

Internet and information technology use by dental students in Chile

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Abstract As part of a larger cross-country survey of dental students, students from the School of Dentistry, The University of Valparaiso, were invited to participate in a study to describe their use of information and communication technology (ICT). Information was derived from a 124-item questionnaire which included 14 socio-demographic items and 29 items asking about ICT use. ICT items were derived from a University of Birmingham, UK, battery. Data was collected in July and August 2004. A total of 162 of the 249 dental students participated in the study. The average age of students was 21.0 years (SD 2.4 years). The majority of participants (62.1%) were female. All participants had access to a computer, and 96.4% used the Internet. Most students had home Internet connections (73.4%). The most commonly used Internet sites on at least a weekly basis were: email (92.2%); and search engines (88.3%). However, a very few (21.1%) used the

Internet to search for dental information for their studies on at least a weekly basis. Furthermore, although the majority (70.4%) found Internet use easy/very easy, 56.2% indicated that any search for information was easy/very easy. The majority (72.2%) indicated that the use of virtual education would not affect their class attendance. The final multivariate model explained 26% of the variance in ICT use, significant predictors for ICT use were gender, year of study, level of difficulty in using Internet, and place of Internet use. However, Internet use was mostly for non-dental purposes.

Key words: internet; computer literacy; dental education; dental students.

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THE INTERNET, which has been available since the 1960s to link universities and select government organisations, has developed into a network that enables anybody with access to a computer to communicate throughout the world. The 1990s saw the emergence of the World-Wide-Web, an interface for the user which provided easier access and encouraged people to take advantage of the many benefits of the Internet (1). In most countries, the Internet is available to the general public at home, in Internet cafés, shopping centres and airports, as well as in universities and public libraries.

People are becoming more dependent on the Internet for banking, paying taxes and shopping (2). For many, the Internet has become an integral part of everyday life. Few days will pass when the Internet-literate person does not access on-line information of some kind (1), and frequency of Internet usage is expected to increase in the future. For example, in the USA daily usage of the Internet has expanded from 52 million people in March 2000 to 66 million in August 2003, a growth of 27% (3). In Chile, there has been a parallel increase in Internet usage to that of the

USA: Chile is now the second most advanced country in Latin-American in respect of Internet use, with 25.8% of its 15 million people connected to the Internet from their homes (2).

Although it is difficult to predict the educational technology of the future (i.e. interactive videos and printed materials; face-to-face courses; online courses; CD-ROM or audiotape based material; DVD, etc.), lifelong learning is needed as never before in the history of Dentistry to keep pace with fast changing technology and the exponential growth of knowledge. This extremely rapid progress poses challenges for dental education as it may require new skills, techniques and knowledge to implement a variety of learning technologies, as well as changes in teaching style, learning approaches and methods of accessing the information needed to keep professionals up-to-date with new developments in the 21st century (4–6).

Continuous learning is now seen as a professional responsibility and an expected attribute of graduates of the School of Dentistry, University of Valparaiso (7). The Internet is a powerful communication tool and a

growing resource for the dissemination of information and there are many benefits for dental students and oral health professionals wishing to take responsibility for maintaining an up-to-date knowledge base. Whilst there is increasing research regarding use of the Internet in dentistry and dental education (6, 8–10), to our knowledge, no information is available about its use in dental education in Latin America.

As a starting point to addressing these gaps in the literature, this paper aims to describe the use (frequency and purpose) of Internet and information and communication technology (ICT) amongst undergraduate dental students at the School of Dentistry, The University of Valparaiso, Valparaiso, Chile (SOUV). Another aim of this paper is to explore the students' views on the accuracy and relevance of Internet information related to dentistry and to assess their attitudes to placing lectures on the Internet.

A short description of the School of Dentistry, University of Valparaiso is essential to place some of our findings into a context. The School is located in Valparaiso, the second main Chilean city. The School was established in 1955 as part of the University of Chile. In 1981, the School gained autonomy and it is now the only public dental school, out of two, in the Valparaiso metropolitan area and the only Dental School accredited by the National Accreditation Committee of the Chilean Ministry of Education (10). At the time of data collection for this study there were no online courses at the SOUV. However, during 2005, a shift from traditional teaching methods to more Internet learning began. Post-graduate on-line courses in Periodontology, Cariology, Paediatric Dentistry and Evidence-Based Dentistry have been successfully established.

Method

Population and sample

As part of a larger cross-country study on the socio-demographic profile and cultural values of dental students (11, 12), all 249 dental students from first to fifth years of the Faculty of Dentistry, University of Valparaiso, were invited to participate in this study. However, the course at the SOUV is of 5½-year duration. Data was collected between July and August 2004. In these periods, dental students were invited to volunteer to participate in the study by completing an anonymous, 124-item questionnaire during normally scheduled lecture hours. Those who were not present at the lecture were given another chance to complete the questionnaire afterwards.

The questionnaire included items on socio-demographic characteristics and examined motivating factors for adopting Dentistry as a career. The questionnaire also sought information on parental socioeconomic status (SES) background and asked students to complete a value orientation scale (11). Additionally, the instrument included 29 items asking about Internet and information technology use, adapted from Walmsley et al. (5).

The study protocol was approved by the Human Research Ethics Committee of the Faculty of Dentistry, University of Valparaiso.

Measures

Socio-demographic information used in this analysis included age, sex, and year of study.

Internet utilisation information included: frequency of visit to Internet sites. Participants were asked to classify themselves, on a 5-point ordinal scale, according to the response that best described their frequency of visit to Internet sites, as 'daily', 'once a week', 'monthly', 'less than once a month', or 'never'. The sites list included six alternatives: Medline, e-mail, news portals, dental information portals and search engines. These responses were weighted as daily, 5; once a week, 3; monthly, 1; less than once a month, 0.5; and never, 0. The weighted values were added across all the sites listed to yield a total Internet use score. Higher scores represented more frequent use. Thus, a score of 30 indicated that a student visited all six sites daily.

Students were also asked about the frequency of use of six sources of information for their studies: textbooks, lecture notes, videos, Internet, self-instruction packages, students or faculties. Responses were coded as 'daily', 'once a week', 'monthly', 'less than once a month', or 'never'.

The level of difficulty in using the Internet and in finding the information was investigated by asking participants to indicate over a 5-point scale. Responses were coded from: 'very easy' to 'not easy at all'. Students were also asked about how quickly they find information on the Internet. Responses were coded over a 5-point scale from 'very fast' to 'not fast at all'. Students were asked about the precision of information found on the Internet and responses were coded from 'very precise; to 'very imprecise.

Data analysis

The first part of the analysis provides a profile of dental students based on the distribution of selected socio-demographic and Internet use variables. Data were analysed to statistically compare results between

different socio-demographic and Internet use variables. For the analysis of results for variables that are nominal or ordinal, chi-square analysis was applied. For variables in an interval scale, results were analysed using one-way analysis of variance (ANOVA) to examine the main effects of each of the independent variables on the dependent variable under study. A significant ANOVA was followed by *post-hoc* comparisons using Tukey's Honestly Significant Differences tests. Finally, data were analysed using multiple regression analysis with a stepwise procedure used to determine the relative importance of a set of independent variables in determining the participant's Internet use score. Variables entered into the regression equation were gender, year of study, level of difficulty to use Internet, level of difficulty finding information on the Internet, time used to find information and place of Internet use. The data were analysed using SPSS, v. 13.0. The data were examined for violation of the assumptions underlying multivariate methods prior to the analysis (13).

Results

A total of 162 students participated in the study, achieving an overall response rate of 65%. In Chile, students may enter dental school directly after completing high school and at SOUV the majority of the students at the SOUV (61.7%) are female. Accordingly, students' age ranged from 18 to 32 years, with a mean of 21.0 years (SD 2.4 years), and the majority of respondents (61.7%) 21 years old or younger. Most of the participants (62.1%) were female. Forty-six participants were in their first year (28.4%), 26 were from the second year (16.0%), 30 were in their third year (18.5%); 18 in their fourth year; (11.2%), and the remaining 42 in their fifth year (25.9%).

All participants had access to a computer, most of them at home (90.1%). Most of the participants also had access to the Internet in their homes (73.4%) and the remainder indicated access at the SOUV, with significant fluctuation by year of study ($P < 0.02$). Access at home decreased significantly from 80% or more in the first 3 years to 66.7% in the fourth year and 54.8% fifth year.

Use of the Internet was high, 54.3% of the students used e-mail on a daily basis and another 37.9% at least once a week. Females were at least weekly users of e-mail in a significantly higher proportion than males (94.5% vs. 90.2%; $P < 0.05$). Other popular sites were search engines and news portals; 88.2% and 44.8% used on at least a weekly basis. By gender, males were

significantly more frequent users of news portals than females (54.27% vs. 39.4%; $P < 0.05$). On the other hand, when asked about their use of Internet for dentistry (i.e. dental portals), only 20.9% of the students reported this type of use at least once a week. However, the use of dental portals increased significantly towards the end of their studies ($P < 0.01$). Still, dental students infrequently employed literature retrieve tools and only 14.5% had used Medline at least weekly. By gender, females tended to be less frequent users of Medline than males (7.6% vs. 25.4%, respectively; $P < 0.01$). Males were also more frequent users than females of Internet search engines (85.9% vs. 91.8%; $P = 0.05$).

Students were also asked about the sources of information for their studies. The majority used, on at least a weekly basis, lectures notes (95.1%); Internet (76.7%); consultation with faculties (69.8%) and textbooks (60.5%). The use of self-instructional packages or videos by dental students was very low (see Table 1). Furthermore, 53.0% of students used the Internet to search topics related to dental information. On the other hand, it was found that non-dental use was more frequent (72.0%) (see Table 1).

Seventy per cent of participants indicated that use of the Internet was easy or very easy; and there were significant differences by age, with younger students finding it less difficult to use the Internet ($P < 0.05$). However, only 56.2% indicated that it was easy or very easy to find information and 48.1% indicated it was fast or very fast to find information. Again, younger participants were likely to find information more easily, as well as faster ($P < 0.01$). About one-third (38.5%) of students indicated that these searches were considered imprecise and just 40.1% of them had

TABLE 1. Frequency of visits of Internet sites and of use of learning materials related to dentistry (percentage) by dental students at the Faculty of dentistry, University of Valparaiso, Valparaiso, Chile

Internet sites	Daily or weekly	Monthly or seldom	Never*
E-mail	93.2	5.0	1.8
Search engine	88.2	10.6	1.2
News portal or sites	47.2	36.0	16.8
Dental portal or sites	24.8	60.3	14.9
Medline	19.2	54.7	26.1
Others	0.6	2.5	96.9
Use of learning materials			
Classes notes	95.1	4.9	0.0
Internet	75.3	21.6	3.1
Colleagues or teachers	69.8	24.7	5.5
Textbooks	60.5	39.5	0.0
Self-instructional material	7.4	39.5	53.1
Videos	1.2	34.6	64.2

*Includes no answers.

relevance, with no statistical difference by either age or gender.

The great majority of participants (94.4%) said that it was 'very useful' that lectures notes were put on the net; only 1.9% indicated that it was 'not at all useful' to make lecture notes available on the net. However, when students were asked whether the use of virtual education or material distributed via Internet would affect their class attendance, the majority (72.2%) indicated that this would not be affected at all, or not very much. On the other hand, 14.9% indicated that it would strongly influence their class attendance.

The Internet use score ranged from 0.5 to 24.0, with an overall mean of 11.9 (SD 5.0). There were significant differences by gender, but not by age. Males had significantly higher scores than females (13.4 vs. 11.0; $P < 0.01$). It was noted that the Internet use score decreased when access to the Internet was only at the School compared with when the students also had home access (9.9 vs. 12.6; $P < 0.01$). Moreover, there

were significant differences by year of education ($P < 0.001$). The index had a score of 12.9 in the first year and reached its maximum in the third year (13.9). The lowest score was in the last year (9.8). These differences reach significance level when comparing the fifth year with the first and third year, and when comparing the second to the third year. Of interest was the significant association ($P < 0.001$) detected between the level of difficulty of finding information and frequency of use of the Internet, indicating that for frequent users of the Internet (score = 14.7) it is easier to find what they are searching for compared with infrequent users (score = 8.8). Table 2 presents the distribution of Internet use score by selected variables.

Results from multiple regression analysis showed that Internet use scores were significantly influenced by gender, year of study, level of difficulty of using the Internet, and place of Internet use ($P < 0.001$). These four variables accounted for 26% of the variance of the Internet use score (adjusted $r^2 = 0.26$). The resulting

TABLE 2. Distribution of scores in the Internet use index by selected of demographic characteristics amongst dental students at the School of Dentistry, University of Valparaiso, Valparaiso, Chile

	n (%) [*]	Internet use index score, mean (SD)
Age group		
Younger than 20	46 (28.4)	12.1 (4.4)
20–21 years old	54 (33.3)	12.3 (4.3)
22–23 years old	45 (27.8)	11.7 (5.5)
Older than 23 years	17 (10.5)	10.6 (6.8)
Gender		**
Male	61 (37.9)	13.4 (5.0)
Female	100 (62.1)	11.0 (5.4)
Year of study		**
First	46 (28.4)	12.8 (4.5)
Second	26 (16.1)	10.2 (3.4)
Third	30 (18.5)	13.9 (4.5)
Fourth	18 (11.1)	13.4 (5.4)
Fifth	42 (25.9)	9.8 (5.5)
Where do you access Internet?		**
Place of study	42 (26.6)	9.8 (4.7)
Home	116 (73.4)	12.6 (4.9)
Level of difficulty in using the Internet		***
Very easy/fairly easy	114 (70.4)	12.9 (5.0)
Average	39 (24.0)	9.6 (4.0)
Not very easy/not easy at all	9 (5.6)	9.3 (4.8)
Level of difficulty finding information in the Internet		***
Very easy/fairly easy	91 (56.2)	13.0 (4.6)
Average	53 (32.7)	11.0 (5.1)
Not very easy/not easy at all	18 (11.1)	8.8 (4.5)
How quickly do you find information on the Internet?		**
Very fast/fairly fast	78 (48.1)	12.7 (5.0)
Average	63 (38.9)	12.0 (4.9)
Not very fast/not fast at all	21 (13.0)	8.7 (5.3)
How precise was the information found in the Internet?		**
Very precise/fairly precise	62 (38.5)	11.6 (4.8)
Average	81 (50.3)	12.5 (4.9)
Not very precise/not precise at all	18 (11.2)	9.6 (4.6)

^{*}Total number on each of the categories may vary from the total due to missing values; ^{**} $P < 0.01$; ^{***} $P < 0.001$.

Independent variable	Multiple regression coefficient (B)	P-value
Gender (female = 0; male = 1)	1.689	0.022
Second year (no = 0; yes = 1)	-3.015	0.004
Fifth year (no = 0; yes = 1)	-2.072	0.016
How easy do you find to use the Internet?	1.555	0.001
Where do you access Internet?	2.025	0.014
Constant		0.713
Adjusted $r^2 = 0.26$		

TABLE 3. Final multivariate model identifying Internet use score amongst dental students at the School of Dentistry, University of Valparaiso, Valparaiso, Chile

model indicated that, after controlling for other independent variables in the model, those who had the highest Internet use score were male students who expressed lower levels of difficulties in using the Internet, had access to the Internet at home and were in either their first, third or fourth year of study (see Table 3).

Discussion

The Internet is an increasingly popular teaching and learning tool and is rapidly becoming an irreplaceable part of dental education. Its use supplements traditional instructional methods and can provide comparable learning and student satisfaction results to such methods (14). Therefore, students with no access to the Internet or less use might be disadvantaged. However, findings from the present study would indicate that students had computers available and access to the Internet was common. However, in the present survey and consistent with other studies on dental students (5, 8, 15), most of the respondents do not fully use ICT for learning purposes or to search information relevant to their studies or profession. On the other hand, Virtanen and Nieminen (9) reported that 80% of students used Medline.

Emphasis should be placed on increasing student involvement in their own learning and on preparing future graduates for lifelong learning using up-to-date educational technology to facilitate this aim. These programmes will require a substantial commitment by academics to develop material for virtual education. There is no point in creating new behaviours or changing attitudes unless potential users have the opportunity to use ICT and services exist to support these initiatives. Dental educators should give serious consideration to use of the Internet to strengthen educational programme and to communicate with students. Appropriate on-line information avoids unnecessary consultation time with students. Moreover, once this material is developed, information on the Internet can be easily updated.

A key criticism of the Internet is that it provides information produced by anonymous authors, which is incomplete, out-dated or irrelevant, and provided by non-credible health sources (1). However, if course material is made available on the Internet by the faculties themselves, the quality, credibility and relevance of its content are assured. Another criticism is that the use of the Internet could be seen as a deterrent to attending lectures (5). However, in line with other studies (8), students in this study indicated that material distributed via the Internet would not influence lecture attendance.

In the present study, e-mail was the most commonly used ICT application. This high rate of e-mail use is similar to other studies with health professions students (16, 17), but somewhat higher than that reported in the UK for dental students (5). Moreover, similar to other studies, the pattern of use was significantly higher amongst men (8, 9, 15). No link was found with regard to student's age, but consistent with other studies (9, 15), there were significant fluctuations from year to year. In those studies (9, 15), it was found that use increased with seniority. That pattern was not present in our study and the fluctuation pattern is difficult to interpret, but could be related to the gender composition of each year. On the other hand, the study found that there is still an important proportion of students who are not frequently using the ICT for learning purposes. This is a group that needs to be taken into account when preparing online education material, so they are not disadvantaged. Increased efforts should be directed to identifying low Internet user groups and to addressing students' barriers and concerns. Future studies using qualitative methods may provide additional valuable information on factors that prevent both the students and faculties from using and successfully integrating ICT into their programmes.

Although the use of e-mail was high, the fact that students could communicate using e-mail or manage basic computer skills does not mean that they are skilled in the management of information or equipped to perform other tasks in ICT (18-21). Having or using

a computer is not the same as being computer literate or accepting ICT as a learning tool (22). Competency in information literacy according to Jacobs et al. (23) includes understanding the structure of information, and being able to navigate a variety of print and electronic tools to effectively access, search and critically evaluate resources, synthesise information and communicate results; as well as considering ethical concerns about the provision, dissemination and sharing of information. A course in computers and dental informatics, as some schools have as a mandatory part of pre-clinical studies (8, 9), would help to achieve this objective. Furthermore, ICT use and courses could be used as promotion material for the School to attract new undergraduates as well as post-graduate students.

Structural barriers, as well as knowledge and attitudes amongst all parties, affect access to and use of ICT. For example, time (8, 15), cost (15) and access to printers (19) have been identified as barriers to using ICT by dental students. At the SOUV, even though students are provided with free unlimited access to the Internet at the School, the ratio of students per computer is 1:25, and they do not receive personal e-mail addresses from the university. Thus, increasing use of the Internet would require further efforts to reduce barriers, along with efforts to increase students' ICT skills to achieve an adequate level of competency. As well as availability of equipment and access to the Internet, acceptance by students and teachers is important for successful implementation. More research is needed to further explore the faculties' use and approval of this educational technology, as their attitude is likely to affect the implementation and success of Internet-based teaching (5, 18).

Present findings indicate a clear relationship between ability to use the Internet and its use. That is, if a person feels more in control and finds sites easy to navigate, he/she is more likely to use this tool. In fact, in the final multivariate model significant predictors were: gender, year of study, level of difficulty to use the Internet and place of Internet use (see Table 3). However, Internet use was mostly for non-dental purposes and the predictive power of the final model was moderate (26% of the variance). Therefore, it is not claimed here that a definitive model has been developed rather a step has been made towards providing a basis for future research models. Future studies should confirm, in a representative sample of dental students, the importance of these groups of variables in explaining use of ICT, in particular for Internet-based learning.

These results represent a preliminary evaluation of the topic amongst dental students in Chile. As in any research, the present study is not without limitations. The most obvious ones are the self-selection of participants, the self-reported nature of the data and the fact that the school of Valparaiso might not be representative of the other dental schools in Chile. Therefore, some of our findings might need further exploration. Nevertheless, the findings make a significant contribution to our knowledge about ICT use amongst dental students and help to clarify the task of all sectors to address its use in dental education. This is essential for ensuring the profession's most effective response to present and future undergraduate and continuous education challenges.

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References

1. Evans J. Cystic fibrosis. Shaping and information model to meet the needs of patients and carers [Doctoral dissertation]. Armidale, NSW, Australia: University of New England, 2005.
2. Cámara de Comercio de Santiago. La economía digital en Chile. Versión 2004–2005, 2005, available at: http://www.ccs.cl/html/estudios_ED2005.htm, accessed on 4 May 2005.
3. Maden M, Rainie L. America's Online Pursuits, Pew Internet and American Life Project, 2003, available at: <http://www.pewInternet.org>, accessed on 24 September 2004.
4. Jones S. Refusing or ignoring? An investigation of student teachers' perceptions and use of computer 2002, available at: <http://www.aset.org.au/confs/2002/jones.html>, accessed on 22 April 2005.
5. Walmsley AD, White DA, Eynon R, Somerfield L. The use of the Internet within a dental school. *Eur J Dent Educ* 2003; 7: 27–33.
6. Watson D. Pedagogy before technology: re-thinking the relationship between ICT and teaching. *Educ Inf Tech* 2001; 6: 251–266.
7. Université de Valparaíso. Objetivos Generales 2004, available at: http://www.uv.cl/seleccion_carreras.htm, accessed on 4 May 2005.
8. Rajab LD, Baqain ZH. Use of information and communication technology among dental students at the university of Jordan. *J Dent Educ* 2005; 69: 387–398.
9. Virtanen JI, Nieminen P. Information and communication technology among undergraduate dental students in Finland. *Eur J Dent Educ* 2002; 6: 147–152.

10. Ministerio de Salud de Chile. Comisión Nacional de Acreditación. 2005, available at: http://www.cnap.cl/fact_sheet_abril_2005.pdf, accessed on 18 May 2005.
11. Mariño RJ, Stuart GW, Winning T, Morgan MV, Thomson WM, Marshall RI et al. Cultural consistency in Australian dental students from two different ethnic backgrounds. *J Dent Educ* 2004; 68: 1178–1184.
12. Mariño R, Stuart GW. The validity and reliability of the Tertiary Student Values Scale (TSVS). *Med Educ* 2005; 39: 895–903.
13. Tabachnick BG, Fidell LS. *Using multivariate statistics*, 4 edn. Needham Heights, MA: Allyn and Bacon, 2000.
14. Woo MA, Kimmick JV. Comparison of Internet versus lecture instructional methods for teaching nursing research. *J Prof Nurs* 2000; 16: 132–139.
15. Komerik N. Use of the Internet among dental students in Turkey. *J Dent Educ* 2005; 69: 470–475.
16. Ajuwon GA. Computer and Internet use by first year clinical and nursing students in a Nigerian teaching hospital. *BMC Med Inform Decis Mak* 2003; 3: 10.
17. Nurjahan MI, Lim TA, Yeong SW, Foong AL, Ware J. Utilization of information technology in medical education: a questionnaire survey of students in a Malaysian institution. *Med J Malaysia* 2002; 57 (Suppl. E): S58–S66.
18. Mattheos N, Schitteck MJ, Nattestad A, Shanley D, Attstrom R. A comparative evaluation of computer literacy amongst dental educators and students. *Eur J Dent Educ* 2005; 9: 32–36.
19. Eynon R, Perryer G, Walmsley AD. Dental undergraduate expectations and opinions of web-based courseware to supplement traditional teaching methods. *Eur J Dent Educ* 2003; 7: 103–110.
20. Samuel M, Coombes JC, Miranda JJ, Melvin R, Young EJ, Azarmina P. Assessing computer skills in Tanzanian medical students: an elective experience. *BMC Public Health* 2004; 4: 37.
21. Coiera E. Medical informatics meets medical education. *Med J Aust* 1998; 168: 319–320.
22. Dorup J. Experience and attitudes towards information technology among first-year medical students in Denmark: longitudinal questionnaire survey. *J Med Internet Res* 2004; 6: e10.
23. Jacobs SK, Rosenfeld P, Haber J. Information literacy as the foundation for evidence-based practice in graduate nursing education: a curriculum-integrated approach. *J Prof Nurs* 2003; 19: 320–328.

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