



## Facebook, Twitter and #MedEd: Investigating Social Networking Usage among Medical

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### ABSTRACT

**Background:** Social networking tools are often used in medical education to facilitate teaching, owing to their popularity amongst medical students. This study aimed to determine which tools are most widely used by medical students, particularly for educational purposes, to inform future implementation in medical education. **Methods:** Preclerkship University of Ottawa medical students were surveyed (response rate n=65/325) regarding the use of social networking tools, including Facebook®, Twitter®, YouTube®, Google+®, Skype®, text messaging, blogs, Flickr® and Pinterest®. **Results:** Overall, 85% of respondents use social networking tools for 2 or more hours a day. The tools utilized most frequently on a daily and weekly basis were Facebook (56%) and YouTube® (40%), respectively. Facebook® (53%) and YouTube® (31%) were the most popular tools used specifically for educational purposes, facilitating learning related to lectures and physician skills development, respectively. **Conclusion:** The majority of students are using social networking tools, but there is some variability in how the tools are used. The variability should be considered when creating educational initiatives.

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### Introduction

The modern medical student uses a variety of technological tools in everyday life and for learning. Many medical schools have at least some proportion of curricular resources that are accessible through the internet. There is a trend in medical education for less didactic time to be invested in teaching the basic sciences during preclerkship (i.e., the first two years of a 2+2 model) medical education like anatomy, physiology, and biochemistry, yet students are still required to have the foundational knowledge

base necessary for clinical practice [1]. Moreover, clinical aspects of medical training are integrated in preclerkship medical education to a greater extent than in previous generations. There is therefore a tremendous amount of basic and clinical science knowledge that is presented to the modern medical student during preclerkship education. As such, many medical students have been observed to use social networking tools such as Facebook®, Twitter®, YouTube®, Skype® and text messaging in order to facilitate their learning [2,3]. Concerns have also been raised regarding the professional behaviour

of students on these tools [4-7] and even few guidelines have been developed [8-10].

The purpose of this study is to characterize the use of social networking tools among preclerkship medical students in their education.

## Method

A survey was conducted among first- and second-year medical students (n=65 total; n=37 for first-year and n=28 for second-year medical students) during the 2012-2013 academic year. The survey addresses the overall use and the educational use of social networking tools including Facebook<sup>®</sup>, Twitter<sup>®</sup>, YouTube<sup>®</sup>, Google+<sup>®</sup>, blogs, Skype<sup>®</sup>, text messaging, Flickr<sup>®</sup> and Pinterest<sup>®</sup>. The survey investigated the amount of time spent on social networking tools on average per day and the frequency (monthly, weekly, daily, hourly, never) that each social networking tool is used. In addition, it identified the particular activities specifically related to medical education on various technologies such as computers and portable devices (e.g., cell phones and tablets). The specific medical education-related activities surveyed in the University of Ottawa preclerkship curriculum include: lectures, case-based learning (CBL), laboratory practicals (e.g., anatomy), physician skills development (PSD) activities and clinical activities.

## Result

In terms of general use (not specific to education), Facebook<sup>®</sup> and YouTube<sup>®</sup> were, by far, the most popular social media tools among responding students (Table 1). Surprisingly, less than 5% of students indicated that they used Twitter<sup>®</sup>, a popular tool amongst medical educators. Most medical students frequently used social media sites, with 77% indicating at least 2 hours of use per day, 37% of which used them between 2-4 hours per day and 17% between 6-8 hours per day. Students reported using Facebook<sup>®</sup>, text messaging, and Google+<sup>®</sup> on a daily basis for educational purposes, whereas YouTube<sup>®</sup> was used for education-specific purposes on a weekly basis (Table 1).

Most respondents indicated that they used social networking tools on computers (86%) and on portable devices (i.e., tablets, phones; 75%). A similar number of students (between 72 and 80%) identified using YouTube<sup>®</sup>, Facebook<sup>®</sup>, and Google+<sup>®</sup> on computers and on portable devices. With the exception of text messaging (which was exclusively used on portable devices), there wasn't any substantial differences between the access of social networking tools on computers (Fig. 1) relative to access on tablets (Fig. 2).

In terms of education-specific uses, Facebook<sup>®</sup>, YouTube<sup>®</sup>, and Google+<sup>®</sup> were the most frequently used tools on both computers and on portable devices. These three social networking tools were utilized by students in every type of educational activity assessed to some degree. On computers, Facebook was used most frequently for learning related to lectures and CBL activities, YouTube<sup>®</sup> was used most frequently for learning related to PSD activities and laboratory preparation, and Google+ was used most frequently for CBL activities and laboratory preparation (Fig. 1).

On portable devices, Facebook was again most frequently used for learning related to lectures and CBL, YouTube<sup>®</sup> was used most frequently for learning related to PSD and clinical educational activities, and Google+<sup>®</sup> was used most frequently for education associated with CBL and laboratory exercises (Fig. 2). In addition, text messaging was utilized on portable devices mainly for learning related to lecture material.

In summary, when looking across the data from both computers and portable devices, Facebook<sup>®</sup> was utilized on daily basis for learning related to lecture material, YouTube<sup>®</sup> was utilized on a weekly basis for education related to PSD exercises, and Google+ was utilized on a daily basis primarily for learning related to CBL activities. Text messaging was used only on portable devices, for learning related to lecture material (Table 1).

Table 1: Proportion of preclerkship medical students at the University of Ottawa using each social networking tool surveyed during the 2012-2013 academic year.

Tool	Proportion Using Tool, n (%)	Frequency of Use Specifically in Medical Education (% respondents)	Primary Use in Medical Education
Facebook®	53/65 (82.0)	Daily (53%)	Facilitation of Lectures
YouTube®	46/65 (71.0)	Weekly (42%)	Physician Skill Development (PSD) Exercises
Text Messaging	23/65 (35.0)	Daily (58%)	Facilitation o Lectures
Google +®	19/65 (29.2)	Daily (30%)	Case-based learning (CBL) Exercises
Skype®	13/65 (20.0)	Infrequent	NA
Blogs	10/65 (15.4)	Infrequent	NA
Twitter®	03/65 (04.6)	Infrequent	NA
Flickr®	01/65 (01.5)	Infrequent	NA
Pinterest®	01/65 (01.5)	Infrequent	NA

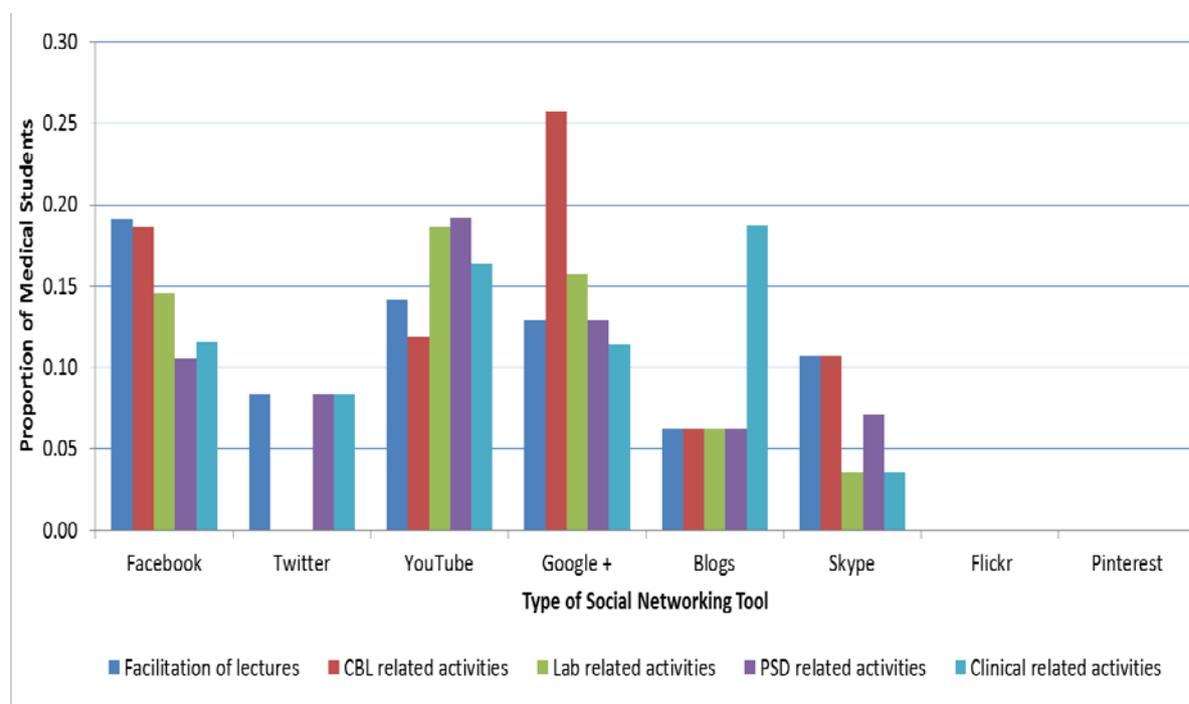


Figure 1: Proportion of medical students using social networking tools on computers for educational activities

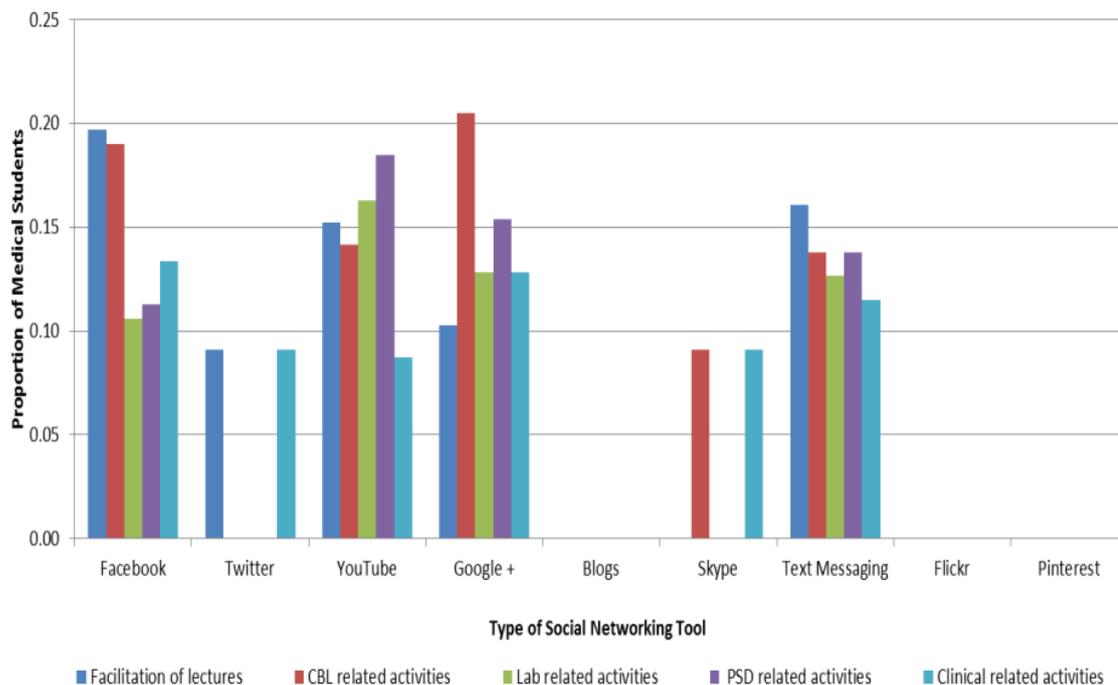


Figure 2: Proportion of medical students using social networking tools on portable devices for educational activities

## Discussion

There are various social networking tools being used for different educational activities among medical students. Over recent years, medical education has trended to become more interactive, and web-based social media seems to have become more prevalent and engrained in our daily routine. By harnessing the power of this new technology, medical education can be supplemented or enforced using more flexible platforms by means of providing another milieu to enhance learning. These social networking tools can provide numerous pedagogical advantages to both educators and students. They can be used to create learning communities and provide opportunities to help and support other learners in real-time at their convenience. They can increase student interaction in the form of web-based communication and introduce a more flexible learning environment, thereby tapping into a greater number of learning styles and providing an alternative to the traditional lecture format. They allow students to focus on problem-oriented and self-governed learning

initiatives by creating an online classroom community and a convenient way to facilitate student-student interaction [11]. The approach to harnessing the power of social networking tools should emphasize the importance of tools for construction, production, dialogue and collaboration, and educators should consider them as a viable supplement to other emerging educational tools.

From this study, it is evident that certain social networking tools like Facebook<sup>®</sup>, YouTube<sup>®</sup> and Google+<sup>®</sup> can be harnessed in order to facilitate different educational activities in the medical curriculum, as discussed earlier. Certain social networking tools have been identified to be favoured for aspects in the curriculum such as CBL or PSD. Since more than three-quarters of medical students in our survey were identified as using these tools for more than 2 hours per day, their implementation into teaching can allow educators to reach students outside the classroom and enhance learning in a novel way.

However, it is important to note that educators who engage with a form of technology are more likely to value it and use it. Therefore, it is just as important to reach out to members of the teaching faculty and share with them the various ways that they could implement these tools in order to supplement their teaching style to maximize the potential learning opportunities for their students.

While the need to embrace and understand this new technology continues, it is important to be aware of its limitations, pitfalls and dangers, particularly in terms of its content, professionalism, confidentiality and ethical use. For this reason, policies should also be created in order to ensure that this technology is used in a professional manner.

### Conclusion

Social networking tools are used by the majority of medical students, but there is some variability in how they are used. Therefore, it is important to conduct a “needs assessment” before implementation of new technology in medical school, and further research is warranted to explore their full potential in medical education.

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