

Constructing a scale for assessing the effect of facebook upon self directed learning

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Abstract

The aim of this research was to investigate the extent of using Facebook in self- directed learning (SDL) among Tafila Technical University students'. The sample consisted of 415 students (205 males, 210 females); representing all colleges and all students from 1st to 4th college year's. They represent 8.3 % from the total study population. The researchers built a questionnaire to measure the extent of using Facebook in self- directed learning among university students. The results indicated a low use of Facebook in self- directed learning (average=2.03/5, while the standard deviation = 0.60). They also indicated that there is no statistically significant differences ($P = 0.05$) attributed to gender and college and the interactions between them in using Facebook by university students in SDL. The study concluded that: Facebook is considered as the most popular social communication media among students. The results of the study indicated that a few number of students in TTU use it in SDL. The efficacy of using it could be through increasing the number of faculties who employ it in teaching different academic subjects

Keywords

Learning, Social Media, Students, Self Directed Learning

1. Introduction

Self- directed learning (SDL) is a process in which students take the initiative to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluates learning outcomes. The role of the instructor shifts from being the "sage on the stage to the "guide on the side" [1].

The transition of the educational process from teacher-centered process to student centered- process emphasizes the importance of (SDL). Through this process the student can teach himself and discovers his/ her interests, attitudes, and skills, so he/she starts to plan, develop and direct learning to achieve his/her goals. The importance of SDL emerged from the fact that knowledge is expanding in a high rate, so teachers can not follow up the update changes in knowledge and the source of knowledge became available from different sources, so the time that the teachers are the main source of knowledge is extinct. Brocket and Hiemstra (1991)

saw SDL as a process in which student's characteristics and instructional methods come together in an event where learners assume personal responsibility for the education experience [2]. Bolhuis (1996) and Garrison (1997) pointed that SDL views learners as owners and managers of their own learning process [3,4]. Knowles (1975) suggested three key components for SDL:

- Understanding the difference between teachers directed learning and self directed learning.
- Working collaboratively with others (people and resources).
- Selecting Strategies skillfully and with initiative. He also suggested the following steps to answer any question:

What is the question I want an answer to?

Is it a question worth asking?

Is it a question you really care about?

Is it a question that is answerable by data?

Is it a question clear and understandable to others?

What is the data I need to answer this question?

What are the most appropriate and feasible source of data?

What are the most efficient and effective means I can use to collect these data from these sources?

How shall I organize and analyze these data to get an answer to my question?

How will I report my answer and test its validity? [5].

The internet is playing an increasingly important role in student's personal, social and academic life especially the social network sites. Terms like net or digital generation are often used to label the generation born after 1980. Prensky (2001) [6]. Caruso and Salaway pointed that 88.3 % of undergraduate students owned their own laptops in 2009 compared to 65.9% in 2006 and they spent 21.3 hours week online [7]. Facebook which was created by Mark Zuckerberg to help residential college and university students identify students into other residence halls is the most popular social media for students. Hargittai (2008), Jones and Fox (2009), Matney and Borland (2009) indicated that 85-99% of university students use Facebook [8, 9, 10].

Facebook has unique applications that encourage students to use it, such as: bulletin boards, messaging, email, posting pictures and videos and the ability to download applications. Students who wish to use Facebook have to register themselves and create their own profile after that they can search for others and view their profiles and have new friends, new groups, and new organizations. Facebook can also serve as a source of entertainment due to the availability of online games Hew (2011) [11].

The 2012 statistics about Facebook indicate the following: 85% of all college students use Facebook, and 70% of them log in everyday. People spend over 700 billion minutes per month on Facebook; psychologists have introduced a diagnosis known as FAD (Facebook Addiction Disorder). In 1 hour 3000000 links are shared on Facebook, in 1 hour 4452000 events invites are posted, in 1 hour 6 million friend requests are accepted, in 1 hour 8148000 messages are posted, 48% of 18-34 years old check Facebook right when they wake up, and people spend over 700 billion minutes per month on Face book (www.jeffbullas.com) [12].

2. Literature Review

Many studies were conducted to investigate the effect of Facebook on teaching and learning. Hew reviewed the published research studies which focused on the use of Facebook by students and teachers. This review was organized into three sections: a) students Facebook usage profile or extent of Facebook use, b) the effect of Facebook use, and c) students attitudes toward Facebook. The results indicated that Facebook had very little educational use and students mainly use Facebook to keep in touch with known individuals and students tend to disclose more personal information about them on Facebook. Students mainly view Facebook use as fun and not something serious [11]. The aim of Shih's (2011) study was to investigate the effect of integrating Facebook and peer assessment with college

writing class instruction through a blended teaching approach. The blended approach consisted of one – third of a semester of classroom instructions and two-thirds of a semester combined Facebook, peer assessment and classroom instruction. The subjects were 23 first year students majoring in English at a technological university in Taiwan during an 18 week English writing class. The students were divided into three groups with three Facebook platforms. The findings suggested that incorporating peer assessment using Facebook in learning English writing can be interesting and effective for college level English writing classes and students can improve their English writing skills and knowledge not only from the in-class instruction but also from cooperative learning. In addition, Facebook integrated instruction can significantly enhance students interest and motivation [13]. Junco (2012) used a large sample (N= 2368) of college students to examine the relationship between frequency of Facebook use, participation in Facebook activities, and students engagement. The results indicated that Facebook use was significantly negative on the predictive of engagement scale score and positively predictive of time spent in co-curricular activities were positively predicative of the dependent variables, while others were negatively predictive [14]. Lamp, Wohn, Vitak, Ellison and Wash (2011) examined how undergraduate students use Facebook to engage in classroom-related collaborative activities to show how Facebook may be used as an informal tool that students use to organize their classroom experiences and explore the factors that predict type of use, and they extracted their result from two surveys (N= 302, N= 214). They found that predictors of Facebook use for class organizing behaviors include self-efficacy and perceived motivation to communicate with others using the site, rather than how often they used the tool or how important they felt it was, affecting their propensity to collaborate [15]. The study of Kirschner and Karpinski (2010) found that Facebook users and non- users were significantly different from each other with Facebook users reporting both a lower mean GPA and spending fewer hours per week studying on average than Facebook non- users. The study indicated that significant differences were found between undergraduate and graduate students for GPA with graduate students reporting a higher mean GPA than undergraduates [16].

3. Study Statement

This study aimed to answer the following questions:

1. To what extent do the TTU university students use Facebook for SDL?
2. Are there any statically significant differences ($P = 0.05$) in using Facebook for SDL by TTU students attributed to their gender and college?
3. What are the students' most favorite uses of in Facebook?
4. What are the negatives of using Facebook based on students' perceptions?

4. Methodology

4.1. Design

The research design employed in the study was a quantitative analytical descriptive.

4.2. Population and Sampling

The population of the study included male and female 1st to 4th year students of TTU. The Data was collected from 415 undergraduate students at TTU in Jordan. The response rate equals 83%. The participants were chosen randomly from university general subject classes, the reason for that is all university students attended these classes so researchers can find students from all colleges and from all study years. The sample consisted of 205 males and 210 females. The participants were randomly selected from scientific colleges (science and engineering) (N=300) and humanity college (Arts, Financial, and Education) (N=115). The sample represented 8.3% of the university population (Table1).

Table 1. Study Sample

gender	College		Total
	Scientific	Humanity	
male	164	41	205
female	136	74	210
total	300	115	415

4.3. Instrument

A questionnaire was developed using related literature, researchers' knowledge and an open-ended questions were asked to the students about applications of Facebook in SDL and its negatives. The survey consisted of 4 sections. Section 1 asked students to provide demographic information (gender, college, and academic year). Section 2 invited students to rank their Facebook interests by putting a number from 1-5 (1= very low interest, 5 = highest interest) for the following applications: games and entertainment, learning, exchange ideas and opinions, searching for new friends and chatting. Section 3 consisted of (32) closed reason items (Likert scale) (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). These items distributed into four main fields: cooperative learning (7 items), update learning techniques (9 items), motivation (7 items), individual differences and SDL (9 items). Finally, the fourth section solicited information related to students perceptions toward the negatives of Facebook on their educational achievements; validity of the instrument was checked through experts' judgment. They asked to review the instrument for the following: clarity of items, relevance of the items to the domain, and clarity of instructions. The reliability was checked using test retest method and internal consistency using cronbach α equation and it equals to (0.93 and 0.89) respectively. The students were recruited to the study using flyers.

4.4. Analysis

SPSS was used to analyze the quantitative data (means, standard deviations, frequencies and 2-way ANOVA).

5. Results and Discussion

5.1. The 1st Question

To answer the 1st question descriptive statistics were used and it was found that students had very low uses of Facebook in SDL, the grand mean for all SDL aspect equals 2.03. This result is consistent with the findings of the Hew (2011) and Junco (2012) studies [11, 14], and also consistent with the findings of this study, which indicated that the most common uses of students for Facebook is exchanging ideas and opinions. Table 2 represents the means and standard deviations of using Facebook in SDL for the whole survey and for each domain.

Table 2. Means and standard deviations of the Facebook usage in SDL

Domain	Means	Standard deviations
Cooperative Learning	2.033	0.42
Update knowledge	2.013	0.47
Motivation	2.013	0.47
Facilitate learning	2.09	0.53
Total	2.03	0.60

5.2. The 2nd Question

To answer the 2nd question a two-way ANOVA was used and it was found that there are no statistically significant differences ($P = 0.05$) attributed to gender and college and the interactions between them in using Facebook by TTU students in SDL. because F values was greater than 0.05. Table 3 represents these results. This result can be explained based on the fact that Internet services are available to all students regardless of their gender or college.

Table 3. 2-way ANOVA of using Facebook in SDL by TTU students attributed to gender and college

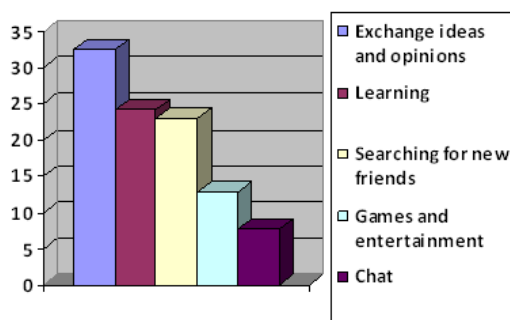
Source	Type II sum of squares	d f	Mean square	F	P
Gender	0.066	1	0.066	0.374	0.541
College	0.061	1	0.061	0.348	0.555
Gender * college	0.392	1	0.392	2.230	0.136

5.3. The 3rd Question

To answer the 3rd question proportions were used and it was found that TTU students rank their Facebook use from the most important to the least important as follows: exchange ideas and opinions, Learning, Searching for new friends, Playing games and entertainment, and chatting. Table 4 and Figure 1 represent these results. This result is consistent with the findings of Hew's study (2011) indicated that most students use Facebook to keep in touch with their friends [11].

Table 4. Proportions of Facebook using

Favorite domain in using Facebook	Time Frequency (%) for using Facebook
Exchange ideas and opinions	32.5
Learning	24.1
Searching for new friends	22.9
Games and entertainment	12.8
Chat	7.7

**Fig 1.** Proportions (%) of Facebook using

5.4. The 4th Question

To answer the 4th question frequencies were used. The results indicated that these negatives in using Facebook were: The inaccurate information provided by Facebook, most faculties do not have an account on Facebook so students cannot communicate with them using Facebook. Most students depend on the electronic information provided by Facebook instead of using textbooks and references, sometimes students spend too much time on Facebook. Instead of studying, students spend too much time at nights using Facebook, so this creates fatigue which leads to being late for morning classes, while some students do the homework and distribute it to the others. Table 5 represents the negatives frequencies. This result is consistent with the findings of the Kirschner and Karpinski (2010) study which indicated a lower mean GPA for Facebook users compared to non-Facebook users [16].

Table 5. Facebook Negatives

Favorite domain in using Facebook	Frequency (%)
Inaccurate information.	76.9
Having a solved homework from others.	66.8
Students depend only on electronic information.	69.6
Facebook waste students time.	67.1
Facebook makes students late from their morning lectures.	60.0
Faculties don't have an account on Facebook.	71.1
Adding new friends from other sex affects my study.	60.3
Facebook makes students exhausted since they spend too much time at night.	64.9

6. Conclusion

Facebook is a considered as the most popular social communication media among students. The results of the study indicated that a few number of students in TTU USE it

in SDL. The efficacy of using it could be through increasing the number of faculties who employ it in teaching different academic subjects. In addition to that; faculties should encourage students to invest their use of Facebook in areas that support their academic performance. Future research should utilize an in depth qualitative research approach in order to identify other factors that may motivate students to implement technology in SDL. Also researchers recommend conducting experimental research to compare Facebook and non-Facebook users in implementing SDL and its specific influence on the students' academic achievement.

Consent

For data gathered during quantitative survey (questionnaire), where no personal data are collected or where personal identifiers are removed from the data. Any way, the researchers does not cause to the participants any physical, psychological, or ethical harm.

Competing Interests

Authors have declared that no competing interests exist.

Abbreviations

TTU: Tafila Technical University, Jordan.

SDL: Self Directed Learning.

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