retrieval variable is very useful for Facebook users.

Meanwhile the mean for information retrieval variable is shown in Table 4 and the scale of calculation is in Table 5.

Table 4 : The mean score for information retrieval variable.

Variable	N	Mean	Std Deviation
Information retrieval	59	96.2	14.02

Table 5 : The scale to measure the ability of the fb to support information retrieval.

VARIABLE	Score	Scale
Information Retrieval	135 – 90	Very Useful
	89 – 44	Average
	Below 43	Poor

The level of self-directed learning readiness

The level of self directed learning readiness among the adult learners generated a mean score of 18. It indicates that the respondents have a high level of self-directed learning.

Table 6. The level of self-directed learning

Variable	N	Mean	Std Deviation
Information retrieval	59	96.2	14.02

Table 7. The level of self-directed learning readiness among the adult learners.

VARIABLE	Score	Scale
Self Directed Learning	25-16	High level of SDL
	15-8	Average
	Below 8	Poor/weak

The effect of the level of self-directed learning readiness

The objective of this question here is to measure the effect of self-directed learning readiness on the relationship between information retrieval and academic performance.

The step to analyze the mediating variable is by using the regression analysis. The protocols of the analysis is by measuring the relationship between the independent variable

(IV) and the dependent variable (DV), next is the relationship between the IV and the mediating variable (MV), the relationship between mediating variable (MV) and dependent variable (DV).

The values of the R square for model A B and C are .152, .620 and .091. Model B which is the measurement between the IV and the MV is a better model than model A and model C as the value is above 0.6.

However, the three models are significant with the $p < 0.001$.

The Beta (B) values for the three models are .390 for model A, .787 for Model B and .301 for model C. The score for model B is high, therefore it indicates that self directed learning (MV) has high effect of information retrieval (IV). Model A and model C shows a moderate score. Model A with the score of .390 between the IV and DV shows that there is a moderate effect between the two variables. Model C with the score of .301 also indicates a moderate effect of the MV which is self-directed learning towards the DV which is academic performance. Table 8 illustrates the findings.

Table 8 : Regression Analysis for Mediating Variables.

	Model A	Model B	Model C
Variables	IV + DV	IV + MV	MV + DV
	Beta (B) Value	Beta (B) Value	Beta (B) Value
Information retrieval (IV)	.390		
Academic Achievement (DV)			.301
Self directed Learning (MV)		.787	
R2	.152	.620	.091
F	10.206	92.87	5.675
Sig of F	0.002	0.000	0.02

5.0 Discussion

This section is focusing on the discussion of the study as follows:

The profile of respondents

The profile of the respondents shows that the respondents are matured student, with at least seven years of working experience and most of them are about twenty eight years old. This data shows that these students have much working experience. Most working adults have higher levels of self-directed learning readiness (Guglielmino,1976). Working adults are very responsible towards their learning (Knowles,1976). They are very independent and have their own views and perceptions on learning and teaching.

Working adults have limited time to study, or to do “searching” or information retrieval in the libraries. They prefer to retrieve information through digital libraries or virtual libraries to access e-resources such as online databases and e-books from the internet. Therefore the

study on information retrieval and academic performance is important in context of adult learners for the reason given earlier as to find ways to enhance their learning process.

The correlation between information retrieval and academic performance.

The findings showed that there is significant correlation between information retrieval and academic achievement. It is too early to generalize the findings as the sample size is small. The assumption that can be made is that the adult learners retrieve information for their learning. Therefore, it can create positive effects on their academic performance.

One of the main benefits of Facebook is the ability to retrieve information from many sources and experts. Most students need of information and study materials for learning such as e-books, e-modules, articles from journals. In classrooms, students are instructed to write academic papers that require students to “search” for relevant information, data and knowledge as an instruction for complete submission. In addition, another benefit is to have discussions with experts in the Facebook as well as getting support from learners from other universities. The information retrieval process through the Facebook can save time and cost for the users. The digital library and the virtual library allow students to search for information without having to be physical present in the library.

Most of the Facebook users only focus on interacting with friends, chatting and finding long lost friends (Din and Haron, 2012).

Ability of the Facebook to support information retrieval.

The users rated the ability of the Facebook to support information retrieval as “very USEFUL”. There has been much write up and research on the positive and negative effects of the Facebook. Most important is that the users must be in control of what they do on the Facebook, secondly, is how efficient they retrieve information and lastly, what type of friends that they add in the Facebook. The Facebook has its benefits, has good tools and abilities, but the learners must be in control and realized the potential in its usage.

The level of self directed learning readiness

The findings showed that the adult learners have high level of self-directed learning. This is parallel to the findings of Hiemstra (1988) that most adult learners demonstrate high levels of self-directed learning characteristics. Students who are self-directed will have much initiative to find information themselves, they are able to study independently and search for additional learning materials and information by themselves. Self-directed learners are people who “love to learn”. Therefore, to instill attitude of “love to learn” and the ability to be able to self direct, the learning environment must be designed and created to support self-directed learning. The tools and technologies must be user friendly, easy to use, and have much information that can support information retrieval as well as self learning.

The effect of the mediating variable.

This study found that the mediating variable (self-directed learning) has a strong effect of the independent variable which is information retrieval. It refers to learners’ who are self-directed will use the Facebook platform for information retrieval.

6.0 Conclusion

In conclusion, the main contributions of this study are:

Firstly, it proved that there is a relationship between the variable “Information Retrieval” and “Academic Performance”. Secondly, the variable of “self-directed learning” has a strong positive effect on Information Retrieval. Thirdly, the Malaysian adult learners have a good level of self-directed learning. In fact, the study shows that the Malaysian learners have high level of self-directed learning. Fourthly, this study shows that the Facebook platform can be used as learning and teaching tool. Moreover, discussions and information retrieval can be conducted in the Facebook.

Although there are still much that needs to be done, the study generated some important findings in the field of education in relation to online social networking like Facebook. Academicians and researchers can use this study’s findings to study in depth in the area of online social networking and academic performance especially in the Malaysian context.

The Facebook technology can be used for learning if the users are aware on the benefits of the Facebook and how the Facebook can be utilized as a tool for learning. Guidelines on “how to use the Facebook as a learning tool” should be developed. This is due to the fact that online social networking such as Facebook as the current social technological culture and apparently, the next generation learners in the coming future with regards to computer technology application.

The Malaysian public should be educated through programs on the benefits and weakness of the online social networking technology particularly the Facebook. This is important as there are millions of Facebook users in the country. It was reported that 12 million Malaysian users of Facebook in 2011 and the number is increasing close to 13 million (Socialbakers.com, 2012). Learning environments and the Facebook technology must be created, developed and designed to facilitate self-directed learning so that students can retrieve information and learn more effectively. This will definitely improve their academic performance. Self-directed learning is an important element that must be constantly researched, discussed in depth for continuous improvement of students’ attitude towards learning, improvements of the educational tools and technology and improving the instructor’s skills and roles as well as refining the institution’s role.

There are some limitations in the study. The main limitation is the sample size which is small. A bigger size might generate different outputs. The second limitation is the design of the research is based on the quantitative methodology. A qualitative approach can generate more in depth understanding and knowledge of these research objectives.

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