RELATIONSHIP BETWEEN NURSING STUDENTS' VIEWS ABOUT WEB-BASED PATIENT EDUCATION COURSE AND ANXIETY IN TURKEY

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ABSTRACT

The study was designed as descriptive and cross-sectional to determine the relation between students' views about web-based Patient Education course and anxiety. The study group consisted of all students registered the web-based Patient Education course (N: 148) at 2010–2011 semester at a nursing school. Data were collected using "Information Form", "Patient Education Course Assessment Form" and "State-Continuous Anxiety Scale."

Most of students are female and average age were 20.30 ± 1.24. Most of students had not participated in any course/program given by distance education. Before the course the students state anxiety is light level, however after education the students state anxiety is moderate level. It was found that the students had positive views about the "Course Design" and the "Gains of Course", but they were hesitative about the method of the course. Findings were thought to be due to the fact that the students' experiences distance education course for first time. As a result students had positive views about web-based patient education course, there is relation between state anxiety before course and views about course.

The findings suggested that the students had positive views about the web-based education, but they were anxious as they had a new experience, and the distance education could be used particularly in theoretical courses in nursing education, but the necessary changes needed to be made on the basis of the results of the longitudinal assessments.

Keywords: **Web-based education, distance Education, patient education, nursing education, nursing student.**

INTRODUCTION

The alterations and developments observed in the field of technology and communication at the end of twentieth century, increase the information rapidly led the present period to be called with names such as information age, computer age, and communication age. In this period of alteration, information was commenced to be considered as power, in this context, the information technologies enabling collection, protection and transmission of information basically affected every community to a certain degree depending on the structure of the communities.

These alterations and developments obliged the communities to follow new technologies and adapt to themselves (Akkoyunlu, 1999; Aslantürk, 2002; Şenyuva & Taşocak, 2010).

Rapid alteration and developments in the field of technology and communication also affected the education and some essential changes were to be made in education systems. Especially problems such as rapid increase of number of students, inequality of opportunity in education led to requirement of distance learning (Yiğit & Özden, 1999; Özaygen, 2000; Kaya, 2002; Türkoğlu, 2003; Şenyuva & Taşocak, 2010; Hadjerrouit, 2010). Particularly, the increase in number of students and schools opened with inadequate infrastructure for nursing education in Turkey and shortness of facultymember make it inevitable to benefit from distance learning (Kaya & Akçin, 2005; Ülker et all., 2001).

BACKGROUND

Distance learning is defined as an educational approach in which students and educators are present in different places in a part or whole of education, independence from time is ensured, student participates in education efficiently and willingly, telecommunication tools and multimedia applications are used. (Blakeley & Smith, 1998; Ertuğrul, 1999; Diekelman & Schulte, 2000; Özaygen, 2000; Picciano, 2001; Taylor, 2003).

Generally conducted based on printed materials and television in the past, distance training was commenced to be given based on internet and web as a result of use of computer networks in education since the end of 1990s (Willis, 1994, 2002; Blakeley & Smith, 1998; Schrum, 1999; Aydın, 2002; Emre, 2002; Pahl, 2003; Harrison, 2006; İşleyen, Bozkurt & Zayim, 2008; Şenyuva & Tasocak, 2010). Khan (1997) defines web-based learning as "an interactive teaching programme using web sources and qualifications in order to create an educational environment increasing and supporting learning", Relan and Gillani (1997) defines as "cognitive training strategies, applications using qualifications and sources of World Wide Web (www) through learning environments based on a constructive collaboration".

Generally defining, web-based learning is an education model in which education is carried out independent from time and place, learning is realized according to learning speed, computer is used for the purpose of study and communication, course contents, sources, assignment and projects are presented in web environment, prose, graphic, image and sound is transmitted over internet, connections are prepared to get access about documents of courses, e-mail lists of students are used as means of education and

presentation and which can be easily accessed, support flexible storage and displaying options and be easily updated (Yiğit & Özden, 1999; Somuncu, 2000; Aslantürk, 2002; Heidari & Galvin, 2002; Kuzu, 2002; Avery et all., 2003; Carr & Farley, 2003; Pahl, 2003; Türkoğlu, 2003; Hawatson, 2004; Glen, 2005; Harrison, 2006; Nam & Jackson, 2007; Hadjerrouit, 2010; Şenyuva & Taşocak, 2010). In web-based learning, although student and educator are physically separate from each other, they may communicate through synchronous or asynchronous multimedia technology via internet services such as interactive web pages, e-mail, file transfer, discussion and news groups, chat rooms (Ergün, 1998; Özen & Karaman, 2001; Atack & Rankin, 2002; Yazon, Mayer-Smith & Redfield, 2002; Hawatson, 2004; Al & Mardan, 2005; Harrison, 2006; İşleyen, Bozkurt & Zayim, 2008; Şenyuva & Taşocak, 2010).

Being one of the most important and common tools of internet which can be used for education, World Wide Web allows the information to be provided over networks (internet, intranet), gives multidimensionality to education by enriching educational environments in both visual and audial terms, contributes to personalization of education by offering opportunities in realization of synchronous and asynchronous learning, enable students to communicate with others easily, learn themselves, undertake responsibility and manage their times (Willis, 1994; Emre, 2002; İpekçi 2003; Özdemir & Yalın, 2007;

Hadjerrouit, 2010; Şenyuva & Taşocak, 2010). As put by Wylıd (1997) "internet and web technologies both ensure communication among people and enable reaching numerous information, offers different forms of learning, supports student-centered learning environment and gives real life experiences" (Wylıd, 1997, Cited: Türkoğlu, 2003).

Web is an appropriate tool that can be selected in distance learning with features such as effective communication, independence from time and place, providing a rich learning environment, practicability, equality of opportunity, developing and storing course, online support, personalization of education as compared to limitations such as technical infrastructure, process of orientation, funding. However, in order to make intended level of use from web-based learning, the anxiety - also defined as sadness, concern - it may cause on the student should be taken into account.

In the relevant literature, it is pointed out that there is a relation between web-based learning applications and student's anxiety of computer, the anxiety will raise in the students who have cyber phobia or who are not liable to use computer, and thus intended level of learning will not be achieved (İşleyen, Bozkurt & Zayim, 2008; Şenyuva & Taşocak, 2010). These remarks offer that it is required to determine the relation between students' views concerning web-based Patient Education course and anxiety. Because of in our country there is any practice about web-based learning in nursing education so this study is in important due to light related practice.

AIM AND RESEARCH QUESTIONS

Aim of the study is determine the relation between students' views about web-based Patient Education course and anxiety.

Following questions were asked in line with this objective:

- **What are students' views about web-based Patient Education course?**
- **How is the students' anxiety before and after web-based Patient Education course?**
- **Is there a relation between students' views about web-based Patient Education course and anxiety?**

METHODS

Sample and Data Collection

Study was carried out as definitive and cross-sectional. Study group comprised of all the students who received web-based Patient Education course in fall semester of 2010-2011 academic year in a school of nursing and who accepted to participate in the study (N:148). 6 forms were not taken for consideration due to missing information. Study was carried out with 142 students. 97,3% of study group was accessed in the study.

Instrument

Data were collected with "Information Form", "Course Evaluation Form" and "State Trait Anxiety Scale". The data concerning State Trait Anxiety were collected at the beginning and the end of the academic year; views about the course were collected at the end of the academic year.

Information Form

Used to determine age, gender, graduated secondary education institution, willingness to select nursing profession, having their own computer, state of using computer-internet, primary objectives of using computer and their views concerning distance learning.

Course Evaluation Form

Used to determine students' views about web-based Patient Education course (Passerini & Granger, 2000; Atack & Rankin 2002; Christianson, Tiene, & Luft, 2002; Demirli, 2002; Khalifa & Lam, 2002; Avery et all., 2003; Carr & Farley, 2003; Hawatson, 2004; Wilkinson et all., 2004; Bonnel, Wambach & Connors, 2005; Kuzu, 2005; Halter, Kleiner, & Hess, 2006; Harrison, 2006; Yu & Yang, 2006; Nam & Jackson, 2007; Hadjerrouit, 2010). Comprising of three sections and 39 statements, the first section of Course Evaluation Form contains 18 statements with respect to students' views concerning design of Patient Education course; second section includes 15 statements with respect to students' views about method of Patient Education course, third section involves 6 statements with respect to students' views about their acquisitions at the end of the course.

Answers were listed as I agree (3 points), I am hestand (2 points) and I don't agree (1 point) in this form which was prepared in 3 point likert scale.

In this study, Cronbach's Alpha value is for total of Course Evaluation Form is .96, for Course Design dimension is .95, for Course Management dimension is .89, for Course Acquisitions dimension is .94.

State Trait Anxiety Scale

This scale was used to identify whether web-based Patient Education course cause anxiety in students.

It was developed by Spielberger et al. (1970) and adapted into Turkish by Öner and LeCompte (1985). Likert type is a self-assessment scale comprising of 40 items and short statements intended to measure the anxiety, 20 of which target state, 20 of which target trait anger. State *Anxiety* Scale requires the individual to describe how he feels at a particular time and under particular circumstance considering his feelings about the involved situation. Trait *Anxiety* Scale, on the other hand, requires how individual feels in general. The feelings and behaviors expressed in items of State *Anxiety* Scale are answered by selecting one of the following options according to severity: (1) never, (2) slightly, (3) too much and (4) completely. The feelings and behaviors expressed in Trait *Anxiety* Scale are answered by selecting one of the following options according to frequency (1) almost never, (2) sometimes, (3) usually and (4) often. There are 10 adverse statements in State *Anxiety* Scale (Items 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20) and there are 7 adverse statements in Trait Anger Scale (Items 21, 26,2 7, 30, 33, 36 and 39). Total of points obtained in each scale may vary between 20 and 80. Points between 0-19 indicate there is no anxiety, points between 20-39 indicate slight level of anxiety, points between 40-59 indicate medium-level anxiety, points between 60-79 indicate heavy level of anxiety; the fact that total point is 60 and over indicate that said person requires Professional assistance (Aydemir & Köroğlu, 2000; Öner & LeCompte, 1998; Özgüven, 2000).

In this study, Cronbach's Alpha value of State Anxiety Scale was found .97 for before Patient Education course and .94 for after Patient Education course. Cronbach's Alpha value of Trait Anxiety Scale was found .96 for before patient education course and .93 for after patient education course.

Web-Based Patient Education Course

Patient Education course is a one-semester course delivered as 2 hours/week at 2nd grade in education programme of school of nursing.Web-based Patient Education course was developed and arranged based on Mixed Design Model, Distance Higher Education Regulations based on Interuniversity Communication and Information and related literature. This web-based Patient Education course was implemented as asynchronous (Passerini & Granger, 2000; Nam & Jackson, 2007; Özdemir & Yalın, 2007; Kay, Knaack, & Petrarca, 2009; Hadjerrouit, 2010; http://www.yok.gov.tr/yasa/yonet/yonet60.html retrieved on 11.06.2010). Content of the course was enriched with tables, figures, images, animations, applications embedded in the page and supported with face-to-face interviews (Figure: 1, 2).

Figure: 1
Contents Page

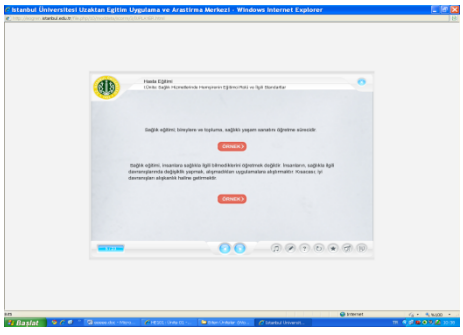

Figure: 2
Contents Page

Also, reading text, "Now Your Turn" exercises (Figure 3) were placed among web pages so that students think about the texts they have read or will read, comment on them, learn actively and raise their motivation, evaluation questions were also placed at beginning, middle and end of the units so as to ensure that they evaluate the information they obtained and recognize misunderstood or missing subjects, evaluate themselves (Figure 4,5).

Figure 3
Now Your Turn? Exercises

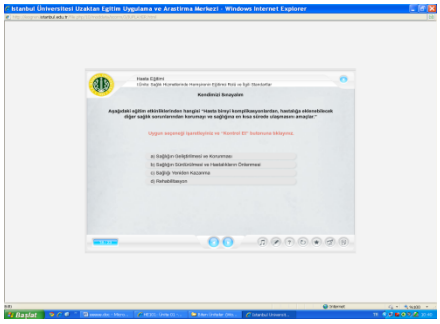

Figure: 4
Evaluation Questions

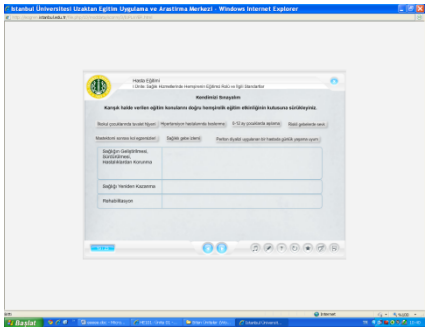

Figure: 5
Evaluation Questions

Ethical Considerations

The data were collected on the basis of voluntary participation in 2010-2011 fall semester after obtaining the written consent of Directorate of School of Nursing. Oral information was given to the participants before beginning to collect data, they were requested to fill in the forms after making the required explanations.

Data Analysis

SPSS 16.0 was used to analysiz data. Frequency, average were used in analysis of introductory characteristics of the students, Wilcoxon, Friedman $\chi 2$, Mann Whitney U and Kruskal Walls were used in multiple comparisons, Spearman Correlation analysis was used in determination of the relation between variables. Results were evaluated in the confidence interval of 95% and significance was evaluated at $p<0.05$ level (Aksakoğlu, 2001; Özdamar, 2001).

RESULTS

The findings for introductory characteristics, state trait anxiety level of the students relation between views about web-based Patient Education course and state trait anxiety were presented in Table 1, 2 and 3.

81.7% of the students are female and 18.3% are male, average of age is 20.30 ± 1.24, 52.1% of students are graduated from Anatolian high school while 30.3% of them are graduated from high school. 60.6% of the students expressed they selected nursing profession voluntarily.

It was found that 59.9% of the students had their own computers, 70.0% of the students who don't have computer used the computer laboratory of the school while 61.4% of them used internet cafes, all of the students (100.0%) used internet, 54.2% of them connected to internet from their own computer, 53.5% of them connected to internet from computer laboratory of the school. 85.2% of the students stated they used internet primarily forresearching, accessing information, 71.8% for registering to courses and following course sheets, 69.7% for writing homeworks.

It was found that 92,3% of the students didn't participate in any course/programme given by distance learning. 81,7% of the students mentioned that all the courses in basic education could not be given by web-based learning method.

Table: 1
General average of the students' opinions about the course (N=142)

Sub-dimensions	X±SD
Course Design	2,58±0,52
Course Method	2,29±0,52
Course Acquisitions	2,60±0,59
Total	2,47±0,48

As seen in Table: 1, mean of student's views about web-based Patient Education course2,47±0.48. Mean of their views about "Course Design" is 2.58±0.52, the highest mean belongs to the item "Connection was established among the units." (2.67±0.59), the lowest mean belongs to the item "I did my 'Now is Your Turn' exercises willingly" (2.39±0.75). Mean of their views concerning "Course Method" is 2.29±0.52, the highest mean belongs to the item "I benefited from used source book." (2.48±0.80), the lowest mean belongs to the item "I didn't enjoy at all while studying." (1.94±0.86). Mean of their views concerning "Course Acquisitions" is 2.60±0.59, the highest mean belongs to the item "I understood the importance of handling patient education activities with a scientific approach." (2.62±0.65), the lowest mean belongs to the item "I could perceive the connection of the course with other courses."

(2.54±0.70). 63,4% of the students stated they benefited from face-to-face interviews. It was found that there was a statistically significant difference (p=0.038 p<0.05) between students' gender and mean of views concerning the course. It was found that mean of female students' views concerning the course (2.53±0.45) was statistically significant (p<0.05) than mean of the male students (2.28±0.57). It was found that there was a statistically significant difference between students' status of selecting nursing profession willingly and mean of their views concerning the course (p=0.005 p<0.01). It was found that mean of the views of the students who selected nursing profession willinglywith respect to the course(2.55±0.50) was statistically more significant (p<0.01) than mean of the ones who selected unwillingly (2.40±0.43).

Table: 2
Comparison of students' anxiety points between pre-course and post-course (N=142)

	Pre-Course	Post-Course	Significancy
Scales	**X±SD**	**X±SD**	**p**
State Anxiety	35,38±13,78	40,48±11,98	0,001*
Trait Anxiety	38,85±12,80	40,54±11,27	0,285

***p<0,01; Friedman χ2 testi**

As seen in Table 2, it was found students had a mild level of state anxiety (35.38±13.78) and mild level of trait anxiety (38.85±12.80) before course, and medium level of state anxiety (40.48±11.98) and medium level of trait anxiety (40.54±11.27) after course.It was found that there was a statistically significant difference between state anxiety points before and after the course (p<0.01). A statistically significant difference was not detected between trait anxiety points before and after course (p<0.01). While no statistically significant difference was found between gender of the students and mean before and after course state and trait anxiety (p>0.05), a statistically highly significant difference was found between female students' before course (35.54±13.88) and after course state anxiety points (41.35±11.26), (p=0.001 p<0.01). A statistically significant difference (p<0.05) was found between before course state and trait anxiety points of the students who selected nursing profession willingly/unwillingly (State Anxiety: 33.34±13.60; Trait Anxiety: 37.42±13.73) and their after course points (State Anxiety: 39.33±11.78; Trait Anxiety: 40.47±11.44). Moreover, it was found that state anxiety level (38.52±13.58) of the students who selected nursing profession unwillingly was statistically higher than who selected nursing profession willingly (33.34±13.60).A statistically significant difference (p=0.013 p<0.01) was detected between before course (34.50±14.09) and after course (40.31±9.64) state anxiety points of the students who can think of a life without computer or internet. A statistically highly significant difference (p=0.003 p<0.01) was detected between before course (35.83±13.68) and after course (40.56±13.06) state anxiety points of the students who can't think of a life without computer or internet. No statistically significant difference (p>0.05) was found between before and after course trait anxiety points of the students who can and can't think of a life without computer or internet.A statistically significant difference (p<0.01) was detected between before course (35.44±13.58) and after course (40.67±12.09) state anxiety points of the students who responded "no" to the question "Have you participated in a course/programme given by distance learning beforehand?".

A statistically significant difference (p<0.01) was detected between before course (36.62±12.61) and after course (41.18±12.07) state anxiety points of the students who responded "no" to the question "May all the courses in nursing education be given by web-based distance learning method?".

Table 3
Relationship between student's views about patient education and anxiety points (N=142)

Anxiety	Views about Patient Education
Pre-course State anxiety	r= - 0,165; p= 0,049*
Post-course State anxiety	r= - 0,012; p= 0,891
Pre-course Trait anxiety	r= - 0,035; p= 0,684
Post-course Trait anxiety	r= - 0,046; p= 0,595

*p<0,05; Spearman correlation

When Table 3 was examined, a negative poorly significant relation was detected between student's views about web-based Patient Education course and before course state anxiety in statistical terms (r =-0.165; p<0.05). No statistically significant relation was found between after course (r= - 0.012 p= 0.891) state anxiety and before course (r= - 0.035 p= 0.684), after course (r= - 0.046 p= 0.595) after course anxiety points.

DISCUSSION

Most of the students forming the study group are female, all of whom use internet and have their own computer (59.9%) and use mostly computer laboratory of the school and internet cafes to connect to the internet.

Most of the students (85.2%) expressed they used internet primarily to research and access to information. In their studies, Şenyuva & Taşocak(2010), Adams & Timmis (2006), Koç (2006), İşman, Dabaj & Gümüş (2006), Aslım (2004), Aksu & İrgil (2003) point out that use of computer and internet in web-based learning are basic skills. It was considered that it is a positive consequence for web-based learning that majority of the students use internet and it is an adverse consequence that they have limited access to internet connection in terms of following web-based course in an active manner.

Most of the students (92.3%) stated that they didn't participate in a course/programme given by distance learning and not all of the courses in basic nursing education could be given by web-based learning. In her study, Şenyuva & Taşocak (2010) underlined that nursing students stated all courses could not be given by distance learning method only theoretical courses could be given by distance learning. This consequence indicates students are of the opinion that theoretical courses could be given effectively and efficiently by web-based learning. In her study, Senyuva & Tasocak (2010) specify that students have positive opinions concerning the course given by web-based learning.

In their research, Halter, Kleiner&Hess (2006) mention that web-based learning increased students' eagerness to learn by allowing the students to take responsibility in their own learning, to study in accordance with their own speed of learning, to easily browse in internet sources regarding the subject and to set their own time of study. In their research, Wilkinson, Forbes & Bloomfield (2004) found students stated that web-based learning gave them the opportunity to study personally and flexibly, proceed in accordance with their speed, use time efficiently, effectively and economically, access easily to information, give rapid feedback and use of this method in their courses raised their success, interest and motivation. In their research Christianson, Tiene & Luft (2002) detected students expressed that use of materials to increase the interaction between student-student, student-trainer in web-based learning environments, availability of case studies, evaluation questions increased their experience web-based learning and had more positive impacts on developing an attitude.

In his research, Demirli (2002) stated students denoted lack of time and place limitation contributed to increasing their performance, boredom caused by passive course listening in traditional class environment was not present, adverse incidents to arise between educator-student, student-student, was avoided, the questions hesitated to be asked in traditional class environment were asked more comfortably in virtual platform, audial and visual designs were required to be improved for the applications to be successful, however they thought web-based trainings which are often conducted asynchronously could be inadequate in providing answer to instant questions and problems. In the study, it was determined students had positive opinions concerning overall, course design and acquisitions of web-based Patient education course prepared, they were hesitant about course method. Their hesitations concerning course method were attributed to the fact that students experienced/participated in a course given by distance learning for the first time. Consequences of the study support the consequences of relevant studies.It was found that female students' opinions related to the course were significantly higher than male students' opinions. In their research, Bonnel, Wambach&Connors (2005) suggested female students stated use of technology in their education facilitated their learning, raised their creativity and self-confidences and was effective in preparing them to the future. Upon these consequences, it was construed that female students had a more positive attitude about learning by web-based learning.

It was found that opinions of the students who selected nursing profession willingly with respect to the course were statistically significant. With this finding, it was construed readiness of the students to learn, who select nursing profession willingly was higher.While no statistically significant difference was found between gender of the students and point mean of before course and after course state anxiety, a statistically highly significant difference was found between female students' before course and after course state anxiety points. These consequences suggest gender has no impact on anxiety, however increase in female and male students' post-course anxiety indicate they are worried about the course, the reasons need to be studied.

It was found that state anxiety point of the students expressing they selected nursing profession unwillingly before the course were statistically higher than anxietypoint of the students expressing they selected nursing profession willingly. With this finding, it was construed that the students selecting nursing profession unwillingly had more anxiety in web-based learning than those selecting this profession willingly and their readiness was not sufficient.

A statistically significant difference was detected between before and after course state anxiety points of the students who think of a life without computer or internet. A statistically significant difference was detected between before course and after course state anxiety points of the students who can't think of a life without computer or internet($p=0.003$ $p<0.01$). State anxiety of the students who can and can't think of a life without computer or internet increased subsequent to the course and increase indicates statistical significance.

This consequence might be attributed to technical failures such as activation of password in teaching the course and opening of the units later than desired date etc.

A statistically significant difference was detected between before and after course state anxiety points of the students who responded "no" to the question "Have you participated in a course/programme given by distance learning beforehand?". Increase of after course anxiety points of the students who did not participate in a course given by distance learning beforehand was attributed to the fact that they had no prior experience with respect to this.

A statistically significant difference was detected between before and after course state anxiety points of the students who responded "no" to the question "May all the courses in nursing education be given by web-based distance learning method?". That anxiety of the students thinking not all the courses in nursing education could be given by distance learning was construed with the fact that their readiness concerning web-based patient learning was inadequate.

A negative poorly significant relation was detected between student's views about web-based Patient Education and before course state anxiety in statistical terms.

It was observed that as students' views about the course increased in a positive way, their anxiety decreased. This consequence indicates that students' preliminary preparation before the course was important in decreasing the anxiety.

STUDY LIMITATIONS

The study is limited with students who receive web-based Patient Education course in a School of Nursing in 2010-2011 fall semester. All nursing students can't be generalized.

CONCLUSION

Consequences indicated that most of the students had positive views about web-based Patient Education course given by web-based learning, they had concerns and they were of the opinion that distance learning could be applied particularly in theoretical courses in nursing education.

In the light of these consequences, it might be recommended

- **to extend use of web-based learning applications in nursing education,**
- **to study reasons for anxiety and carry out preliminary preparation of the students prior to the course in line with the consequences.**

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REFERENCES

Adams, A. & Timmis, F. (2006). Students views of integrating web-based learning tecnology into the nursing cirriculum – A descriptive survey. Nurse Education in Practice 6, 2-21.

Akkoyunlu, B. (1999). İnternetin öğretim sürecinde kullanımı (Using internet in teaching process). Bilişim Teknolojileri Işığında Konferansı Bildiri Kitabı (*In the Light of Informatic Technologies Conference-NoticeBook*). Ankara, 77-82.

Aksakoğlu, G. (2002). *Sağlıkta Araştırma Teknikleri ve Analiz Yöntemleri (Research Technics and Analysis Method).* Dokuz Eylül Üniversity Rectorship Press, Izmir.

Aksu, H. & Irgil, E. (2003). İnternetin Uludağ Üniversitesi Tıp Fakültesi 5. ve 6. sınıf öğrencilerinin hayatındaki yeri (Where internet in the life of 5th and 6th degree students at Uludağ University Medical Faculty). *Journal of Uludağ University Medical Faculty* 29, 19-23.

Al, U. & Madran, O. (2004). Web tabanlı uzaktan eğitim sistemleri: sahip olması gereken özellikler ve standartlar (Web based distance education systems: Having characteristics and standarts). *Information World* 5 (2), 259-271.

Aslantürk, O. (2002). Bir web tabanlı uzaktan eğitim yönetim sisteminin tasarlanması ve gerçekleştirilmesi (Design in gandrealizing a web based distance education management system). Unpublished Master's Thesis. Hacettepe University Institute of Science, Computer Engineering Department, Ankara.

Aslım, V. (2004). Fransızca yabancı dil öğrencilerinin internet'in eğitimlerinde kullanılmasına yönelik tutum ve düşünceleri (Attitudes and views of French language students toward using internet in education systems*). Journal of Anadolu University Education Faculty* 14, 1-16.

Atack, L. & Rankin, J. (2002). A descriptive study of registered nurses' experiences with web-based learning. *Journal of Advanced Nursing* 40, 457-465.

Avery, D.M., Ringdahl, D., Juve, C. & Plumbo, P. (2003). *The transition to web based education: enhancing acess to graduate education for women's health providers* 48, 418-425.

Aydemir, Ö. & Köroğlu, F. (2000). *Psikiyatride Kullanılan Ölçekler (Scales Used Psychiatry).* Hekimler Yayın Birliği (Doctors Press Union), Ankara.

Aydın, H. C. (2002). Future trends for distance education (Uzaktan eğitimin geleceğine ilişkin eğilimler), Open and Distance Education Symposium, Eskişehir, 23-25 May 2002. Available from and retrieved on 08.10.2006, http://aof20.anadolu.edu.tr/bildiriler/Hakan_Aydin2.doc

Billings. D.M. (1999). The "next generation" distance education. Beyond access and convenience. *Journal of Nursing Education* 38, 246-247.

Blakeley, J. A. & Smith, C. J. (1998). Teaching community health nursing by distance methods: development, process and evaluation. *Journal of Continuing Education in Nursing* 29, 148-153.

Bonnel, W., Wambach, K. & Connors, H. (2005). A nurse educator teaching with technologies course: more than teaching on the web*. Journal of Professional Nursing* 21, 59-65.

Carr, K.C., Farley, C.L. (2003). Redesigning courses for the world wide web. *Journal of Midwifery & Women's Health* 48, 407-417.

Christianson, L., Tiene, D. & Luft, P. (2002). Web-based teaching in undergraduate nursing programs*. Nurse Educators* 27, 276-282.

Demirli, C. (2002). Web tabanlı öğretim uygulamalarına ilişkin öğrenci Görüşleri (Fırat Üniversitesi örneği) (Student views toward web based teaching practices - example of Fırat University). Açık ve Uzaktan Eğitim Sempozyumu (Open and Distance Education Symposioum). Eskişehir. Available from and retrieved on 18.10.2011, http://aof20.anadolu.edu.tr/bildiriler/Cihad_Demirli.doc

Diekelman, N., Schulte, H.D. (2000). Technology-based distance education and the absence of physical presence. *Journal of Nursing Education* 39, 51-52.

Emre, Y. (2002). Kitle iletişim araçları ve www teknolojilerinin uzaktan eğitim uygulamalarında kullanılması (Usage of mass communication and www technologies in distance education practices). Açık ve Uzaktan Eğitim Sempozyumu (Open and Distance Education Symposioum). Eskişehir. Available from and retrieved on 18.08.2011, http://aof20.anadolu.edu.tr/bildiriler/Yuksel_Emre.doc

Ergün, M. (1998). İnternet destekli eğitim (Internet assisted education). *Journal of Afyon Kocatepe University Social Sciences* 1,1-10.

Ertugrul, E. (1999). "What is distance education? What are the theoretical principles, methods, application areas, objectives, benefits and techniques of distance education? (Uzaktan eğitim nedir? Uzaktan eğitimin kuramsal ilkeleri, yöntemleri, kullanım alanları, amaçları, faydaları, teknikleri nelerdir?), I. Distance Education Symposium Statement Book Ankara, 15-16 November 1999, 7-14.

Glen, S. (2005). E-learning in nursing education: Lessons learnt? *Nurse Education Today* 25, 415-417.

Hadjerrouit, S. (2010). Developing web-based learning resources in school education: A user-centered approach. interdisciplinary. *Journal of E-Learning and Learning Objects* 6, 115-135.

Halter, J. M., Kleiner, C. & Hess, R. F. (2006). The experience of nursing students in an online doctoral program in nursing: A phenomenogical study. *International Journal of Nursing Studies* 43, 99-105.

Harrison, L. (2006). Web-based distance education: Principles and best practices. Available from and retrieved on 18.08.2011, http://www.utoronto.ca/atrc/rd/library/papers/accDistanceEducation.html

Hawatson, J. L. (2004). Designing web-based education courses for nurses. *Nursing Standart* 19, 41-44.

Heidari , F. & Galvin, K. (2002). The role of open learning in nurse education. Does it have a place? *Nurse Education Today* 22, 617-623.

Ipekçi, G. (2003). Hizmetiçi eğitim faaliyetlerinin uzaktan eğitim ile bütünleştirilmesi ve kavramsalbir model önerisi (Integration of inservice training activities with distance education and suggestion of conceptual model).Unpublished Master's Thesis. Dumlupınar Üniversity Institute of Social Sciences, Operation Management Organization Department, Kütahya, Turkey.

Isleyen, F., Bozkurt, S. & Zayim, N. (2008). Tıp fakültesi 1. sınıf öğrencilerinin eğitimde internet kullanımı ve e-öğrenme hakkında düşünceleri (Views of Medical faculty freshmen students' toward using internet in education and e-learning*). Academic Informatic 2008*, Çanakkale, 443-446.

Isman, A.,Dabaj, F. & Gümüş, A. (2006). İletişim eğitiminde internet bağımlılığı (Internet addiction in education of communication). *Eurasian Journal of Educational Research - Eğitim Araştırmaları* 23, 117-126.

Kay, R., Knaack, L. & Petrarca, D. (2009). Exploring teachers perceptions of web-based learning tools. *Interdisciplinary Journal of E-Learning and Learning Objects* 5, 27-50.

Kaya, H., Akcin, E. (2005). Distance Education and Nursing Education. *Modern Hastane Yönetimi January-Februry-March*, 43-47.

Khalifa, M. & Lam, R. (2002). Web-based learning: Effects on learning process and outcome. *IEEE Transactions on Education* 45 (4), 350-356.

Koç, Z. (2006). Hemşirelik öğrencilerinin hemşirelik eğitimi ve uygulamalarında bilgisayar kullanımı konusundaki görüşlerinin belirlenmesi (Determining views of nursing students about using computer in nursing education and practices). *Journal of Cumhuriyet Universiy Nursing School* 10, 29-40.

Kuzu, A. (2002). Web tabanlı öğrenme için öğretim ilkeleri ve değerlendirme (Teaching principles for web based learning and evaluation). *Journal of Anadolu University Education Faculty* 12, 67-77.

Nam C. S. & Jackson, T. L. (2007). Web-based learning environment: A theory-based design process for development and evaluation. *Journal of Information Technology Education* 6, 23-43

Oner, N. & Compte, A.L. (1998). *Durumluk/Sürekli Kaygı Envanteri El Kitabı (State Trait Anxiety Inventory Handbook). (2nd Edition).* Boğaziçi University Press, İstanbul, Turkey.

Ozaygen, A. (2000). İnternete dayalı uzaktan eğitim (Distance education based upon internet). *Journal of Science and Technic* 388, 100-103.

Ozdamar, K. (2001). SPS*S ile Biyoistatistik (Biostatisticwith SPSS). (4th Edition).* Kaan Press, Eskişehir, Turkey.

Ozdemir, S. & Yalın, H. İ. (2007). Web tabanlı asenkron öğrenme ortamında bireysel ve işbirlikli problem temelli öğrenmenin eleştirel düşünme becerilerine etkileri (Effect of problem based learning as individual and cooperative at web based asynchronous learning environment to critical thinking skills). *Journal of Ahi Evran University Kırşehir Education Faculty* 8 (1), 79-94

Özen, Ü. & Karaman, S. (2001). Web tabanlı uzaktan eğitimde sistem tasarımı (System desing in web based distance education). *Journal of Akdeniz University Faculty of Economic and Administrative Sciences* 2, 81-102.

Ozgüven, E. I. (2000). *Psikolojik Testler (PsychologicalTests*). PDERM Press, Ankara, Turkey, 338-341.

Pahl, C. (2003). Managing evolution and change in web based teaching and learning environments. *Computer & Education* 40, 9-114.

Passerini, K. & Granger, M. J. (2000). A developmental model for distance learning using the internet. *Computers & Education* 34, 1-15.

Picciano, A. G. (2001). *Distance Learning: Making Connections Across Virtual Space and Time*. Merrill Prentice Hall, New York.

Schrum, L. (1999). *Trends in Distance Learning: Lessons to Inform Practice*. Educational Media and Technology Yearbook, London.

Şenyuva, E. & Taşocak, G. (2010). Hemşirelik eğitiminde web tabanlı uzaktan eğitim uygulaması: "Hasta Eğitimi dersi örneği" (Implication of web based distance education in nursing education: Example of Patient Education course). 10th Educational Technology Conference, Notice Book II. Boğaziçi Universiy, İstanbul, Turkey, 664-670.

Somuncu, A. (2000). İnternette sınıf ana sayfası (homepage) geliştirme ve öğretimindeki etkinliğinin değerlendirilmesi (Developing course homepage on internet and evaluation of efficiency on teaching). Unpublished Master's Thesis. Ankara University Institute of Social Sciences, Ankara, Turkey.

Taylor, J. H. (2003). Facilitating distance learning in nurse education. *Nurse Education in Practice* 3, 23-29.

Türkoglu, R. (2003). Internet-based distance education program development processes. (İnternet tabanlı uzaktan eğitim programı geliştirme süreçleri). *Turkish Online Journal of Educational Technology (TOJET),* 2, Available from and retrieved on 15.10.2011, http://www.tojet.net

Ulker, S., Buldukoglu, K., Aksayan, S., Atalay, M., Kocaman, G., Oktay, S. & Pektekin, C. (2001). Nursing in Turkey: Problems and Solution Offers About Basic Professional Education and Manpower (Türkiye'de Hemşirelik: Temel Mesleki Eğitim ile İnsangücüne İlişkin Sorunlar ve Çözüm Önerileri). Available from and retrieved on 14.05.2007, http://www.yok.gov.tr/egitim/raporlar/hemsirelik/hemsire.pdf

Üniversitelerarası İletişim ve Bilgi Teknolojilerine Dayalı Uzaktan Yükseköğretim Yönetmeliği (Distance Higher Education Regulations Based on Interuniversity Communication and Information). Available from and retrieved on 05.09.2011, http://www.yok.gov.tr/yasa/yonet/yonet60.html

Wilkinson, A., Forbes, A., Bloomfield, J. & Gee, C.F. (2004). An exploration of four web-based open and flexible learning modules in post-registration nurse education. *International Journal of Nursing Studies* 41, 411-424.

Willis B. (2002). Strategies for teaching at a distance. Distance education –strategies and tools. Available from and retrieved on 18.09.2011, http://www.uidaho.edu/evo/dist2.htm

Willis, B. (1994). Distance education–strategies and tools. Available from and retrieved on 18.09.2011, http://www.uidaho.edu/evo/dist3.html

Yazon, J. M. O., Mayer-Smith J. A. & Redfield, R. J. (2002). Does the medium change the message? The impact of a web-based genetics course on university students' perspectives on learning and teaching. *Computers & Education* 38, 267-285.

Yigit, Y. & Özden, Y. (1999). Web tabanlı eğitim materyali içerisinde internet üzerinden görüntü aktarımı (Trasport image over internet in web based education material). Türkiye'de V. İnternet Konferansı (5th Internet Conference in Turkey). Ankara. Available from and retrieved on 20.11.2011, http://inet-tr.org.tr/inetconf5/tammetin/yasemin-tam.doc

Yu, S. & Yang K. F. (2006). Attitudes toward web-based distance learning among public health nurses in Taiwan: a questionnaire survey. *International Journal of Nursing Studies* 43, 767-774.