

A Case Study

Use of ICT by medical students: A survey of Dr. Panjabrao Deshmukh Memorial Medical College, Amravati

■ S.A. DESHMUKH, A.G. ANGAIKAR, B.G. NAIR AND A.N. DESHMUKH

ARTICLE CHRONICLE :

Received :
20.06.2013;

Accepted :
19.08.2013

SUMMARY : Developing countries like India, where a scarcity of human resources in the health sector is a serious problem, can be a particular beneficiary of ICT-mediated education. Objectives of the study were the use of electronic information resources, examine students' attitudes towards use of ICT ect. Findings revealed the absence of co-operation among the medical libraries in Maharashtra or at the national level, including the lack of even interlibrary loan.

How to cite this article : Deshmukh, S.A., Angaikar, A.G., Nair, B.G. and Deshmukh, A.N. (2013). Use of ICT by medical students: A survey of Dr. Panjabrao Deshmukh Memorial Medical College, Amravati. *Agric. Update*, 8(3): 514-516.

KEY WORDS :

ICT, Information resources, User survey

BACKGROUND AND OBJECTIVES

New technology has brought significant changes in education (Bates, 2005). Medical education has also undergone profound changes due to recent technological advancements (Harden, 2002; Davis and Harden, 2001). Medical schools, particularly in the developed countries, have invested heavily in Information and Communication Technologies (ICT), not only to deliver education, but also to improve the quality of services that health professionals provide. Developing countries like India, where a scarcity of human resources in the health sector is a serious problem, can be a particular beneficiary of ICT-mediated education. Lack of educational institutions and qualified medical educators, poor distribution of facilities and poor access to the latest educational infrastructure are some of the issues to be addressed to improve the quality of medical education in developing countries. Advanced technology can address at least some of these problems. In fact, international organizations such as the United Nations (UN) and the World Health Organization (WHO) have acknowledged ICT as a useful tool to address education in health care sector in developing countries (WHO, 2005; Drury,

2005). United Nations Millennium Development Goals have articulated the significance of the use of ICT to address education and health issues.

Aims and objectives :

The primary purpose of the present study is to investigate use of the state of the art ICT in library of P.D.M. Medical College, Amravati. In addition, the study also aims to achieve the following objectives:

- To explore the role of ICT in medical education and research.
- To assess the use of electronic information resources by medical students.
- To identify and analyze the specific factors that have hindered the use of electronic information resources by medical students.
- To examine students' attitudes towards use of ICT in medical education and research.
- To suggest measures for improvement of existing ICT-based resources and services in the medical library.

RESOURCES AND METHODS

The study used a questionnaire, with 32 questions spread over eight sections: (A) General profile of the respondents, (B) Attitude towards

Author for correspondence :

S.A. DESHMUKH
Shri Shivaji Agricultural
College, AMRAVATI (M.S)
INDIA
Email: dsonali14@
rediffmail.com

See end of the article for
authors' affiliations

ICT, (C) Use of ICT, (D) ICT enabled teaching and research, (E) ICT training provision, (F) ICT skill of medical students, (G) Access to medical information on the Web and (H) Constraints. To facilitate quantification and analysis of data, mainly close-ended questions were used along with checklists and rating scales. To capture a response and to have fewer missing responses, options such as “no opinion”, “don’t know”, and “don’t know about it” were also included. A random sample of 150 (25%) of 600 medical students of PDM Medical College, Amravati, was selected and questionnaires were distributed among them. Of those, 128 (85.33%) questionnaires were returned completed.

Dr. Panjabrao Memorial Medical College at Amravati started in 1984, (At present, the college has 27 departments and 435 MBBS students, 18 post-graduate students, 216 doctors and 400 other employees. This college is affiliated to Maharashtra Health, Nashik.

OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

Attitude of medical students towards ICT :

In survey it was found that majority of respondents believed that ICT is essential for medical education. In order to assess the attitude of medical students towards ICT, they were asked whether they felt that medical education would not be effective without ICT.

Table 3: Purpose and frequency of Internet use

Purpose for using Internet	At least daily	Weekly	Monthly	Occasionally	Never
Literature search	7 (5.47%)	28 (21.87%)	9 (7.03%)	35 (27.34%)	25 (19.53%)
E-mail	11 (8.59%)	49 (38.28%)	17 (13.28%)	26 (20.31%)	6 (6.25%)
Information for patient	9 (7.03%)	11 (8.59%)	12 (9.37%)	12 (9.37%)	47 (36.71%)
Reading recommended coursework	11 (8.59%)	19 (14.84%)	9 (3.03%)	30 (23.43%)	26 (20.31%)
Chat	14 (10.94%)	42 (32.81%)	7 (5.47%)	26 (20.31%)	20 (15.62%)

Table 4: Students' knowledge of computers and IT

ICT tools and applications	Not confident	Quite confident	Confident	Very confident
Mouse	3 (2.34%)	26 (20.31%)	43 (33.59%)	47 (36.72%)
Keyboard	3 (2.34%)	34 (26.56%)	43 (33.59%)	38 (29.69%)
MS-word or other word processor	42 (32.81%)	22 (17.19%)	27 (21.09%)	26 (20.31%)
Excel/other spread sheet	51 (39.84%)	19 (14.84%)	21 (16.41%)	17 (13.28%)
Internet	7 (5.47%)	34 (26.56%)	39 (30.47%)	36 (28.13%)
E-mail	9 (7.03%)	29 (22.66%)	37 (28.91%)	32 (25%)
Computerized patient record	52 (40.63%)	16 (12.50%)	22 (17.19%)	16 (12.50%)

Table 5 : Problems accessing electronic information

Reasons	Inadequate number of PCs	Lack of support from IT staff	ICT not present in syllabus	Lack of time to use	No computer lab	E-Resources not available in library	No campus computer network	No Internet connectivity
Frequency	59	71	72	64	60	40	55	27
Per cent	46.09	55.46	56.25	50	46.87	31.25	42.96	21.09

About 78.12 per cent of respondents agreed that medical education and research will not be effective unless ICT tools and techniques are used in the educational process. Further, it is evident from the data that the students realized that ICT tools and techniques should become a part of medical education (Table 1).

Table 1: Effectiveness of medical education and research

Medical education will not be effective without use of ICT tools and techniques	Frequency	Per cent
Agree	100	78.12%
Disagree	22	17.18%
Don't know	6	4.68%
Don't use it	0	0%

Need for ICT enabled library facilities :

Students were asked to put forth their recommendations about ICT facilities.

As it is evident from Table 2 three quarters of respondents recommend a library website for remote access

Table 2: ICT facilities recommended by students

ICT facilities	Frequency	Per cent
Library website	97	75.78%
E-resources	81	63.28%
Networking with other medical library and information systems	79	61.72%
Automation of library	76	59.57%
Digital library facilities	61	47.65%
Local area network for library	52	40.62%

to library resources and services. More than 60 per cent recommend e-resources and an equal number recommend networking with other libraries and information system.

Use of ICT by medical students :

The state of computer use by students was not encouraging. Nearly half used a computer at least monthly, with another quarter weekly and only about 20 per cent using a computer daily. Nearly 10 per cent never used a computer, which was quite discouraging. Although the students consider computers an integral part of medical education, their overall use was infrequent.

Use of internet :

More than 80 per cent of respondents used the Internet. Table 3 summarizes the purpose and frequency.

Most students used the Internet weekly to send and receive email and chat with friends online. More than one quarter, however, used the Internet for accessing reading material recommended by their teachers.

ICT literacy of medical students :

Of the 128 students who responded to this survey, nearly all were at least somewhat confident about using the mouse and keyboard. Surprisingly, there were still 3 (2.34%) medical students who were not confident either in handling the mouse or the keyboard of a computer. About one third of the students were not confident in using any word processing programme. Nearly all were confident about web searching, and majority were able to deal with computerized patient records (Table 4).

Constraints in use of ICT :

It can be observed from Table 5 that more than half of respondents stated that application of ICT not present in their course syllabus, with a nearly equal number who saw a lack of support from IT staff. Half indicated lack of time and significant numbers also mentioned the lack of computer labs and a campus network, with a smaller number mentioning a

lack of availability of e-resources in the library.

Conclusion :

ICT provides students with a broad perspective. This important topic was selected as the focus of this study. The study found that ICT can be a useful tool to address problems in medical education, but the lack of technology and resources is still a serious limitation. The noteworthy point is that even after three decades, the inadequacy of qualified technical staff has stood in the way of users' satisfaction. Further, there was ample evidence that most users were deprived of access to the vast medical literature available in electronic format. The Medical college library has not been able to use the services available at a national and international level. Another obvious finding was the absence of co-operation among the medical libraries in Maharashtra or at the national level, including the lack of even interlibrary loan. Attention to these broad areas of weakness will go a long way toward improving the use of ICT in the library.

Authors' affiliations :

A.G.ANGAITKAR, B.G.NAIR AND A.N.DESHMUKH, Shri Shivaji Agricultural College, AMRAVATI (M.S) INDIA

REFERENCES

- Bates, A.W.** (2005). Technology e-learning and distance education. 2nd Ed. *Routing*, **13** (2): 121-125.
- Davis , M.H. and Harden, R.M.** (2001). E is for everything in e-learning. *Med. Teach.*, **23** (5): 441-444.
- Drury, P.** (2005). E-health: A model for developing countries. *Health Internat.*, **2** (2): 19-26.
- Harden, R.M.** (2002). Development in outline based education. *Med. Teach.*, **24** (2): 117-120.

■WEBLIOGRAPHY

- Asquari, J.N. and Haywood, J.** (1997). Computer awareness among medical students: A survey. *J. Med. Edu.*, **31** (3), 225-229. Available: <http://www.pubmed.com/cbi.nlm.nih.gov/entrez>.


 ★★★★★ of Excellence ★★★★★