

F E A T U R E

A R T I C L E

International Communication via the Internet

Turkish Nursing Students' Experiences

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Advances in information and communication technology are having an impact in every sector, including education. Academic institutions now have access to a number of applications for educational purposes.¹ In Turkey the Internet has touched most sectors including banking, education, and health.

The first Internet connection in Turkey for independent public usage was established at Middle East Technical University in 1993. Ege University was the next institution to implement this type of connection early in 1994, and was followed by three other universities.² By 1997, 30,000 computers in Turkey were connected to the Internet, and 250,000 individuals were going on-line.³ According to a report published by the Turkish State Planning Organization, in 2003 there were 69 service providers in the country, and 4 million individuals had Internet access, a 60% increase compared with 2.5 million in 2001. The number of Internet users was expected to reach 6 million by the end of 2004.⁴ According to the director of Microsoft Arkan for Turkey, five persons in every 100 have a personal computer at home and 8 million people use the Internet.⁵

Although computer-aided education is not common in Turkey, it is available to schools nationwide.⁶ Turkey's best-equipped nursing program, in terms of computers, is the Ege University School of Nursing. Of the country's nine university schools of nursing, it was the first to be established. It has two of the country's 84 Health Higher Schools, located on two separate campuses. To aid students in learning modern technol-



INTERNATIONAL

This study involves an assignment given to first-year students at the Ege University School of Nursing in Turkey as part of a computer course. The assignment required students to obtain nursing and healthcare information about a foreign country via the Internet. The objective was to heighten global awareness while improving computer skills. The study was designed to assess the effectiveness of this teaching method, and to showcase the experiences and cooperation involved in knowledge-sharing by students in university schools of nursing around the world.

Thirty-one contacts were established and information was exchanged between nursing students at 20 different universities in five countries. Despite some difficulties, the students' positive response indicates that this study was effective in developing cultural and computer competency.

KEY WORDS

Internet and Nursing Education • Nursing Students •
Internet in Turkey

ogy, Ege University has, since 1998, required a full-year (two-term) computer course for all undergraduate first-year students. It has provided a new computer network structure and computer laboratories for faculty in all disciplines at the university. The School of Nursing offers its computer courses in two laboratories, where students have access to computers. Each laboratory has 34 computers with color monitors and Internet access. All computers have Windows XP.

The three-credit-per-term computer course consists of 2 hours of theory and 2 hours of practice per week. A term is 14 weeks. There is also a walk-in laboratory with 20 computers that is open 5 days a week, 8 hours per day, for nursing students. Students at the university have free e-mail and Internet access as well as easy access to computers.

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This study describes an assignment given to first-year nursing students as part of their computer course during the 2002–2003 academic year.

REVIEW OF SELECTED LITERATURE

The Internet is a tool commonly used by educators. Students may be asked to visit specific Web sites and find more information on topics addressed in a lecture. They could also be required to do a search for information on services offered at a particular location, or on various ethnic groups or populations at risk as follow-up to a class on diversity.⁶

Bridges and Thede⁷ and Colling and Rogers⁸ indicated that nurse educators must become more computer literate and develop creative teaching approaches if they expect to prepare students for clinical practice in the next millennium.^{7,8} Wright⁹ and Kirkpatrick and Brown¹⁰ stated that, although computers have been used in the nursing profession for some time now, little study has been done on their effectiveness.^{9,10} Chodorow¹¹ and Kirkpatrick and Brown¹⁰ suggested that the issue should be addressed seriously by nurse educators.^{10,11}

Computer use by nursing faculty is on the rise. According to a 1997 study of 184 baccalaureate nursing educators, 72% had an office computer, and 60% used it 4 hours or more per week.¹² A 2001 survey ($n = 489$) found that 94% of the respondents had a computer in their office and that 55.6% used the Internet 3 to 5 hours per week.¹³ Over this 4-year period, computer use by faculty increased 15 hours per week. Many colleges and universities had set up computer resource centers for students wishing to use computers on campus and, in some cases, provided a computer resource center geared toward nursing.¹³

Computer technology, especially increasing use of the Internet, has had a major impact on nursing education, and many nurse educators are now skilled at adapting traditional content, using alternative teaching methods that integrate Internet technology.¹³ According to Austin,¹⁴ university-level nursing schools are playing a major part in preparing students for computer application use, the importance of which has been stressed in many publications.¹⁴

One current strategy being used to develop computer literacy includes assignments to retrieve information and discuss health issues with nurses around the world via the Internet. With e-mail more readily available in the university sector, students have access to flexible, inexpensive, and efficient means of broadening their awareness of worldwide health issues. Through this medium, communication networks like newsgroups, bulletin boards, and mailing lists can be expanded.¹⁵

Progress in the information technology sector has had a major impact on nursing education which, for decades, had been provided in traditional settings such as the classroom, laboratory, and patient's bedside.¹³ The availability of practical and user-friendly software programs for e-mail, word processing, and the Internet has dramatically changed university education compared to 10 years ago when students were just beginning to widely use personal computers.¹⁶

A 1999 survey of colleges and universities found that course-based use of information technology included e-mail, Internet resources as part of the syllabus, and World Wide Web pages for class materials and resources (Figure 1).¹⁷ Because students need information technology skills in school as well as the workplace, many colleges and universities require all undergraduate students to complete basic computer skills courses.¹⁸

Yavuz's study of computer use at Ege University School of Nursing showed that 75.4% of students ($n = 196$) used a computer most often for the Internet, and 32.3% ($n = 84$) used the Internet for research.¹⁹ A 2001 study by Yavuz showed 73.6% ($n = 195$) of the students used the Internet for purposes other than homework, while 62.3% ($n = 165$) of the respondents were not interested in Internet pages related to nursing topics.²⁰

According to Kirkpatrick and Brown, "global awareness, knowledge of cultural diversity, and computer competence are expected outcomes of baccalaureate nursing education."^{10(p278)} Although some students may have had exposure to other cultures through caring for patients of different origins, this is not true for all students. Kirkpatrick and Brown also stated that nursing education is ill-equipped for developing computer skills and fostering global exchanges.¹⁰

Kirkpatrick and Brown¹⁰ conducted a study of international exchange in which 25 senior nursing students discussed health issues of a foreign country via e-mail. Once the students had completed their Internet and e-mail exchanges with a person in a foreign country, they submitted them to faculty members for review, and then put together a PowerPoint presentation of the technical information gathered. Seventy-six percent of the

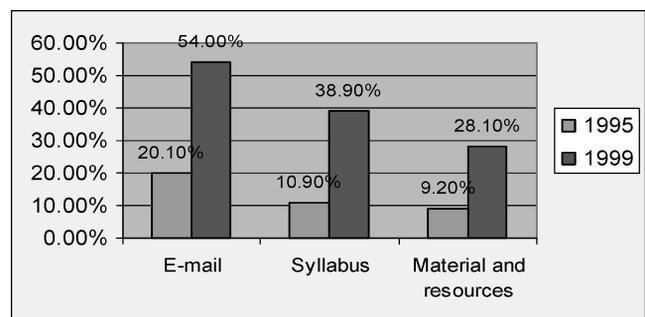


FIGURE 1. Course-based use of information technology.¹⁷

students reported having heightened international awareness as a result of this assignment. Eighty-eight percent had become more aware of the Internet, and once the assignment was over, 28% of them kept up communications abroad. A desire for further knowledge led over 30% of the group to do even more than what the assignment required. This assignment helped nursing students from the United States, Australia, and Finland “enhance partnerships and increase cultural awareness.”^{10(p281)}

Roberts et al²¹ conducted a study involving second-year nursing students from Central Queensland University (CQU) in Rockhampton ($n = 13$) and third-year nursing students from Northern Territory University (NTU) in Darwin ($n = 17$). The project consisted of assignments designed to have students from one university share information via e-mail with students from the other university.²¹ Students spent on average between 1 and 6 or more hours at the computer, the mean being 2.5 hours per week. Although seven NTU students stated that they had not had enough preparation for the assignment, five of their colleagues believed they had, as did all the CQU students.²¹

Differences in schedules created some communication problems. Students were rarely in school at the same time as their counterparts at the other university, which delayed the replies. A perceived lack of training and support, technical difficulties, lack of time and keyboard skills were the main negative points brought up by the students. Nevertheless, the students enjoyed e-mailing students from other countries and discussing nursing-related matters. They also became more confident about using the computer and the Internet, and improved their skills in this area.²¹

The study by Trick et al¹⁵ involved students e-mailing nurses in other countries such as Japan, Brazil, Peru, the United States of America, and Scotland. Many of them used the Internet as an additional source of information. Despite having encountered several process problems, the students gave the assignment a positive evaluation. It was an exciting and fun challenge which allowed them to improve their computer and Internet skills, network with other nurses, learn about other cultures, and about healthcare in other countries. The subjective nature of the information being exchanged helped nurses “explore various perspectives of culture, mores, attitudes, health beliefs and practices.”¹⁵

PURPOSE

The present study was designed to assess the effectiveness of teaching methods and to showcase the experiences and cooperation involved in knowledge-sharing

by first-year students at the Ege University School of Nursing who corresponded via e-mail with students in other university schools of nursing around the world. The students were given an assignment that consisted of having them use the Internet to obtain nursing and healthcare information about a foreign country. The purpose was to heighten students’ global awareness while improving computer skills.

SETTING AND SAMPLE

At the Ege University School of Nursing in Turkey, the computer classes, which are offered by two lecturers, are conducted in two laboratories where 34 computers are provided. At the time the study was conducted, an ethics committee was not set up at the school, so the researcher established ethical guidelines to the best of her knowledge. The students were asked if they agreed to participate in the study. Letters requesting permission to contact students at other schools were sent to the school directors and the study proceeded once all necessary permissions were received.

Students are arranged in six groups of 30 to 34 students, and three groups are assigned to each of the lecturers. In the 2002–2003 academic year, there were 187 first-year students at the School of Nursing.

This project involved 31 first-year baccalaureate nursing students enrolled in a computer class at the Ege University School of Nursing. There were 30 women (96.8%) and one man (3.2%). The students’ ages ranged from 18 to 23, with an average age of 19.77 years.

The majority of students ($n = 30$, 96.8%) had never been abroad, 26 (83.9%) had never had any foreign mail or e-mail contact, and 14 (45.2%) had never had any contact with foreign cultures. Sixteen students (51.6%) had no experience using computers, and 15 (48.4%) had never used the Internet prior to taking the class. These students were chosen because of their limited experience with computers and with foreign cultures. The author believed that an assignment of this nature would make the students aware of the importance of developing their skills in these areas.

METHODOLOGY

Before the assignment began, students had taken a course on Microsoft Office Suite (Word, Excel, and PowerPoint), wherein they learned to access the Internet, search the Web, use e-mail to retrieve information and communicate. This was a total of 56 hours of instruction by the end of the fall term. Students were provided with various suggestions by their lecturers on how to advance their Internet experiences. Lecturers

(Yavuz) offered different subjects to each student group, including more than one option. From these proposals, members of the group independently selected their own studies, which would be conducted through group participation.

Each student obtained an e-mail address from the Web to use for all subjects related to their courses. The e-mail address consisted of www.mail.com with the extension name name@writeme.com.

In the first stage of their assignment, students searched the World Wide Web for university schools of nursing around the world. There were no restrictions imposed on the students in terms of the country or the school. Since all Ege University students had taken a Basic English class in their first year, they preferred countries with students with whom they could correspond in English.

To make sure students did not choose the same schools, they advised their classmates of their selections. Once the students had selected the school they would contact, they went to the Web site of the selected school and found the e-mail address of the school's directors. The students sent the directors a standard e-mail message describing the Ege University (the assignment), and expressed their desire to correspond with students from that school.

The directors of the selected schools advised their students of the Ege University students' desire to correspond with them. Once this was done, replies began arriving from the selected schools. In some cases, the school directors sent the e-mail addresses of their students, and in other cases, the replies came directly from the students of the selected schools. Some students received several replies (five to 10) while others received no reply at all. Those who had more than one new contact shared the extra addresses with those classmates who had none. Therefore some students corresponded with students from the same schools.

The Ege University students were provided with a standard letter in which they provided information about themselves. They gave the school's Web page address and described themselves, nursing education in Turkey, Ege University, and the School of Nursing. The letters were then sent to their e-mail contact for them to fill in their part. The questions for their new friends to answer included 11 open-ended questions related to demographics: age, gender, nationality, name of the country, name of the university, duration of the courses, practical training, how they decided to become a nurse, who influenced them, working conditions of nurses in the given country, the most frequently observed illnesses in that country.

When the students had completed their correspondence, they were required to use the data to prepare a Microsoft Office PowerPoint presentation and share

the information with their classmates. The presentation included information about the e-mail contact and the contact's country, university, and school of nursing.

INSTRUMENT

Data were collected using a questionnaire developed by the author. The questionnaire was composed of two sections. The first part included

- two demographic questions focusing on the students (age, gender);
- three questions about their contacts with other cultures (traveling abroad, being a foreign chat or e-mail contact, their prior interest in foreign cultures);
- six questions involving the activities for the work assignment (method used to find addresses, countries with which they corresponded, number of schools to which they sent e-mails, waiting time for replies, number of replies received, the difficulties encountered in using computers);
- seven questions related to performing the assignment (where the student worked on the computer, how many hours a week, which days, how many hours it took to complete the assignment, students' views regarding the strengths and difficulties of the experience, what they learned, and their conclusions about the assignment).

The second part of the questionnaire related to the e-mail contacts. It included five questions related to their friends' demographics (age, gender, nationality, name of the country, name of the university).

DATA COLLECTION AND ANALYSIS

Data were collected from students over a 4-month period. Once students had completed their assignment, they filled out the questionnaire, and the results were analyzed using descriptive statistics. Data obtained were analyzed using SPSS for Windows.

RESULTS

The average number of days it took for replies to arrive from the selected schools was 28.41 days (minimum 1 day, maximum 120 days). Because of incorrect addresses forwarded by some of the students, some messages did not reach the schools. Students who had not received replies had to send their e-mails again, either to

the same schools or to different ones. Such situations were stressful for the students. The average number of e-mails sent by the students was 6.48, with a minimum of 1 and a maximum of 27. Students who received no reply completed their task by corresponding with contacts of classmates who had received more than one reply.

Difficulties reported by students during the e-mailing stage were language problems and late replies or wrong addresses. Several students reported no difficulties with their experience. When applying computer usage to the work assignments, technical difficulties with the process itself included difficulties opening the www.mail.com page from the school, and problems because of a lack of experience working with the Internet. Some students reported no problems in the application of Internet operations. The difficulties students encountered overall were language problems and long waiting times for answers, not receiving replies to the e-mails, language problems as well as technical problems in communicating, lack of available space in the school laboratory, anxiety related to failing to finish the work assignments, and time differences with the friends with whom they corresponded (see Table 1).

Most of the students ($n = 23$, 74.2%) did not have a personal computer at home and therefore accessed the Internet from school or Internet cafes while two students (6.5%) owned their own computers.

Fourteen students (45.2%) reported that they studied for the homework assignments during the week and 10 (32.3%) had done so on weekends and Mondays. (Monday is computer-class day.) The average number of hours that the students reported to have studied was 4.19 hours per week (min 1 h, max 14 h), and for the

complete work the average was 20.29 hours (min 4 h, max 60 h). Twenty-seven students (87.1%) had positive feelings about the work assignments, and 30 students (96.8%) thought to have gained useful outcomes.

Over half of the students ($n = 16$) had never used a computer before taking the computer class. At the end of the class, 26 students (83.9%) were feeling reasonably comfortable while five (16.1%) were not feeling entirely comfortable. The average age of the students' e-mail friends was 25.77 (min 18, max 43). Gender distribution was 80.6% ($n = 25$) female and 19.4% ($n = 6$) male. The majority of the students' e-mail contacts ($n = 11$, 35.5%) were students from university schools of nursing in the United States of America. Distribution of the countries contacted is shown in Table 2.

The contacts represented 12 different nationalities: American, Australian, British, Canadian, Cameroonian, Filipino, German, Jamaican, Nigerian, Panamanian, Scottish, and Venezuelan. Students reported that it was a good experience and an excellent opportunity for them to interact with different cultures. As a result of this work assignment, at least 31 contacts were established and information was exchanged between first-year nursing students at 20 different universities in five countries (18 students received e-mails from more than one student). The majority of the students kept up correspondence on various subjects apart from the work assignment.

DISCUSSION

Although the sample was small, pertinent information on international communication can be learned from

Table 1

Difficulties Related to E-Mailing Stage, Computer Usage, and Overall Assignment



| Difficulties | Number of Students | Percentage |
|--|--------------------|------------|
| Students' difficulties related to e-mailing stage | | |
| Language problems | 12 | 38.7 |
| Late replies and wrong address | 9 | 29.0 |
| No difficulties | 10 | 32.3 |
| Students' difficulties related to computer usage | | |
| Technical problems | 13 | 42.0 |
| Lack of experience working with the Internet | 9 | 29.0 |
| No difficulties | 9 | 29.0 |
| Students' difficulties related to overall assignment | | |
| Language problems and long waiting times for answers | 9 | 29.0 |
| Not receiving replies to the e-mails | 6 | 19.4 |
| Language problems as well as technical problems in communicating | 5 | 16.1 |
| Lack of available space in the school laboratory | 5 | 16.1 |
| Anxiety related to failing to finish the work assignments | 4 | 12.9 |
| Time differences with their e-mail contacts | 2 | 6.5 |
| Total | 31 | 100.0 |

Table 2**Countries and Universities of E-Mail Contacts**

| Countries and Universities Contacted | Number of Students Contacted | Percentage |
|---|------------------------------|------------|
| Australia and New Zealand Deakin University University of Newcastle University of South Australia Massey University | 10 | 32.7 |
| Canada McGill University University of British Columbia University of Toronto | 4 | 12.9 |
| United Kingdom Napier University University of Greenwich University of London University of Nottingham | 6 | 19.4 |
| United States California State University Fairfield University Oregon Health & Science University Radford University Sonoma State University University of Colorado University of Maryland University of Michigan University of Pennsylvania | 11 | 35.4 |
| Total | 31 | 100.0 |

the results. Students who were motivated to communicate abroad benefited by learning new ways of thinking, feeling, and behaving in culturally appropriate ways.

The students corresponded by e-mail with schools in a variety of countries: 11 in the United States and 4 in Canada, for a total of 15 in North America; as well as eight in Australia, six in the United Kingdom, and two in New Zealand.

As similar studies had shown—Colling and Rogers,⁸ Kirkpatrick and Brown,¹⁰ Trick et al,¹⁵ Gillham,¹⁶ Roberts et al,²¹ Ndiwane,²²—the students enjoyed corresponding with nursing students in other countries. Pleased about having improved their computer and Internet skills and about their new knowledge of other cultures and health care practices, the students gave the assignment a positive evaluation.^{8,10,15,16,21,22}

The difficulties students encountered included language problems and long waiting times for answers, not receiving replies to the e-mails, language problems as well as technical problems in communicating, lack of available space in the school laboratory, anxiety related to failing to finish the work assignments, time differences with the friends with whom they corresponded.

Similarly to findings in the 1998 study by Roberts et al, the students' negative comments related to not having been given enough tuition and support, as well as technical difficulties, lack of time, and of keyboard skills.

Having little or no prior experience communicating internationally, the students were originally concerned that they would be unable to perform the required tasks and that no one would respond to their e-mails. However, in the end, they were feeling much more confident about their computer skills and about communicating internationally.

The Internet is open to all students for knowledge-sharing and professional collaboration. This study was a small step toward better cooperation and collective research for the future between students of university schools of nursing around the world.

LIMITATION

The sample was a small and almost homogenous group of 30 women and one man in their early twenties. Their experiences may have varied tremendously if the sample size were larger and heterogeneous.

CONCLUSION AND RECOMMENDATIONS

On the basis of questionnaire results, oral presentations, and positive experiences expressed by the nursing students, it was concluded that the teaching methods were effective in developing a level of cultural and computer competency. The students reacted positively to the assignment. They were enthusiastic about their improved computer and Internet skills, the knowledge they gained about different cultures and healthcare practices, and having nursing students in other countries as e-mail contacts.

The students recommended that a similar study be done on communications between Turkish nursing students. This would allow them to first develop their computer skills before moving on to international communications, which involve language and time zone problems.

The project was worthwhile despite its difficulties because the skills learned by the first-year nursing students enhanced their personal and professional development in a world of rapidly developing communication technology. Turkish university schools of nursing are open to many kinds of related communications for their students and academics. The schools of nursing would like to actively expand multicultural dimensions so students can acquire a global approach to nursing and become better healthcare providers in the future.

SUMMARY

This study was based on an assignment given to first-year nursing students at the Ege University School of Nursing in Turkey. The assignment consisted in having students obtain nursing and healthcare information about a foreign country via the Internet, and its purpose was to heighten students' global awareness while improving their computer skills.

Despite some process problems, all students found the assignment challenging and exciting. They reacted positively to the assignment; were enthusiastic about their improved computer and Internet skills, the knowledge they gained about different cultures and healthcare practices, and having nursing students in other countries as e-mail contacts.

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