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Suggested Reference

Honey, M. L., & Raphael, D. (2017). Preparation for working in a knowledge-based society: New Zealand student nurses' use of social media. *Informatics*, *4*(2):8. doi:10.3390/informatics4020008

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Preparation for Working in a Knowledge-Based Society: New Zealand Student Nurses' Use of Social Media

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Abstract: The increasing use of social media is revolutionizing the way students learn, communicate and collaborate. Many of the skills used with social media are similar to those needed to work in a knowledge-based society. To better understand student nurses' use of social media in relation to their learning, an anonymous survey was distributed to all undergraduate nursing students enrolled at one nursing school in New Zealand in 2015. A 75% response rate (*n* = 226) found that almost all (99%) students use social media outside their studies. However, in relation to their study, 61% use social networking sites (such as Facebook) on a daily basis and only four students (2%) do not use social media at all. Professional networking sites are used far less in relation to study, with 65% not using these networks at all. The most common digital option used to communicate and work with fellow students was online groups and document sharing sites, such as Google docs, were also popular. The study provides a useful baseline on social media use by student nurses. Implications from this study include opportunities for educators to incorporate social media into teaching and learning activities, including its safe and ethical use.

Keywords: student; nursing; education; social media

1. Introduction

The expansion of mobile technologies and internet access, along with the increasing use of social media are revolutionizing the way students learn, communicate and collaborate [1,2]. Along with learning specific content related to courses they are taking in higher education settings, students also need lifelong learning skills and preparation to work in a knowledge based society [3]. A knowledge based society is described by Punie [4] as having resulted in the need to maintain and extend existing levels of education and training and to also ensure people develop new skills as the increased use of information and communication technology (ICT) is "transforming the way people work, learn, make sense of their world and have fun in a digitalised, networked and knowledge-based society" ([4] p. 186). Bates [3] identifies the skills for working in such a society as including communication, ethics and responsibility, teamwork, flexibility, digital skills and knowledge management. Use of social media links to many of these skills, and it was therefore considered useful to understand how student nurses communicate and collaborate with each other using social media in relation to their learning.

2. Background

The advent of Web 2.0 sees the World Wide Web being used for participation, collaboration, self-publishing of multimedia content and multimedia sharing [5]. The applications and services that have created the architecture for this participation' include: blogs; wikis; social networking sites; social bookmarking services; multimedia sharing services; audio blogging; podcasting; and information

'push' using Real Simple Syndication (RSS) [5]. Kaplan and Haenlein define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" ([6] p. 61). Therefore social media is collaborative and based on communication.

Bates [3] identifies a set of skills needed for life in a knowledge based society and these are now considered focusing on social media. The first skill is communication and in relation to social media use communication extends beyond reading and writing to the ability "to receive and incorporate feedback, to share information appropriately, and to identify trends and ideas from elsewhere" ([3] p. 16). Other skills, Bates (2015) describes, are the ability to learn independently, which includes the skill of being able to identify what knowledge is needed and then how to locate it; working ethically and responsibly, which he indicates is especially important within social networks where others are involved; skills in teamwork and flexibility to be able to collaborate and share information and knowledge, either at the same time (synchronously) or at different times (asynchronously); the cognitive skills of critical thinking and problem-solving together with the ability to be original and creative; digital skills, meaning the skills to use the necessary technology to connect and use social media; and finally knowledge management, the ability to locate, evaluate, analyse, use as necessary and then share information within a specific instance. Bates ([3] p. 17) goes on to state that he considers knowledge management as the key skill that "graduates will need to employ long after graduation", meaning that knowledge management is essential for lifelong learning and for success in a knowledge based society.

The 2013 Educause Center for Analysis and Research (ECAR) study of undergraduate students and information technology suggests that students expect "anytime, anywhere" access to learning materials and to be able to use their personal digital devices ([7] p. 5). Furthermore, this US-based study involving over 100,000 undergraduates from more than 250 tertiary education providers across 14 countries found that undergraduate students predominantly owned two to three internet connecting devices, with tablets and smartphones being the most common devices [7]. There is evidence that many of today's students are immersed in digital technology "and in particular social media: instant messaging, Twitter, video games, Facebook, and a whole host of applications (apps) that run on a variety of mobile devices such as iPads and mobile phones" ([3] p. 28). The question arose are our nursing students also digitally immersed and therefore this study explores if nursing students are using social media, and if so how do they use it in relation to their learning.

3. Method

Nursing in New Zealand is a tertiary education based three-year programme that includes both theory and clinical practice and culminates in an undergraduate degree and registration to practice as a Registered Nurse. The school of nursing that was the site for this study has an intake each year of approximately 100 students. This gives a total undergraduate nursing student population of 300 students. The age range of students enrolled with this school of nursing is from 17 to 51 years; however, the majority of students are young, with approximately 82% coming directly from school to study. Approximately 10% are males, and the ethnicity of students is reported as: New Zealand European (47%), Asian (40%—includes those from China, India, Korea and Taiwan), Pacific Islanders (6%), Maori (4%) and others not listed (3%).

To explore undergraduate student nurses use of social media in relation to their learning a survey was used. The questionnaire was developed and used previously with students at the University of Copenhagen, Denmark and the authors gave permission to utilise it in New Zealand [1]. Minor modifications were made for language and local context. Ethical approval was obtained from the University Human Participants Ethics Committee (UAHPEC Ref: 014905).

The anonymous questionnaire was provided in paper format at the end of a lecture to all undergraduate student nurses enrolled in the second half of 2015. A collection box was provided for the return of questionnaires. Data analysis involved collating the responses and undertaking descriptive statistical analyses using SPSS.

4. Results

4.1. Participants and Response Rates

The questionnaire was distributed to all students at the end of a lecture in the second half of 2015. Completion of the questionnaire was voluntary. In total 226 out of a possible 302 students responded giving a 75% response rate, with approximately a third coming from each year of the Bachelor of Nursing programme (Table 1).

Table 1. Participants and response rates.

Year of Programme	Number Responding Out of Total Class Size	Percent of Each Year Cohort
1st	83/100 (83%)	36.7%
2nd	67/106 (63%)	29.6%
3rd	76/96 (79%)	33.6%
Total	226/302 (75%)	100.0%

4.2. Use of Social Media

Almost all students used social media sites outside of their studies (99%). While 61% use social networking sites (such as Facebook) on a daily basis in relation to their studies, only four students (2%) do not use social media at all. However, professional networking sites (such as LinkedIn) are used far less in relation to study, with 65% not using these networks at all, and 22% using these less than monthly (Table 2).

Table 2. Participants use of social media sites (*n* = 225).

Usage	Social Networks e.g., Facebook *n* (%)	Professional Networks e.g., LinkedIn *n* (%)	Video/Sound/Images e.g., YouTube or Instagram *n* (%)	Micro Blogging e.g., Twitter *n* (%)
Less than monthly	5 (2%)	49 (22%)	13 (6%)	49 (22%)
Once a month	2 (1%)	9 (4%)	7 (3%)	6 (3%)
Several times a month	5 (2%)	10 (4%)	29 (13%)	4 (2%)
Once a week	16 (7%)	3 (1%)	37 (16%)	7 (3%)
Several times a week	55 (24%)	6 (3%)	42 (19%)	7 (3%)
On a daily basis	138 (61%)	1 (0.4%)	93 (41%)	10 (4%)
Do not use	4 (2%)	147 (65%)	4 (2%)	142 (63%)

Video and photo sharing sites (such as YouTube and Instagram) are commonly used in relation to studies, with 76% of students using them daily, several times a week, or weekly. However, micro blogging sites (such as Twitter) are used far less, with 63% not using these at all in relation to their studies, and the next highest group (22%) use it less than monthly (Table 2).

4.3. Communication with Other Students

Students most often communicate with each using social media chat applications (86%). The second most common mode of communication between students is by Short Message Service (SMS), often called texting (70%), with far less using email to communicate (34%).

The most common digital option used when working with fellow students was online groups such as Facebook or LinkedIn (96%). Also frequently used was document sharing sites such as Google docs (72%). Fewer students used email (57%) and file sharing tools (e.g., Dropbox, Google drive or OneDrive) (54%) (Table 3). However second and third year students report higher usage than first year students of file sharing tools χ^2 (1, *n* = 224) = 33.11.10, *p* < 0.001) and document sharing sites χ^2 (1, *n* = 224) = 106.59, *p* < 0.001.

Table 3. Digital options to communicate with other students (*n* = 224).

Digital Option	Frequency (%)
Groups e.g., Facebook or LinkedIn	214 (96%)
File-sharing tools e.g., Dropbox, Google drive or OneDrive	122 (54%)
Shared processing of documents e.g., Google Docs	162 (2%)

5. Discussion

This study provides information about undergraduate student nurses use of social media in relation to their studies which is important as it forms a baseline of current social media activity. The school of nursing that was the site for this study has a robust learning management system and e-learning platform. Despite these providing an official mode of communication with students, educators were aware that students communicated with each other using social media, although the extent of this was not understood. Skiba [8] suggested nurse educators survey their own students, to not only find out about their social media use, but to also look at what devices are being used and what the student's expectations are regarding the use of technology in their learning and personal lives. This study supports this suggestion from Skiba.

The 2013 ECAR study considered that students' relationship with technology is complex, and this study showing the varied ways students engage with social media supports this [7]. Dahlstrom, Walker and Dziuban [7] also suggest that students are ready to use their devices more in relation to their learning, and this includes using social media, however, this then impacts on educators.

The results of this study indicate that the students are already extensively using social media in their personal lives. There may therefore be opportunities for educators to include the use of social media within teaching and learning. For example, group work could explicitly state that collaboration using social media is expected; or resources to support clinical learning, such as students need to share a YouTube resource on how to take an electrocardiogram (ECG), and why a particular resource was selected over others. However, for this to occur planning is required so that use of technology and social media is embedded into educational approaches [7]. Furthermore students may need guidance regarding the safe and ethical use of social media, and incorporating social media use into nursing education may provide this opportunity. Mather, Cummings and Nichols [9] suggest safe and appropriate use of social media be included within nursing curricula and that overtly teaching and modelling this would be helpful.

Assessing students use of social media could be introduced and considered in relation to the skills for life in a knowledge based society that Bates [3] identified. For example, students' ability to share information and incorporate feedback, locating useful resources, working ethically, being able to work independently and in teams could all be assessed, and therefore encouraged. Considering if and how student's use of social media promotes knowledge development is an area for further research. Additionally, further research is also needed on the impact of technology, such as the use of social media, on communication skills and whether skills used in social media may transfer to clinical practice.

Limitations of this study include that despite having a good response rate of 75%, the survey was only undertaken within one New Zealand school of nursing. As this school is based in a major city it would be interesting to see if the use of social media among students was different for those coming from smaller towns or in rural settings, or from other schools of nursing with a different student demographic profile and this is an area for further study. Furthermore, by the nature of a survey and a quantitative approach, there is a lack of depth around students' thinking behind their use of social media and this could be investigate using qualitative methods.

6. Conclusions

Social media is an accessible and potentially valuable tool for students to incorporate in their learning experience, by both providing different formats of receiving information as well as encouraging a more interactive and collaborative approach. It provides students more opportunity to engage with each other which has the potential to improve their communication skills, but also to expand increasingly important technological skills.

Author Contributions: The study was led by Michelle Honey who was involved in all aspects of the study, and by Deborah Raphael who supported data collection, data analyses, and the writing of this article.

Conflicts of Interest: The authors declare no conflict of interest.

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