

Chapter 13 Technology in Education

■ Objectives

After completing this chapter, the reader will be able to:

1. Describe changes in education that have occurred as a result of *Information Age* technology.
2. Define the term: *Information Age, World Wide Web, Internet, information literacy* and *computer literacy*.
3. Identify ways in which the resources of the Internet and the World Wide Web could be incorporated into health education.
4. Describe the role of the nurse in using technology in patient education.
5. Recognize the issues related to the use of technology for patient education, especially related to access and the needs of special population groups.

■ Multiple Choice

1. What is the primary purpose of the e-Health Code of Ethics?
 - A. To provide the legal basis for removing inaccurate or misleading health related Web sites.
 - B. To ensure that all health consumers have equal access to computer-based health resources.
 - C. To serve as the standard for comparing and evaluating health-related Web sites.
 - D. To protect consumers who are using the Internet or the Web to obtain health information and services.
2. A patient tells the nurse that he is interested in finding Web resources to help him learn how to manage his health. Which of the following responses is most consistent with patient education in the *Information Age*?
 - A. Offer to find relevant Web sites and print the information for the patient.
 - B. Assess the patient's information literacy skills and provide guidance if needed for him to get started.
 - C. Warn the patient not to use any information he finds until you have a chance to verify its accuracy.
 - D. Ask the patient what information he is looking for to determine if you can provide the information yourself.

3. Which definition best describes the Internet? The Internet is a
 - A. global network of computers that allows information to be transferred from one computer to another.
 - B. small section of the World Wide Web devoted to e-mail and other forms of electronic communication.
 - C. computer program designed to allow users to search information that is housed within.
 - D. broadband communication system designed to facilitate e-mail and other forms of electronic communication.

4. A patient asks the nurse if she should trust the information she has found on the Web about her condition and its treatment. Which of the following responses is most appropriate?
 - A. "If you are reviewing Web sites designed for consumers, the information is probably appropriate for you to use. You should avoid professional Web sites that contain information you may not understand."
 - B. "There are ways for you to evaluate the information you find on the Web. You shouldn't trust any of the information you find until you determine that it is likely to be accurate."
 - C. "Look for sites sponsored by hospitals or health care organizations. These sites are closely monitored and can be trusted to provide you with the most up-to-date information on the Web."
 - D. "You should limit your use of the Web to one or two sites that have been checked by a healthcare professional and determined to be accurate. Because the Web is not monitored, you cannot trust most of the information you find."

5. Which strategy will most likely result in obtaining the most accurate health information on the World Wide Web?
 - A. Restrict Web searches to those sites authored by nurses or physicians.
 - B. Avoid the use of Web sites sponsored by drug companies or other healthcare vendors.
 - C. Determine if the same information can be found on multiple Web sites.
 - D. Use Web sites that have been updated on a regular basis.

6. The e-Health Code of Ethics suggests that health-related Web sites contain information about the creator and the purpose of the Web site. Which of the following terms best describes this practice?
 - A. Honesty
 - B. Candor
 - C. Quality
 - D. Accountability

7. E-mail allows for asynchronous discussion between nurse and patient. In this context, what is the meaning of the term asynchronous?
 - A. Nurse and patient can communicate without being in the same location.
 - B. Nurse and patient can send messages without having to use the same internet provider.
 - C. Nurse and patient can dialogue without being online at the same time.
 - D. Nurse and patient can send messages without being part of the same computer network.
8. When communicating with patients via e-mail, it is important to follow which of the following procedures?
 - A. Reassure patients that e-mail is a private method of communication.
 - B. Delete electronic and hard copies of messages from patients as soon as they have been answered
 - C. Keep messages to patients as brief and concise as possible.
 - D. Assume that it may take several days for a message to be read by a patient.
9. Which term is associated with an electronic communication system that allows the user to send e-mail messages to the mailboxes of multiple users?
 - A. Listserv
 - B. Chat
 - C. Bulletin Board
 - D. Usenet
10. A patient tells the nurse that he found a great news group for people with arthritis? The patient asks the nurse's opinion about the group. How should the nurse respond?
 - A. Reassure the patient that newsgroups have moderators who screen messages for appropriateness before they are posted.
 - B. Warn the patient that inaccurate information may be posted on news groups and that information should be verified before using.
 - C. Explain that news groups are designed to share clinical news with professional audiences and the information may be difficult for patients to evaluate.
 - D. Ask the patient for the name of the news group so that you can share this resource with patients with arthritis.
11. Which instructions should be given to patients who are participating in online chats?
 - A. Sign on to chats using your real name. An open, honest environment is important.
 - B. If you are concerned about spelling, use a word processor with a spell check to type comments and then cut and paste.
 - C. Keep comments short and to the point. Chats move too quickly to compose long remarks.
 - D. Avoid using emoticons and abbreviations. Other participants may not understand what you mean.

12. The nurses in a community health clinic want to establish an e-mail system to facilitate communication with their patients. Which of the following practices should be included?
 - A. Update patient e-mail addresses at each patient visit.
 - B. Identify one person in the office to assume responsibility for responding to all e-mails.
 - C. Establish a procedure to delete e-mail messages as soon as they are answered.
 - D. Instruct patients to e-mail the responsible person directly rather than using the office e-mail address.
13. Which is an accurate statement about access of the older population to the Internet?
 - A. It is estimated that as few as 15% of people over the age of 65 have Internet access.
 - B. Although most older adults have access to the Internet in their homes or communities, few use it due to lack of interest.
 - C. There are very few resources to assist older adults who cannot purchase Internet access due to limited income.
 - D. Over 50% of older adults report having had computer and Internet access in their homes for a year or more.
14. Which of the following suggestions would be helpful for a nurse who is planning on convening her first chat session with caregivers of elderly parents?
 - A. Let the participants identify topics to be covered during the session. Predetermined agendas may inhibit participation.
 - B. Do not set limits on the number of participants. The more participants, the livelier the discussion.
 - C. Begin the wrap up about 10 minutes before the scheduled end time. Adjourning a chat takes time.
 - D. Allow participants who have many questions to play a leading role in the chat. Others will learn from hearing their questions.

■ Answer Key

Item	Answer	Cognitive Domain Level	Difficulty Level
1	D	Knowledge	Medium
2	B	Application	Medium
3	A	Knowledge	Easy
4	B	Application	Hard
5	C	Comprehension	Easy
6	B	Knowledge	Medium
7	C	Comprehension	Easy
8	D	Knowledge	Easy
9	A	Knowledge	Easy
10	B	Comprehension	Medium
11	C	Knowledge	Easy
12	A	Comprehension	Medium
13	A	Comprehension	Medium
14	C	Comprehension	Hard

■ Extended Response Questions

- The nurse suspects that a patient has obtained inaccurate information about his condition and treatment but the patient denies searching the World Wide Web for information.
 - Identify two (2) reasons why a patient may be reluctant to tell the nurse about using the World Wide Web to search for health information.
 - Describe two (2) strategies the nurse can use to encourage patients to share their Web experiences with the nurse.
- Identify and define three (3) of the seven guiding principles contained in the e-Health Code of Ethics.
- Identify and define three (3) criteria that can be used to evaluate health related Web sites.
- Define the term information literacy and explain how it differs from computer literacy.
 - Identify three (3) strategies that can be implemented to increase the likelihood of successful chat sessions.
 - Identify two (2) potential problems the nurse should anticipate during the chat sessions.

■ Learning Activities

- Ask students to search the World Wide Web for sites designed for health care consumers and bring one example to class.
 - Using the criteria for evaluating Web sites, critique the sites in small groups or with the class as a whole.
 - Ask students to talk about problems they encountered during their search that may also be experienced by their patients.

2. Have students select an area of interest, i.e., a healthcare problem or issue. Ask them to compile a list of Web-based resources that could be used with consumers related to the area of interest.
3. Divide the class into groups of 3-5 students each. Assign each group a health problem. Ask students to play the role of healthcare consumer newly diagnosed with the health problem you have assigned. Students are to assume they know little about the condition they are to explore. Ask them to do a Web search for information and bring the information to class. Have each group to discuss the following questions:
 - Were you able to find the information you needed? If not, what was missing?
 - What conflicting information did you find?
 - Did you find any information that was upsetting or distressing?
 - Were you able to find on-line support groups or other interactive resources?
 - Having found this information, what kinds of questions or expectations would you have for the nurse at your next visit?
4. Have students participate in a chat session in small groups in the computer lab. Give each group a task to complete within a set amount of time. At the conclusion of the chat, discuss each group's experiences and lessons learned about running a chat session.

■ Instructional Materials

Content Outline

I. Health Education in the Information Age

- A. Definition of the term *information age*
- B. Impact of technology on society
- C. Impact of technology on health education
- D. e-Health Code of Ethics

II. Impact of Technology on the Teacher and Learner

- A. Changing roles of teachers and learners
- B. Changing needs of healthcare consumers
- C. New opportunities for professional education

III. Strategies for Using Technology in Healthcare Education

A. World Wide Web

1. Influence on consumers and professionals
2. Definition of terms
3. Consumer education via the world wide web
4. Role of the nurse in web-based education
5. Information literacy versus computer literacy
6. Identifying useful and problematic web sites
7. Criteria for evaluation health-related web sites

B. Internet

1. Definition of terms
2. Communication methodologies via the Internet
 - a. email
 - b. electronic discussion groups
 - c. mailing lists (listserv)
 - d. Usenet (newsgroups)
 - e. chat rooms

IV. Issues Related to the Use of Technology

- A. Older adults
- B. People with disabilities