

Knowledge and attitudes regarding the use of social software in a physiotherapy department

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Abstract

Introduction

Institutions of higher learning are under pressure to respond to the changing needs of today's learners and the use of information and communication technology has been at the forefront of that change. Furthermore, the use of social software to enable people to interact with each other in a dynamic way has been identified as one possible solution.

Aim

This survey sought to identify the knowledge and attitudes of South African physiotherapy students towards the use of social software in a physiotherapy department.

Method

The design was a cross-sectional, descriptive survey that took place in a university physiotherapy department in the Western Cape, South Africa. It included 135 students and used a self-developed questionnaire.

Results and discussion

Results showed that these students had only a superficial understanding of social software and that they did not make use of common services. They did however, show an openness to new approaches and a willingness to interact with lecturers outside the traditional classroom setting. A lack of access to appropriate technology was identified as one possible factor for their lack of understanding.

Conclusion

Any attempt to incorporate social software to improve teaching and learning practice into this department would have to be accompanied by significant training and support.

Keywords

social software, physiotherapy education, South Africa, teaching practice

Introduction

"The changes which universities will have to make are so profound that future practice can no longer be based simply on past experience."

Elton, Beaty, Cryer, Goldfarb & McNay (1994)

The emergence of the Internet as a transformative and empowering medium for change has led to advances in many aspects of society, particularly in the field of higher education. The use of information and communication technologies (ICT) in higher education has largely been a response to

student expectations and their ICT-related behaviour in terms of how they access content and interact with each other (Breen, Lindsay & Jenkins, 1994). This places the burden of responsibility for change onto institutions, to ensure that they provide a service that will both satisfy contemporary students and attract new ones. Ageing notions of what it means "to educate" should also be revised, as "today's students are no longer the people our educational system was designed to teach" (Prensky, 2001).

This change in higher education is being brought about by integrating ICT into institutions which, in the past has been seen as a means of teaching more students at a reduced cost (Breen et al., 1994). However, there is evidence to suggest that using ICT merely for the "massification" of education is actually more expensive (Marcus, 2000). An alternative approach is to use emerging technologies like wikis, blogs and podcasts to facilitate a blended approach to education, as they allow free movement between print and oral-based learning paradigms. These tools have collectively come to be known as "social software", named for the collaboration and interactivity they promote. Wikis can be described simply as web pages that can be edited by anyone (Cummings & Barton, 2008), blogs are similar in conception to online diaries that other users can subscribe to (Mason & Rennie, 2008), and podcasts are audio or video files delivered over the network (Salmon & Edirisingha, 2008).

The history of the term "social software" has been controversial, with social scientists arguing convincingly that the use of technology by socialised networks of people has been around for decades and that the current hype is merely a fad (Boyd, 2006). Boyd (2006) goes on to suggest that social software has come to mean more than a collection of technologies, and should also be considered as a social movement that allows people to interact with each other and with content in a dynamic way. It is this conceptualisation of social software that has been the most prolific enabler of change in higher education, as students can now collaborate, share, interact and engage with each other in near real-time, regardless of time or place. The use of social software in education would enhance an oral-based learning paradigm, which would allow students to

control their own learning experiences as they engage with content and with each other in new, more meaningful ways (Ferris & Wilder, 2006). However, the mere introduction of technology into the curriculum should not be seen as evidence of "e-learning", as an ICT-enabled curriculum must be accompanied with social and institutional change if it is to be successful (Punie, Cabrera, Bogdanowicz, Zinnbauer & Navajas, 2006). In contrast to this, few scholars have noted a change in the predominantly print-based, post-industrial approach to education, where the control of information is maintained by the few.

The literature has indicated that there are growing calls for further evaluation of the integration of social software into existing undergraduate healthcare curricula (Kamel Boulos, Maramba & Wheeler, 2006), as well as for a change in the current approach to teaching as a result of disruptive technologies and the internet (Brown, 2005; Oblinger & Oblinger, 2005; Barnes, Marateo & Ferris, 2007; Kingsley & Kingsley, 2009). There is a need to understand the student experience of ICT and the behaviours and attitudes that it induces (Breen et al., 1994), as well as to carefully plan implementations in thoughtful and creative ways (Ferris & Wilder, 2006). As a result of these trends in higher education and a need to understand how students are responding to them, this survey sought to identify the knowledge and attitudes regarding the use of social software in a South African physiotherapy department, in order to inform a change in teaching practice.

Method

The study design was a cross-sectional, descriptive survey using quantitative methods, and was conducted in a physiotherapy department at a university in the Western Cape, South Africa in 2008. The survey was conducted at a time when all students were on campus, with no exclusions. The population consisted of all the registered undergraduate students in the physiotherapy department, and the sample included all of the respondents who participated in the survey.

The instrument used was a self-developed questionnaire that made use of closed-ended questions, divided into six short sections. The first two sections gathered demographic information

from the participants. The third section included questions about participants' knowledge and use of some of the more common social software services, including MXit, Wikipedia, Facebook and YouTube. The fourth section was about participants' knowledge of common terminology that was identified from relevant literature. The fifth section gathered information about participants' completion of tasks that might commonly be performed when using social software, based on the author's personal experience. The sixth and final section was about participants' attitudes towards using social software to improve communication and interaction with lecturers in the department. Since the survey was conducted to provide insight towards improving teaching practice, rather than being a scientific study, the instrument was not piloted for reliability or validity.

Questionnaires were distributed to students in a class setting when they were all present. The purpose of the survey was clearly explained to the students by the researcher, who remained present while the students completed the questionnaire, in case they had any questions. Data were collected using the self-administered questionnaire and captured using the OpenOffice.org spreadsheet application. Descriptive statistics were used to obtain means, percentages and frequencies, which are presented in tables.

Ethical Considerations

Permission to conduct the survey was obtained from the head of the physiotherapy department, as well as each class coordinator. Students were informed that their participation was voluntary and that there would be no negative consequences if they chose not to participate. They were also informed that they could withdraw at any stage of the survey. A detailed explanation of the purpose of the survey was provided to each class prior to completing the questionnaire, so that participants were fully informed regarding the process. Confidentiality was assured by not gathering any personally identifiable information and consent was implied by completing and submitting the questionnaire.

Results

One hundred and seventy six questionnaires were distributed to all of the undergraduate physiotherapy students in the department, with a response rate of 77% (N=135). The sample included 102 females (76%) and 31 males (23) , with most respondents (n=96) being between the ages of 18-21 years. Many of them (70%) had internet access at home, although 23% of this group only had a dialup connection, and 29% did not have any connection at all.

Table 1 shows physiotherapy students' knowledge and use of common social software services that were identified from relevant literature.

Table 1: Physiotherapy students' knowledge and use of social software (N=135)

Social software	I use this		I've heard of this		I don't know what this is	
	n	%	n	%	n	%
MXit	114	84	21	16	0	0
Wikipedia	110	81	23	17	2	2
Facebook	106	79	28	21	1	1
Google apps *	96	71	19	14	19	14
YouTube	60	44	60	44	12	9
Flickr	2	2	24	18	106	79
Twitter	0	0	18	13	113	84
Digg	0	0	14	10	114	84
Delicious	0	0	13	10	119	88

* Includes Gmail, Google Docs, Google Reader, etc. Note: Discrepancies in totals are due to missing data.

¹ Discrepancies in totals are a result of missing data.

Table 2 shows physiotherapy students' knowledge of some of the common terms that were identified from relevant literature.

In terms of the common tasks that students might need to perform in order to gain the most benefit

from the social software services highlighted in Table 1, the results showed that few respondents had much experience. Only 37% of them reported having edited a Wikipedia article, 19% had installed a web browser extension, 18% had downloaded a podcast and 8% had uploaded a video to YouTube.

Table 2: Physiotherapy students' knowledge of some social software terms (N=135)

	Know what it is		Heard of it		Don't know what this is	
	n	%	n	%	n	%
HTML	74	55	33	24	27	20
Blogs	66	49	44	33	25	19
Podcasting	36	27	31	23	64	47
Open source	31	23	35	26	68	50
Wikis	21	16	28	21	84	62
RSS	8	6	11	8	112	83
Creative Commons	7	5	12	9	114	84

Table 3 shows physiotherapy students' attitudes towards the use of social software to improve communication and interaction within the department.

Eighty two percent (n=111) of respondents reported being happy with the current methods of teaching and learning in the physiotherapy department. Of

the 18% (n=24) who were unhappy, almost half (46%) were in their final year of study (n=11), and fewer than 10% (n=2) in their first year. The main areas in which students recommended that changes be made included: documentation and resources, communication, organisation and interaction.

Table 3: Attitudes towards the use of social software in the department (N=135)

Question	N	Yes		No		Maybe	
		%	n	%	n	%	
Would you be comfortable communicating with a lecturer outside of "normal" class time?	101	75	2	1	32	24	
Would you be comfortable knowing that anyone in the world may see part of your work?	51	38	37	27	47	35	
Would you be comfortable adding a lecturer as a "friend" in Facebook?	56	41	44	33	35	26	
Would you like the opportunity to engage with lecturers in online environments?	74	55	14	10	47	35	

Discussion

Fewer than 50% of these respondents had an internet connection capable of making effective use of social software, which is most valuable when the user is constantly connected. This has implications for including social software into the curriculum in this particular physiotherapy department, as it

would place more than half of the students at a disadvantage when communicating and engaging with lecturers. This lack of access to technology is a common theme in African studies on the use of ICT in education (Mostert, 2006; Martin, 2007; Lucas, 2008; Rowe, 2008). A move towards the use of social software may need to acknowledge

the practical problems inherent in the process and would require careful planning in order to avoid placing some students at a disadvantage.

It was found that few students (n=2) had any experience with some of the more common social networking services (i.e. Flickr, Twitter, Digg and Delicious) and fewer than 20% of respondents had even heard of them. This would suggest that any attempt to incorporate these services into the department would require a significant amount of training and support. On the other hand, services like Mxit and Facebook showed a high level of use (84% and 81% respectively). This may indicate that these respondents are at least comfortable with some components of social software, especially those that enhance the social component, with both Mxit and Facebook emphasising communication and sharing. The popularity of Wikipedia is not surprising, with its increasing prevalence in the search results returned by most search engines.

While 81% of students reported using Wikipedia, only 16% reported knowing what a wiki was. In addition, they did not make the connection that Wikipedia is merely one type of wiki, even though 37% of them reported having made at least one edit on Wikipedia. This demonstrated a clear disconnect between use and understanding of wikis. Ramanau and Geng (2009) have suggested that the use of wikis in education may facilitate small group learning, collaboration and deeper engagement with content. However, they also warn that assumptions about students' familiarity with technology should not be made, and that additional support should be provided for them. In terms of downloading and listening to podcasts, 27% of respondents reported knowing what it was, but only 18% had ever actually done it. While the reason for this was not determined, it may be a result of the fact that more than 50% of this group either did not have an internet connection, or used dialup. This would make it very difficult (and expensive) to download podcasts, as well as reducing the likelihood that these students would come across and explore the possibilities of podcasts. These two examples demonstrate a lack of understanding around social software, as well as highlighting the

practical problem of access. These factors should be taken into account if there is to be any move towards the use of social software to change teaching and learning practice in the department.

The current curriculum in this particular physiotherapy department could best be described as "traditional", including classroom based lectures, practical teaching sessions and clinical placements. For the most part this system seems to be working for the students, as 82% of respondents reported being happy with the current system of teaching and learning. Of the 18% who were not satisfied, the main issue was with the form of documentation that they received. They reported a preference for course notes and readers to be in a digital form and to be available for download. While this might save on the cost of printing, it does little to change the practice of teaching and learning. It is still a print-based approach where the student reads and memorises the content that is organised by a person in authority. There is no associated increase in engagement with either the text or with other students, and learning would still be individualised. In contrast, the use of social software would enable a different approach to pedagogy, whereby students can participate in learning activities that are social, distributed and collaborative (Ferris & Wilder, 2006). In addition to digital documentation, a small group of students across all four years (7%) called for improved communication and interaction with lecturers, and suggested that the use of technology might facilitate this approach. This is clearly one area in which students and lecturers might find themselves engaging more deeply, using social software to participate in group conversations. However, it is a concern that only 7% of respondents felt that communication and interaction could be improved.

In general, this cohort showed a willingness to move communication with lecturers outside the boundaries of the classroom and traditional working hours. A high percentage of students (90%) reported that they would, or would consider engaging with lecturers in online environments. This might suggest that the social spaces they inhabit online (79% use Facebook) have prepared

² Mxit is a cellphone and computer application that allows users to send text and media messages from a cellphone, over the internet for free (Wikipedia entry for Mxit, available at <http://en.wikipedia.org/wiki/Mxit>)

them for similar interactions with lecturers as it relates to their studies. Indeed, with 76% of students reporting that they would, or would consider adding a lecturer as a "Friend" on Facebook, they have shown that they are at least open to the idea that "studying" need not always be structured and formalised in the traditional sense. In general, physiotherapy students' attitudes towards the use of social software to communicate with lecturers in online environments as a part of their studies was shown to be positive, with few respondents (10%) indicating an absolute unwillingness to consider it.

Limitations

The results of this survey may not be generalisable to other physiotherapy departments, either locally or internationally. Rowe (2008) found that there are significant differences in the use of ICT between South African physiotherapy departments, and that one cannot make assumptions of a heterogeneous population. Likewise, international literature has shown that European and North American physiotherapy students have a high level of technological sophistication that may not be applicable to African students owing to a lack of access to technology.

Conclusion and Recommendations

It would seem that while there are some aspects of social software that this group were familiar with, their understanding was on a superficial level, and they lacked experience in its use. Therefore, any use of social software in this physiotherapy department would have to be accompanied by significant training and support for students. The training could be performed using a "just in time" approach, to enable students to learn only what they need to know at a particular point in time, rather than to overload them with new information. Computer lab sessions should be organised in order to ensure that students have a good understanding of the social software tools they will be required to use.

In addition, if the advantages of social software in a South African undergraduate physiotherapy curriculum are to be successfully leveraged, there are significant challenges to be overcome. This includes the lack of awareness, understanding and use of social software in general, as well as the

practical problem of access. To address this, lecturers should consider introducing small group projects within modules that include some components of social software. This will require additional effort on behalf of the lecturer in order to design appropriate teaching materials, as well as providing students with the necessary support. Projects or assignments that make use of social software should also be given over an extended period of time, in order to acknowledge the lack of access that some students may experience.

It was encouraging to note that this group of students, while generally happy with the method of teaching in the department, showed a willingness to consider alternative forms of communication. Their experience with some of the more common online environments (e.g. MXit, Wikipedia and Facebook) are useful indicators of the tools that might be good starting points if social software is to be used. It is recommended that further research in the field of teaching and learning strategies be conducted in order to better determine which social software tools are most appropriate to be used in physiotherapy undergraduate education.

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