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Original Research Article

Use of Information and Communication Technology by Physiotherapy Students of Delhi, India

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ABSTRACT

Technological innovation is essential for human development. Clinical learning and practice not just involve technical skills but non technical and reflective skills also play a vital role. ICT is viewed as a "major tool for building knowledge societies" and there is evidence that integrating technology can facilitate student learning by enhancing communication resources and reasoning. However effective integration is not possible unless students are not considered as part of this context. So this study aimed to investigate the use of ICT by Delhi physiotherapy students and what their experiences and perceptions were regarding their use of ICT as part of their learning practices and what all tools they use or expect to use.

The study was conducted in various Physiotherapy Institutes of Delhi, India. A cross sectional, descriptive design used a survey to obtain quantitative and qualitative data from the participants after testing the reliability and clearing all ethical considerations.

Out of the Ninety seven percent of the participants who used Internet at home, 37% used mobile connections for the same. 92% students belonged to various social networking sites and used such sites mainly for notes sharing but alongside they also feel ICT tools being anxiety provoking. Almost all participants felt that lectures are important but integrating technology would enhance their learning.

This study reflects the need of technology and blended learning.

Key Words: Physiotherapy Students, Information and Communication Technology, Technology enhanced Learning.

INTRODUCTION

Clinical education is an important component of any health care curriculum. It is a complex task and hence should have multifaceted approach, from technical knowhow to knowledge sharing from colleagues to being updated with newer methods. [1] Besides technical knowledge, non technical skills like reflective thinking, interpersonal skills, critical evaluation of practice, accountability, clinical reasoning, bridging theory and practice, articulating rationales for treatment and communication skills help in productive learning activities which are utmost required in health care education. [2]

The emergence of Internet as a transformative and empowering medium for change has led to growth and advancement of the society in many aspects.

The use of Information and Technology plays a vital role in incorporating such non technical skills and is finding support from many scholars and students as it facilitates active student engagement with content, educators and

each other, enhancing problem solving strategies, gathering information from various sources, decreasing the gap between educator and learner and upgrading administrative skills. [3]

The use of ICT in higher education has largely been a response to student expectations and their ICT related behavior in terms of how they access content and interact with each other. This places the burden of responsibility for change onto institutions and educators, to ensure that they provide a service that will both satisfy contemporary students and attract new ones, since today's students are no longer the people our educational system was designed to teach. We have to evolve with time. [4]

With an integrated learning system, students can move at an appropriate pace in a nonthreatening environment, developing a solid foundation of basic skills rather than the shaky foundation a calendar-based progression often creates. [5]

The educational value of the information and communications technologies (ICT) was confirmed by a variety of experiments (Fančovičová & Prokop, 2008). When used appropriately, ICT can support students' collaboration and knowledge building. in our homes, our automobiles, our lives is supposed to improve our "quality of life" by providing more time for leisure activities. Unfortunately, there is a segment of this population that will not make use of technology in any shape or form. These people are known as cyberphobes, computerphobics, or, more commonly, technophobes. Rosen and Maguire (1990) characterize technophobia as "anxiety about current or future interactions with computers or computer –related technology; negative global attitudes about computers, their operation or their societal impact; and/or specific negative cognitions or self-critical internal dialogues during actual computer interactions or when contemplating future interaction". [6,7]

Therefore it is important that educators deploy Technology mediated learning to facilitate active student learning but after determining student's experiences and perceptions so far.

The evidence in favor of Blended Learning and response to trends of technology in higher education, this survey sought to identify the knowledge and attitudes regarding the use of ICT in physiotherapy students of Delhi, India, in order to bring a change in teaching practice.

METHODOLOGY

A cross sectional, descriptive design was used to obtain both qualitative and quantitative data by means of a survey questionnaire with both open and closed ended questions. The questionnaire was developed using study objectives and a review of literature. Closed ended questions were used to identify participants learning preferences and their comfort when engaging in online activities; Open ended questions were included to strengthen the closed ended responses.

The questionnaire consisted of 5 sections: Internet Access, Participation in social networks, studying preferences, teaching within department and Demographic data. A pilot study was done to improve reliability, removing ambiguity and consultation with experienced researchers in health care helped in improving face and content validity.

Procedure:

Questionnaires with a covering note explaining the study were sent to final year students of physiotherapy in different Institutes of Physiotherapy of Delhi via e mail through Google forms.

Data Analysis

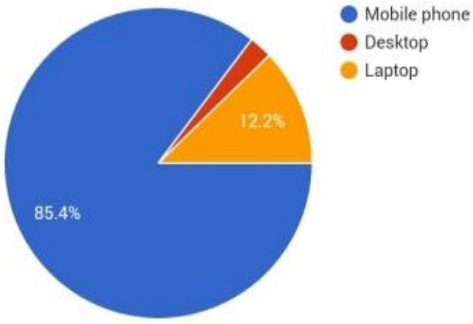
The data was analyzed using Google spread sheet and Google forms.

RESULTS

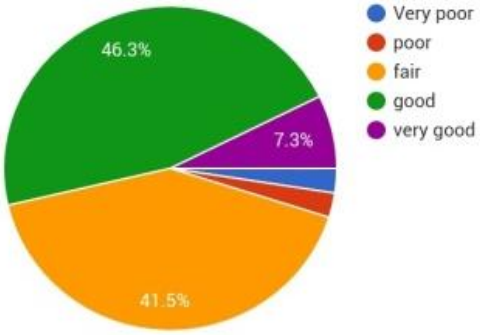
Mails were sent to 110 BPT IV yr students, out of which 90 students replied, indicating a response rate of 81.81%, out of which 80% were females.

Access to Internet

97 % students had Internet at home and maximum of them have been using mobile phones to surf Internet with ease. 46% percent students felt that they are good at computer skills and are Accessing the Internet few times a day.



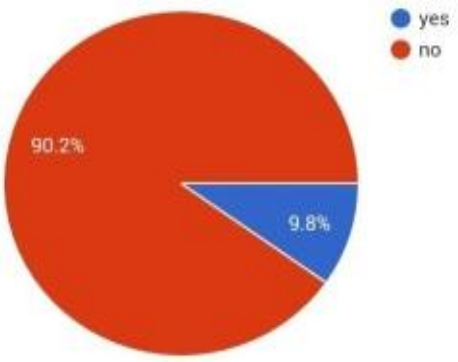
How do you rate you computer skills?



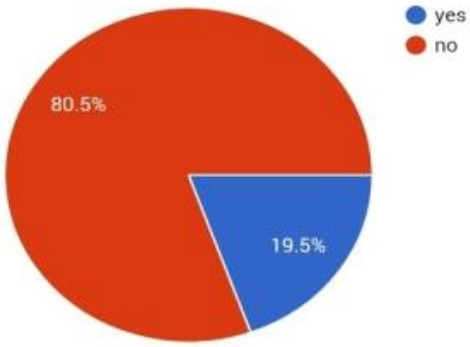
Participation in Social Networks

Out of 92% of students who are on one or the other social networking sites, 87% of them are using it for learning purposes but that is limited to mainly sharing notes or sharing useful links. Students are not involved in active learning activities. Approximately 46% students are confident working online and want to learn more things about Internet which shows majority students are not confident and they find it difficult to work using Internet based technologies.

Have you created a blog post?



Have you shared a bookmark on social bookmarking site?



Studying Preferences

Though all the students are using Internet for their studies but still they feel it is anxiety provoking.

87% of the students felt that learning with some visual feedback like pictures makes their studies easier and group studies add feather to it. 82.3% students feel group studies increases the level of understanding and also increases their motivation. 48.7% Students feel that discussions should be done more often in class.

Teaching within Department

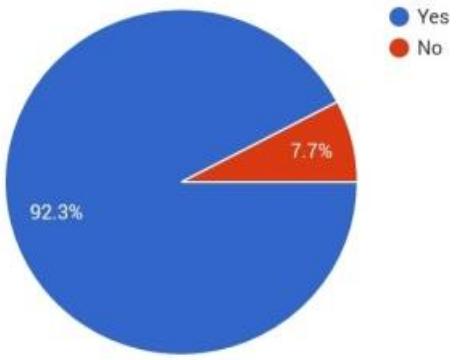
96% students feel that lectures are good way of teaching but 92.3% also feel that web based tasks would enhance this learning process. 89% percent students revealed that it is good to have face to face interaction with lecturers but 47 % felt that other methods of communication should also be open with them like: Forming social groups, video lessons, online classes, real life documentaries of treatment sessions, online discussion forums. Maximum students suggested video based classes to be held more using ICT tools. Following

suggestions came for the kind of online tool they expect:

Easy accessibility, practical knowledge sharing and video lessons inclusion.

98% students felt that ICT should be taught as part of their syllabi.

Do you think web based tasks in addition to lectures, might improve your own learning?



DISCUSSION

This study is clearly indicating a paradigm shift in learning and students expectations from their educators in lieu of preparing themselves for the progressive future. The institution should aim to work towards students' wellbeing and their social interaction with a view that these two factors support academic achievement. [8]

Current research indicates that institutes and the social networks of students have a large influence on how students adjust and therefore we need to have more innovative learning and teaching approaches. [9,10]

These results are in line with our research that though face to face interaction with educators is essential but if students are taught collaborating with various ICT tools like video lectures, online discussions forums or simulations the results would be better and would act as a bridge between practical application of clinical education and theory inputs. Students in this study expressed a preference for learning activities that make use of graphical and textual representations of information, as well as formats that involve discussion. The use of ICTs can have a significant impact on learners who express a preference for visual engagement as part of their learning. The ability to embed multimedia within collaborative online spaces means that students can not only share information in the form of images and video, but can also create asynchronous conversations and discussion around it. However, even though these students reported preferences for visual and collaborative learning strategies, they didn't seem to realize that social networks could facilitate these aspects of their learning practice. Instead, they used the internet and their social networks to gather and share administrative information and to consume content.

In this study it was found that 85% students used Mobile Phones to explore internet which means that they understand the need to be connected and learn off campus. This is appositive result, especially in light of the fact that students are realizing the importance of communication as part of learning their clinical aspects. [11]

The worst part of the survey result was that students felt that Internet may be anxiety provoking and they are mainly using it for either entertainment or if learning then mainly for sharing notes or some links or only reading through Wikipedia but are not participating in active learning activities. They are unaware of the terms like reflective learning, blended learning, pod casts or are not into blogs etc.

They believe that cramming is an appropriate learning strategy, which in fact is poor assessment indicator especially in the field of clinical education where you need to apply higher thinking skills in order to get best clinical outcomes. [12]

ICT have been shown to encourage the development of collaborative, reflective and reasoning skills that may help students to gain many non technical skills that are relevant for clinical practice and the best part is that students are willing to learn such skills as a proof of which they unanimously agreed that ICT should be taught as part of their syllabi and web tools would positively affect their learning.

CONCLUSION

It is concluded that Physiotherapy students are using ICT for academic purposes.

Clinical Implication

ICT if engrossed appropriately in the students learning and teaching can improvise and develop not only technical but also non technical skills.

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