The effect of social networks on education and academic learning: an interventional study

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Abstract

Background and Purpose: Undoubtedly, social networks are being used extensively and are the most important communicative tool among students, especially at higher levels of education. We aimed to investigate the effect of social networks on education and academic learning.

Methods: This quasi-experimental study was conducted on 32 nursing students who were taking the cancer nursing course at Kermanshah University of Medical Sciences during 2015. The students were randomly and equally divided into two groups. The students in the case group established a group in Viber social network and shared the academic materials related to the presented course in addition to receiving information in the classroom. At the end of the semester, they were evaluated through a test and a questionnaire. The obtained data were analyzed by SPSS-18 software using t-test and Kolmogrov-Smirnov test. $P<0.05$ was considered significant.

Results: The findings showed that 20 (93.8%) students suggested the use of social networks for better understanding of the course materials and 27 (81.8%) students believed that social networks were useful. We found a statistically significant difference between the case (15.79 ± 2.13) and control (13.84 ± 2.02) groups in terms of the mean score of cancer nursing ($P=0.013$).

Conclusions: The results revealed that the academic achievement scores in the case group were significantly higher than those of the control group. Hence, they can be recommended as a teaching tool taking into account different aspects of social networks.

Keywords: SOCIAL NETWORK, EDUCATION, ACADEMIC LEARNING

Introduction

The social media has currently become one of the most important communication means. However, social networking exists so as to provide communication among people regardless of the distance, making it easy to share information, files, pictures and videos, create blogs and send messages, and conduct real-time conversations. These systems are referred to as social, simply because they allow communication with buddies and coworkers easily and effectively (1). In fact, social media websites are virtual operating systems that allow users to share and exchange information. In recent years, this sort of communication has turned into a global phenomenon and millions of people communicate with their friends and relatives via these networks on their cell phones, tablets and personal computers (2). Information and communicative technologies have entered all social, organizational and personal spaces of human societies and have influenced the lifestyle, work and knowledge of people in various ways, even to the point where they are beginning to change the

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teaching methods in the higher education system (3). The new generation of students has been called digital natives (4), where they are grown up with a set of novel technologies and expect to use multiple information media (5).

Nowadays, Internet plays a major role in the social and academic life of people. The attention and tendency of universities to use the potentials of social networks and their selection as a communicative mechanism to advance academic and research potential have made their use an inevitable necessity for development of education and knowledge (6). According to Bates, there are four reasons for using technology in higher education: 1) improving the quality of learning, 2) enhancing the access to education, 3) reducing educational costs and 4) improving the cost-effectiveness of education (7).

Social networks aim to improve and facilitate the relations, cooperation and interaction among organizations and institutions in various areas such as business, medicine, education, etc. Despite the increasing number of creative teachers that use the potential of social networks to get the learners involved in their intended studies and subjects, there are still teachers that are worried about the detachment of youth from the concept of conventional education (6). Kuppuswamy & Shanker argue that social networks students are attracted to may turn into non-educational and inappropriate activities such as useless chats (8). Accordingly, some people believe that social networks may have a negative impact on the life and academic learning experiences of the students (9).

The results of a study carried out in a university in the United States showed that students use social networks for communication with relatives they had broken up with and communication with old friends (10). Although these networks facilitate communication with friends (11), they reduce the students' study time and disrupt their academic life (12). Increasing the students' anxiety and stress is being viewed as one of the negative effects of these websites. However, social networks can be used properly in educational or therapeutic processes to optimize the objectives of education (13).

There are many advantages for the use of social networks in universities. One advantage is that students and their peers can communicate with each other as a kind of group work, especially in large public classes through the applications provided in social networks (14). Social networks provide numerous opportunities for nurturing social skills and really affect the social life of their users. Such networks are valuable learning tools because they enable users to create, expand and share their activities and facilitate interaction and cooperation (15). According to various reports by experts, the students' security and personal issues and lack of relevance of these networks with students' learning are the most important reasons for non-application of social networks in education. However, numerous reports have been published about the successful application of these networks in classroom settings. Teachers and trainers are required to learn how to interact and use new technologies and their capabilities and get familiar with the design and implementation of formulated applications in social networks (6). Sharepor showed that some of the most important obstacles were lack of suitable technical facilities, lack of educational infrastructures, and inadequate knowledge of the teachers. Three strategies have been designed among which acquiring the technical skills is the most important strategy and establishing dynamics interaction in teaching and cognitive skills related to the social networks are the second and the third ones, respectively (16).

It is quite evident that medical education plays a pivotal role in training the healthcare personnel in the country. Promoting the education level, in addition to improving the patients' treatment process also enhances the health status in the society (13). The increasing number of medical education learners and the rapid development of science

will be inseparable components of universities. Even with appropriate infrastructure, such changes may adversely affect the quality of education. On the other hand, a conventional look at educational methods, especially in medical education is probable to complicate the achievement of major health objectives, whose basic subsets are up-to-date, novel and efficient methods. The learning process is so complicated to be limited to the classroom environment (17). Hence, this interventional study was conducted on nursing students to examine the effect of social networks on education and academic learning.

Methods

This quasi-experimental study was performed on 32 volunteer nursing students of the second semester at Kermanshah University of Medical Sciences during 2015 . The students were randomly divided into two groups (16 students in the case group and 16 students in the control group). Before the start of the study, the students were told that the study was intended to investigate an educational method and those who volunteered to participate in the study were asked not to deliver the information to the students in the case group. Hence, both groups attended the class and the teacher presented the course materials in each session according to the syllabus and lesson plan. The teacher added the students in the case group to Viber social network and created a group, named case group, with 16 members. Therefore, a horizontal relationship was formed between the teacher and students, being managed by the teacher. Following the initial orientation by the teacher, the students were allowed to create the intended content; hence they were encouraged to share their questions, materials and educational clips and images related to their course in the group interactively. Sharing the materials varied from daily to weekly. The students in both groups were given a questionnaire which consisted of demographic characteristics and questions about the use of social networks. At the end of the semester, an academic achievement test was given to students and the obtained data were fed into SPSS-18 software. Descriptive statistics were used to analyze the demographic information and Kolmogrov-Smirnov test was applied to examine the normality of data distribution. To compare the mean scores of final term examination, independent t-test was used. $P<0.05$ was considered significant.

Ethical Considerations:

There were no ethical considerations in this study because the students only completed anonymous questionnaires voluntarily.

Results

From the total sample, 16 students with mean age of 20.57±1.48 were in the case group and the other 16 students with the mean age of 21.06±1.91 were in the control group. 18 (54.5%) students were female (8 students [50%] in the case group and 10 students [62.5%] in the control group) and the rest were male.

The results of independent t-test showed that the studied units in both case and control groups were not significantly different from each other in terms of age and grade point average of the previous term. The mean grade point averages for the case and control groups were reported to be 14.32±1.54 and 13.71±2.14, respectively.

The obtained results showed that 14 (87.5%) and 8 (50%) students were already the members of social networks in the case and control groups, respectively. The findings also indicated that 20 (93.8%) students recommended the use of social networks for better understanding of academic and scientific materials and 27 (81.8%) students believed that social networks were useful. However, 28 (84.8%) students reported the possibility of misusing social networks. Moreover, the results showed that 51.5%, 48.5% and 63.6% of the participants used social networks for obtaining information and news, for entertainment, and for

Table 1. Means and Standard Deviation of cancer nursing test in the case and control groups

	Mean±SD	Maximum	Minimum	t	P value
Case Grouup	15.79±2.13	19.60	12.60	2.65	0.013
Control Group	13.84±2.02	17	9.40		

communicating and chatting with friends, respectively. Merely, 39.4% of the students used social networks for academic purposes and homework assignments. The mean hours of using the Internet were 3.06±2.61 and 1.75±0.93 hours in case and control groups, respectively, with no statistically significant difference between the groups.

Furthermore, the findings revealed that the time of using social networks had a negative correlation with students' grade point average in the previous semester; however, this correlation was not statistically significant (P=0.70, r=-0.069).

As presented in table 1, the results of independent t-test showed that the mean scores of cancer nursing course in the case and control groups were 15.79±2.13 and 13.84±2.02, respectively, which indicated a statistically significant difference (P=0.013).

Discussion

This case-control study aimed to investigate the effect of social networks on education and academic learning of nursing students. We found that the students in the case group gained a better score than the students in the control group, and the difference was significant. In line with this study, Al-Rahmi examined the effect of social networks on students' academic performance and reported that cooperative learning, as interaction with peers and teachers, significantly affected the students' academic performance (18). Further, Saemi and colleagues reported that interaction provides the learners with opportunities to communicate out of the classroom, which consequently leads to more

learning opportunities or a rise of cooperation in face to face classroom settings, and directs more educational communications in better situations. Studying the content of the course through cooperation and interaction develops the interpersonal relationships and enhances motivation among students, which consequently provides the learners with learning (6).

However, the findings showed an inverse relationship between the students' grade point average in previous semester and time of using social networks, which is in line with the findings of the study by Javadinia and co-workers in which they analyzed the effect of social networks on students' academic performance and reported that students with lower grade point average and academic performance made more use of social networks than those with higher grade point average and academic performance (13). Moreover, the study conducted by Naizabekov provided evidence regarding the deviation of students from the objectives of education because of the use of social networks, although these networks provide the learners with learning opportunities (19).

Most of the participants in this study recommended the use of social networks for the sake of better understanding of materials and evaluated these networks as useful, although they were aware of the potential misuse of these social networks. They mostly used social networks for chatting and communicating with their friends and made less use of these networks for exchanging scientific materials and assignments. In line with this, Khan reported that 45.8% of postgraduate students mainly used the

websites of social networks for entertainment (9). However, Yuen & Hung, based on the positive response of students, argued that sharing information is a benefit of social networks for educational purposes (20). The findings of a research carried out in a university in Turkey showed that over 60% of students felt that communicating with classmates through a group in Facebook motivated them to learn (21). Siemens also believed that communicative and interactive mechanisms allow the leaners to get involved and interact with others (22). Moreover, Holmberg stated that individual student-teacher interaction is superior when it is supported by web-based social networks (23). Based on the results of the current and previous studies, it seems that using social networks and students' interaction with their peers and teachers, can inspire learning in students. Also, educational experts can encourage students to exchange information and educational resources via social networks by an appropriate planning. Furthermore, the teachers are required to develop their skills in using social networks in order to make an optimum use of new educational methods in line with the needs of the students.

The most significant strength of this study was familiarizing the research community of health education system with the impact of using virtual social networks on the academic performance of students given the increasing use of these networks among the students. One of the limitations of the current study was its small sample size which made it impossible to generalize the results to the entire society. Therefore, further studies are suggested to be conducted in this regard. Another limitation of the study was the problem of low Internet speed which was solved following the arrangements made with the education department of the faculty so that students could use the Internet service of the faculty. Finally, the information gained by the case group might be delivered to the control group which could possibly create bias in the study; so the students were asked to voluntarily participate in the study and were required not to transfer information to the control group, which rather solved the problem of bias.

Conclusion

The findings of this survey showed that using social networks can be useful for learning. Given the scarcity of studies in the Iranian context and considering the social culture of people, further studies are suggested to be conducted to investigate the factors affecting the use of social networks in the realm of education and learning.

Conflict of Interest

The author declares no conflict of interest.

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