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The correlation Between Self-directed Learning Readiness and Web-based Learning in Nursing Students: A Study Conducted in Turkey

Abstract

The research examined the relationship between web-based learning and self-learning readiness of nursing students. The research was a single-group experiment, in which 162 second-year nursing students were given a pre-test and a post-test. All the students use the Internet. Before and after the web-based course, a statistically significant difference was observed concerning the average points totaled for self-learning readiness. Results show that web-based learning positively affected the self-learning readiness of nursing students. Therefore, nursing students would benefit from web-based education as it improves their readiness for self-learning.

Keywords: *self-directed learning readiness, web-based learning, nursing student, nursing education*

Introduction

As rapidly developing web technologies are infiltrating the learning environment, the number of web-based courses at educational institutions has increased. With the development of web-based learning, self-learning skills are of utmost importance (Chou, 2012; Chou & Chen, 2008; Levett-Jones, 2005; Oliveira & Simoes, 2006).

Self-learning, based on adult education, is a learning process driven by the individual. With or without the help of others, individuals determine their own

learning goals, choosing appropriate learning strategies and evaluating their results (Knowles, 1975). Instead of instructor-driven learning, the student is at the center. The control and learning responsibility belongs to students, as they determine what, how, where, and when to learn (Duman & Sengün, 2011; Kocaman et al., 2004; O'Shea, 2003; Williams, 2001). The process of self-learning provides students with tools to organize their own learning, take responsibility and control, self-evaluate, make decisions, improve their questioning skills, and boost their self-confidence (Alkan & Erdem, 2013; Aydede & Kesercioğlu, 2012; Kocaman, Dicle, & Uğur, 2009; Russell, Comello, & Wright, 2007; Williams, 2001).

An individual's success depends on their readiness to learn. Fisher, King, and Tague (2001) define self-learning readiness as having the right mindset, ability, and demeanor. Learners who possess a high level of self-learning readiness are aware of their responsibility. Also, they are independent, curious, willing, and self-confident people, who organize their time effectively, have the ability to plan, and are successful problem solvers (Abd-El-Fattah, 2010; Chou & Chen, 2008; Hewitt-Taylor, 2001; Williams, 2001).

Self-learning skills are very highly regarded in educational environments as well as in the workplace (Abd-El-Fattah, 2010; Chou, 2012; Levett-Jones, 2005; Oliveira & Simoes, 2006). Nowadays, nurses are expected to follow new developments in their field, as they are supposed to know the innovations in their area of specialization, utilize necessary information technologies effectively, and adapt to the changes. In order to develop these skills during their vocational education, they have to become self-learners. Needless to say, educators have big responsibilities.

The educator's role in self-learning is to support the learner, to help the learner grow, in terms of responsibility and decision making throughout the learning-teaching process (Abd-El-Fattah, 2010; Chou & Chen, 2008; Lunyk-Child et al., 2001). In this context, educators should acknowledge and know the talents of their learners and should create a web-based learning environment, which improves learners' skills (Yuan et al., 2012). Today, it is indispensable for nursing education to utilize web-based technology; however, in order for this to happen, students must be ready to be self-learners (Şenyuva & Taşocak, 2010; Adams & Timmis, 2006; Farrell et al, 2006; Tanyıldızı & Semerci, 2005; Sit et al., 2005). Additionally, existing educational programs should be evaluated. Related research shows that self-learning and web-based learning are strongly correlated (Chou, 2012; Chou & Chen, 2008; Levett-Jones, 2005; Lunyk-Child et al., 2001; Oliveira & Simoes, 2006). There has been no research regarding the relationship between the web-based learning and self-learning readiness of nursing students. Concordantly, this research is an important contribution, as it will shed light on relevant research.

Study Aims

The goal of this research was to examine the relationship between the web-based learning and self-learning readiness of nursing students.

The following questions were addressed in this study:

1. What is the self-learning readiness of a group of nursing students before a web-based course like?
2. What is the self-learning readiness of the nursing students after the web-based course like?
3. Are there any differences between the self-learning readiness of the nursing students before and after the web-based course?

Methods

Design and Participants

The research was a single-group experiment, in which 162 second-year nursing students were given a pre-test and a post-test. These students were enrolled in a patient education course.

Instruments

Data was collected with the "Information Form" and "Self-Learning Readiness Scale," as described below.

- *Information Form:* This form was developed by the researchers in order to gather students' basic information. The form contained 10 questions regarding students' age, sex, level of education, possession of an individual computer, Internet usage and reasons for usage, and prior participation in web-based courses. In order to gauge how successful students saw themselves regarding self-learning, the National Reporting System was utilized.
- *Self-Learning Readiness Scale* (SLRS): Developed by Fisher, King and Tague (2001) and adapted to Turkish by Kocaman et al. (2004), this reliability instrument contains 40 items and has three subdivisions: self-direction (13 items), willingness to learn (12 items), and self-control (15 items). The scale is very straightforward; it is a 5-point Likert scale, and the answer options are as follows: defines me very well (5), defines me well (4), neutral (3), defines me a little bit (2), and does not define me (1). The lowest number of points that can be scored is 40, whereas the highest is 200; the higher the points, the more self-learning skills the individual possesses (Kocaman et al., 2004). The internal consistency value of the whole scale is .92 (Cron-

bach's alpha), whereas the subdivision values are as follows: self-direction, .85; willingness to learn, .84; and self-control, .83. Cronbach's alpha for the whole inventory is .92 (Fisher et. al., 2001). In the validity and reliability test conducted by Kocaman et al. (2004), Cronbach's alpha was .94, whereas self-direction was 0.87, willingness to learn 0.86, and self-control 0.95.

- *Patient Education Course* (PEC): Patient Education is a two credit, obligatory course at I.U. Florence Nightingale Nursing Faculty, and the course takes place during the third semester, which is in the fall. The course goals include making students understand the roles and functions in patient education, which is necessary to practice patient education and is in line with the learning-teaching process involved with nursing. Since 2010–2011, the course has been taught through a blended learning method, supported by web-based education.

Ethical Consideration

Permission was received from Faculty, and participation was on a volunteer basis. Before handing out the information forms, a brief explanation about the research was provided. At the end of the web-based course, data was collected. Oral and written consent was taken from the participants.

Data Analysis

In analyzing the data, SPSS software, version 11.5, was used. Continuous variables were arithmetic average, standard deviation, and minimum, maximum, and median values, whereas the categorical variables were frequency and percentage. In order to identify significant differences between the preliminary test and post-test, a paired-sample t-test was used. The significance level was .05 (Özdamar, 2001).

Results

Nowadays, it is crucial for nursing students to reap the benefits of a web-based education; however, in order for students to be successful, their self-learning readiness is important (Şenyuva & Taşocak, 2010; Adams & Timmis, 2006; Farrell et al, 2006; Tanyıldızı & Semerci, 2005; Sit et al., 2005). The goal of this research was to examine the relationship between the web-based learning and the self-learning readiness of nursing students.

The majority of the participants in this study were female. Their ages ranged from 17 to 26, with the average age of 18.94 (standard deviation (SD)=1.42).

Table 1. Introductory characteristics of nursing students (N: 162)

Introductory Characteristics		n	%
Gender	Female	130	80.2
	Male	32	19.8
Graduated from a Secondary Educational Institution	Anatolian – Science high schools	96	59.2
	General high school	57	35.2
	Technical and Industrial vocational high school	6	3.7
	Other	3	1.9
Possession of a PC Use Case of Internet	Yes	133	82.1
	No	29	17.9
Use Case of Internet	Yes	162	100
Internet Utilization Purpose*	Research, access to information	150	92.6
	Enrollment in courses and note taking	147	90.7
	E-mailing	137	84.6
	Educational purposes (writing homework, preparing Power-Point documents…)	132	81.5
	Game, music, downloading movies	88	54.3
	Chatting	79	48.8
	Shopping	33	20.4
	Meeting new people	20	12.3
Use the Internet	My own PC	128	79.0
	PC Lab in the school	110	67.9
	Internet café	40	24.7
	Dormitory	36	22.2
	Other	13	8.0

* *More than one option is selected.*

Of the students, 80.2% were female and 19.8% were male. Their ages varied between 18 and 31 years, with the average age of 20.28±1.59. Further, their educational levels varied, as 35.2% of the students graduated from general high schools, whereas 59.2% graduated from Anatolian high schools.

It was found that 82.1% of the students had their own personal computers, and all the students (100%) used the Internet. With respect to Internet usage, 92.6%, used the Internet primarily for researching and accessing information, 90.7% used it for enrolling in courses and taking notes, 84.6% used it for e-mailing, and

81.5% used it for educational purposes, such as writing, homework, and preparing documents (Table 1).

Regarding web-based courses, 72.2% of the students had not attended any web-based courses, whereas 27.8% had. When the students were asked to evaluate themselves on a scale of 0–10 concerning their self-learning, the minimum was 3, and the maximum was 10, making the average 7.24±1.72.

Table 2. Point average of nursing students concerning self-learning readiness (N:162)

	Before the Web-Based Course		After the Web-Based Course			
	Median	X ± SD	Median	X ± SD	t§	Significance
Self-direction	45.00	44.07±8.85	50.00	48.56±7.90	30.78	.000
Willingness to learn	44.00	43.57±8.94	49.00	48.53±9.23	17.87	.000
Self-control	57.00	56.31±10.30	61.00	60.97±10.11	29.75	.000
Total	144.00	143.95±25.72	160.00	158.06±26.27	41.184	.000

t§ Paired-Samples T test, Significance level $p < 0,05$

Prior to the web-based course, the students' self-learning readiness average was 143.95±25.72, and after the course, it was 158.06±26.27. With respect to the self-learning readiness in the subdivisions, self-control before the web-based course was 56.31±10.30, and after it became (60.97±10.11). Self-direction was 44.07±8.85 before, and after it was 48.56±7.90; willingness to learn was 43.57±8.94 before and 48.53±9.23 after. There is a high level of statistical difference in the averages obtained concerning self-learning readiness before and after the web-based course, $p>0.001$ (Table 2).

Discussion

Most of the students were women, and their ages were between 18 and 31. Most had graduated from Anatolian high schools, having studied science (Table 1). Most had their own computers, and all of them used the Internet.

Self-learning is an independent learning skill that is necessary for professional success. It provides learners with the ability to manage their own learning, improve their skills, develop questioning skills, and increase their self-confidence (Alkan & Erdem, 2013). Additionally, those who possess self-learning readiness have the right attitude and mentality for self-learning (Fisher, King, & Tague, 2001).

Individuals whose self-learning readiness is high are actively involved in the learning-teaching process, take responsibility for their learning, have a high willingness to learn, and a low level of anxiety. Furthermore, individuals with a high level of self-learning readiness are self-aware and reliable, as they see difficulties and problems as a challenge, have inner discipline, and a sense of wonder. They are willing to learn and change, and they believe in themselves (Salas, 2010; Sarmasoğlu, 2009). On the other hand, students with a low level of self-learning readiness tend to choose courses that are instructor-centered (O'Kell, 1988). The results of this research show that before the web-based course, the participants' self-learning readiness was low, and after it, it was significantly higher.

Before and after the web-based course, a statistically significant difference was observed concerning the average points totaled for self-learning readiness, $p<0.05$ (Table 2). According to the studies by Alkan & Erdem (2013), Aydede & Kesercioğlu (2012), Chou (2012), Yuan et al. (2012), Duman & Sengün (2011), Abd-El-Fattah (2010), Salas (2010), Kocaman, Dicle & Uğur (2009), Sarmasoğlu, (2009), Chou & Chen (2008), Smedley (2007), Oliveira & Simoes (2006), Levett-Jones (2005), Kocaman et al. (2004), and Shokar et al. (2002), students with self-learning skills are successful in a web-based education, and the results show that a web-based education contributes to their self-learning skills.

Concerning the subdivisions of the self-learning readiness points (points obtained before and after the course), from top to bottom there are willingness to learn, self-control, and self-direction (Table 2). This result, supported by the research by Salas (2010), Sarmasoğlu, (2009), Smedley (2007), Oliveira & Simoes (2006), Levett-Jones (2005), and Shokar et al. (2002), shows that the students are ready for self-learning in all subdivisions.

Willingness to learn suggests that individuals evaluate new ideas in a critical way, want to acquire new knowledge, and want to pursue facts before coming to a decision (Fisher, King & Tague, 2001). The results point out that web-based courses increase the students' willingness to learn (Table 2). These results indicate that web-based courses can be beneficial in terms of building students' knowledge and critical thinking skills, thereby improving their clinical practice skills.

Self-control is defined as determination of one's own learning objectives, taking responsibility, acknowledging one's own capabilities, and making one's own decisions (Fisher, King, & Tague, 2001). The results show that web-based courses improve students' self-control, which is one of the basic features of self-learning (Table 2).

Self-direction means planning one's own learning process and it involves strong time management skills (Fisher, King, & Tague, 2001). Indeed, with a web-based

education, it is important that learners take responsibility for self-learning and choose their own study times in order to obtain desired results (Şenyuva & Taşocak, 2010; Adams & Timmis, 2006; Farrell et al., 2006; Tanyıldızı & Semerci, 2005; Sit et al., 2005). In the research it was found that among the three subdivisions of self-learning, self-direction was the lowest (Table 2). This result makes the researcher believe that web-based courses should be revised in order to improve students' self-direction skills.

Limitations

This research was limited to second-year students at a nursing college, who were enrolled in a web-based patient education course in the fall semester of 2012/2013. The research cannot be generalized to all nursing students.

Conclusion and recommendations

The research results show that web-based learning positively affected the self-learning readiness of nursing students. Therefore, nursing students would benefit from web-based education as it improves their readiness for self-learning.

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