Exploring pre-service teachers' awareness on using social networking sites: are they ready for digital citizenship?

Explorando consciência pré-serviço de professores sobre uso de redes sociais: eles estão prontos para a cidadania digital?

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Abstract: Undergraduate students have been widely-adopted Social Networking Sites (SNSs) such as Facebook. Some issues were discussed among users concerning the users' netiquette. For users like pre-service teachers who may or may not use SNSs for their communication tools in near future, however, there is a need for teacher education institutes to prepare their digital citizenship. This study examined three hundred and seventy seven pre-service teachers of the awareness of SNSs communication behaviors. Quantitative data indicated that the number of network friends was the most significant factors effects to SNSs communication behaviors and awareness. Qualitative data from the open-ended question revealed the need to revise the ED-TECH course for pre-service teachers to have more deep understanding on digital citizenship.

INTRODUCTION

The Social Networking Sites (SNSs) allows user to create a public or semi-public profiles, list their friends and network, and view across the friends' sites (BOYD & ELLISON, 2008). The popular and current terms or new words were introduced to novice SNSs users include "Friends", "Contacts", "Fan", and "Followers". These terms can be misleading in some sources of situation. Though, people are connected using SNSs for different purposes: reconnecting with old friends, making new friends, improving relationship with friends, expressing opinions, exchanging ideas, gaming, and shopping. This new media was adopted rapidly for individually use, commercial purposive, and education. However, it seems that the commercial sector steps forward using SNSs for marketing strategies and connecting their customers speedily than education sector.

Many educators agree that preparing students for life in the 21st century will require a competent teacher, therefore, teacher training programs needed to be reconstructed and also a redefinition of literacy and skills of the new generation of teachers. As children and young adults have familiar with the dynamic and trendy technology like internet chat software and SNSs some consider about netiquette of students as the digital citizenship. Students as "digital natives" (PRENSKY, 2001) navigate cyberspace with ease and feel as a typical part of their life. Recently, the word 'digital citizenship' was named and challenged educators to educate our children and

youth to be qualified digital citizens. Ribble, Bailey, & Ross (2004) defined 'digital citizenship' as the norms of behavior with regard to technology use based on nine general areas of behavior: (1) digital etiquette: electronic standards of conduct or procedure, (2) digital communication: electronic exchange of information, (3) digital education (literacy): process of teaching and learning about technology and the use of technology, (4) digital access: full electronic participation in society, (5) digital commerce: electronic buying and selling of goods, (6) digital responsibility: electronic buying responsibility for actions and deeds, (7) digital rights: those freedoms extended to everyone in a digital world, (8) safety: physical well-being in a digital technology world, and (9) digital security (self-protection): electronic precautions to guarantee safety. All in-service teachers are faced this challenge to educate students to have critically digital citizenship. Correspondingly, Teacher Education Institutes (TEIs) are confronted this issue to prepare pre-service teachers to have more information, media, and technology skills based on the twenty-first century skills. Digital citizenship should be integrated in TEIs curriculum systematically.

Currently, Facebook.com ranked as the five top popular SNSs and this website acclaimed to have registered users by millions. There are over ten million Facebook users in Thailand, which makes it as the 16th ranking of all Facebook statistics by country (http://www.socialbakers.com/facebook-statistics, accessed March 1, 2012). Learning in the digital age, pre-service teachers use social networking sites not different from other students. Some use it as a fashionable tool or use it as a regular communication tool. And some use it as communication tools for teaching and learning during the teaching practicum. Mazer, Murphy, & Simonds (2007) found 'the high teacher self-disclosure may lead students to higher levels of anticipated motivation and affective learning and lend to a more comfortable classroom climate'. Consequently, issues related to 'digital citizenship' concepts are critically concerned for their own personal use because their online behavior would be a role model for their students. As Luke (2003) pointed out that 'texts of the new technologies

have mutated into complex hybrid systems that have made new demands on reading and writing, viewing, social exchange, and communication'. This paper explored pre-service teachers' awareness on using SNSs and examined the different awareness among pre-service teachers separated by year of study, SNSs experience of time use, number of network friends, and number of closed groups.

Research questions:

- Are there different awareness related to SNSs communication behaviors among pre-service teachers with different year of study, SNSs experience of time use, number of network contacts, and number of closed groups at a level of significance of .05?

- What are the undesirable impacts of using SNSs by pre-service teachers' experience?

DATA COLLECTION

Pre-service teachers who studied in various departments and majors of faculty of education in from two universities; Chulalongkorn University, CU (located in Bangkok metropolis) and Ubon Rajthani Rajabhat University (located in Northeastern part of Thailand) were the samples of this research. Only freshmen were not the samples of this study due to less experiences involving teaching and learning in school curriculum. Of the 398 students, 377 completed the questionnaire (5.3% showed some missing data). There were 54.4% respondents studied at CU and 45.6% studied at UBRU. Data were collected using the questionnaires during the end of second semester of 2010 academic year, the 4th week of February - the 1st week of March 2011).

RESULTS

Descriptive statistics

There were 80.7% of those respondents who took the survey were female and 19.3% were male. The mean age of the sample was 22 year-old with the standard deviation of 1.01 and the age of respondents ranged from 19-24 year-old. Fifty

percent of pre-service teachers in the sample were the fourth year, 22.7% were junior, 14.7% were the fifth year (who had teaching practicum at primary/secondary school for 2 semesters), and the rest (12.3%) were sophomore.

Ownership of computer/mobile computing device seems to have changed from the computer desktop to other mobile computing device. Most of the respondents (80.9%) owned notebook or netbook while 31.0% of respondents had computer desktop. And twenty percent of respondents owned a smartphone but only 4.5% owned tablet device. Figure1 showed the popular SNSs among Thai students and the most social networking sites that participants used in daily life were Facebook, YouTube, Hi5, and Twitter (96.3%, 81.2%, 44.3%, and 22.6% respectively). Forty-seven percent of respondents who used Facebook had more than 300 contacts in their social network site. And most of participants (70.5%) had joined 1-10 social groups.
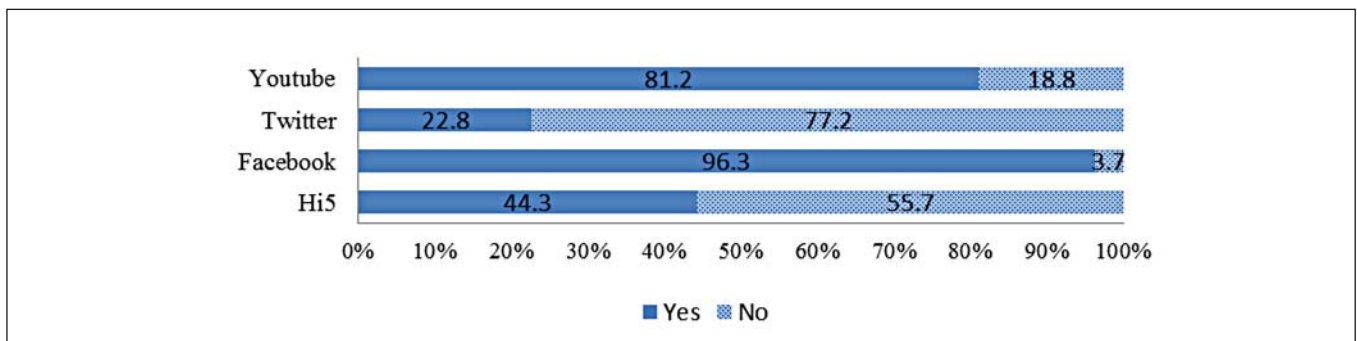

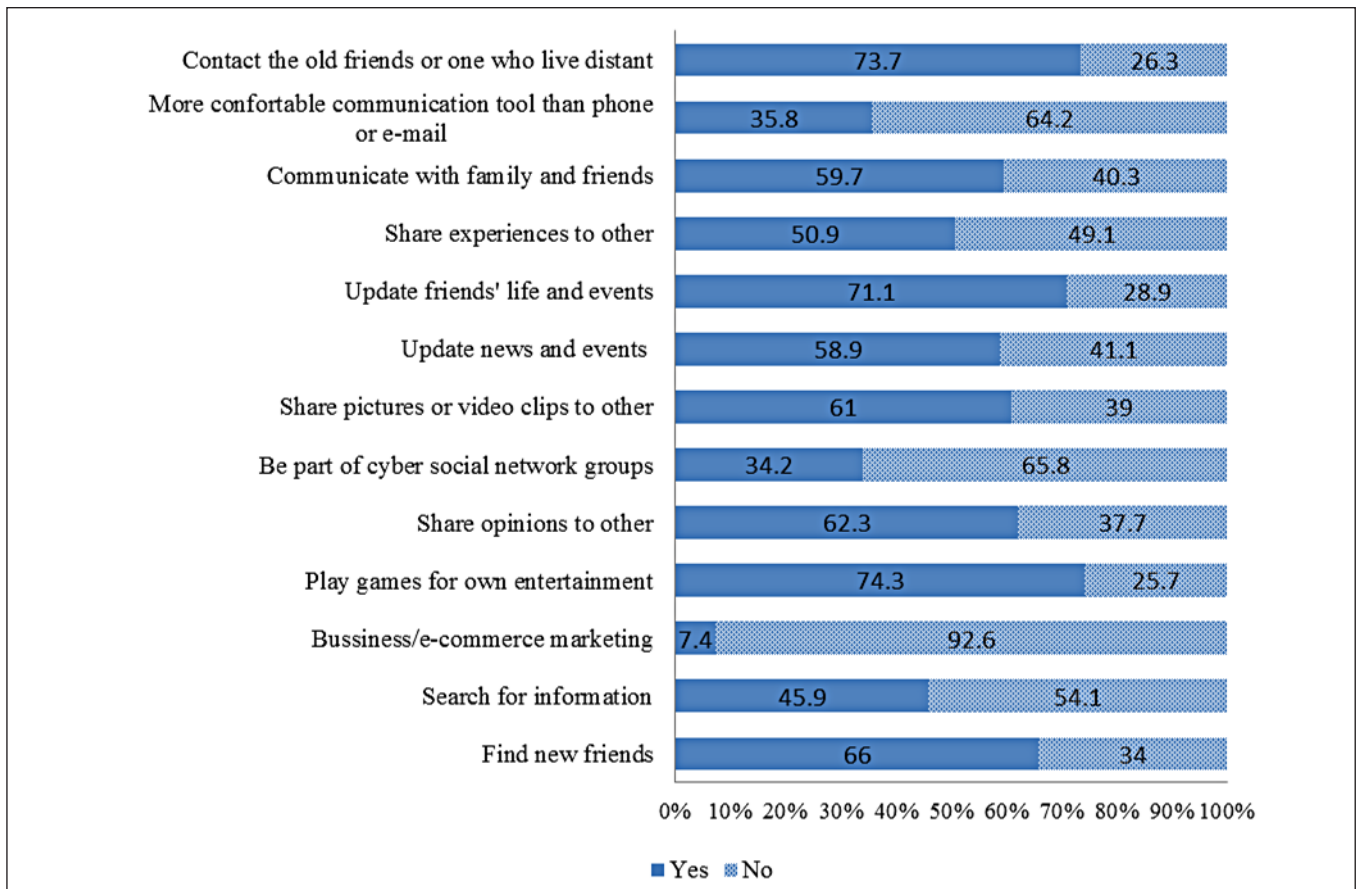**Figure 1:** Pre-service teachers use of social networking sites

Figure 2: Reasons of social networking site usage

Table 1: Descriptive data of pre-service teachers' awareness on using SNSs

Items	Awareness				
	Lowest	Low	Moderate	High	Highest
Level of written language related to the group (Mean = 3.80, SD = .77)	2 (.5%)	12(3.2%)	109(28.9%)	192(50.9%)	62(16.4%)
Written style that showed your identity (Mean = 3.88, SD = .73)	0(0.0%)	6 (1.6%)	109(28.9%)	187(49.6%)	75(19.9%)
Content of posted texts (Mean = 3.94, SD = .78)	1 (.3%)	7(1.9%)	100(26.5%)	173(45.9%)	96(25.5%)
Content of posted pictures (Mean = 3.97, SD = .80)	1 (.3%)	8(2.1%)	96(25.5%)	170(45.1%)	102(27.1%)
Ownership of pictures and copyright (Mean = 4.04, SD = .74)	1 (.3%)	3(.8%)	81(21.5%)	187(49.6%)	105(27.9%)
Ask friends before posting pictures containing their faces (Mean = 3.91, SD = .84)	4(1.0%)	11(2.9%)	96(25.5%)	171(45.4%)	95(25.2%)
Use tag via texts or pictures to the target group (Mean = 3.94, SD = .80)	1 (.3%)	14(3.7%)	85(22.5%)	182(48.3%)	95(25.2%)
Control the person or group who can access to all content or information on SNSs (Mean = 3.99, SD = .76)	1 (.3%)	7(1.9%)	84(22.3%)	187(49.6%)	98(26.0%)

Figure 2 showed the most top five reasons for using SNSs were 1) play games for own entertainment, 2) contact the old friends or one who live distant, 3) update friends' life and events, 4) find new friends, and 5) share opinions to other (74.3%, 73.7%, 71.1%, 66.0%, and 62.3% respectively). And as SNSs were the new communication tool, it is interesting to know who was the one influencing respondents to try and use it. The survey results found the three most influential people who introduced social networking site were friends (66.7%), his/her self (47.6%), and boyfriend or girlfriend (24.6%).

Pre-service teachers' awareness on using SNSs in each communication behaviors were similarly in high level (see Table1), the most top three awareness in communication behaviors were 1) ownership of pictures and copyright (Mean = 4.04, SD = .74), 2) control the person or group who can access to all content or information in SNS (Mean = 3.99, SD = .76), and 3) content of posted pictures (Mean = 3.97, SD = .80).

Results of one-way ANOVA analysis

To answer the research question, the one-way ANOVA was used to analyze the data (see table 2 for more details) and the results found six statements that reject the null hypotheses as follows:

1) There were differences between awareness mean scores of asking friends before posting pictures containing their faces among pre-service teachers who had different year of study at a level of significance of .05, $F (3, 371) = 2.869$, $p = .036$. LSD post-hoc comparisons of the four groups indicate that the 4th year group ($M = 3.97$, 95% CI [3.86, 4.09]) gave significantly higher awareness than sophomore group ($M = 3.61$, 95% CI [3.34, 3.88]), $p = .008$. The 5th year group ($M = 4.02$, 95% CI [3.79, 4.24]) had significantly higher awareness than sophomore ($M = 3.61$, 95% CI [3.34, 3.88]), $p = .005$. Comparisons between sophomore group and the other three groups were not statistically significant at $p < .05$.

2) There were differences between awareness mean scores of controlling the person or group who can access to the content or information on SNSs among pre-service teachers who had different SNSs experience of time use at a level of significance of .05 $F (5, 365) = 2.268$, $p = 0.47$. LSD post-hoc comparisons of the six groups indicate that the 6-12 month group ($M = 4.00$, 95% CI [3.81, 4.19]) gave significantly higher awareness than the less than one month group ($M = 3.29$, 95% CI [2.13, 4.45]), $p = .019$; the 1-2 years group ($M = 4.02$, 95% CI [3.87, 4.18]) gave significantly higher

awareness than the less than one month group (M = 3.29, 95% CI [2.13, 4.45]), p = .014; the 2-3 years group (M = 4.10, 95% CI [3.92, 4.29]) gave significantly higher awareness than the less than one month group (M = 3.29, 95% CI [2.13, 4.45]), p = .007and the 1-6 months group (M = 3.81, 95% CI [3.59, 4.02]), p = .031; the over three years group (M = 4.04, 95% CI [3.90, 4.19]) gave significantly higher awareness than the 1-6 months group (M = 3.81, 95% CI [3.59, 4.02]), p = .011. Comparison between the over three years group and the other four groups were not statistically significant at p<.05.

3) There were differences between awareness mean scores of content of posted pictures among pre-service teachers who had different number of network friends at a level of significance of .05, F (5, 366) = 2.555, p = .027. LSD post-hoc comparisons of the six groups indicate that the 50-99 network friends group (M = 4.12, 95% CI [3.86, 4.38]) gave significantly higher awareness than the 10-49 network friends group (M = 3.59, 95% CI [3.24, 3.94]), p = .010; the over 300 network friends (M = 4.07, 95% CI [3.96, 4.18] gave significantly higher awareness than the 10-49 network friends group (M = 3.59, 95% CI [3.24, 3.94]), p = .004 and the 100-200 network friends (M = 3.83, 95% CI [3.63, 4.03]), p = .038. Comparison between the over 300 network friends group and the other three groups were not statistically significant at p<.05.

4) There were differences between awareness mean scores of ownership of pictures and copyright among pre-service teachers who had different number of network friends at a level of significance of .01, F (5, 366) = 4.378, p = .001. LSD post-hoc comparisons of the six groups indicate that the 50-99 network friends group (M = 4.18, 95% CI [3.94, 4.42]) gave significantly higher awareness than the 10-49 network friends group (M = 3.56, 95% CI [3.30, 3.81]), p = .001 and the 100-200 network friends group (M = 3.86, 95% CI [3.68, 4.05]), p = .032; the

201-300 network friends (M = 4.07, 95% CI [3.90, 4.23]) gave significantly higher awareness than the 10-49 network friends group (M = 3.56, 95% CI [3.30, 3.81]), p = .002; the over 300 network friends group (M = 4.15, 95% CI [4.04, 4.26]) gave significantly higher awareness than the 10-49 network friends group (M = 3.56, 95% CI [3.30, 3.81]), p = .000 and the 100-200 network friends group (M = 3.86, 95% CI [3.68, 4.05]), p = .006.

5) There were differences between awareness mean scores of asking friends before posting pictures containing their faces among pre-service teachers who had different number of network friends at a level of significance of .05, F (5, 366) = 2.358, p = .040. LSD post-hoc comparisons of the six groups indicate that the 50-99 network friends (M = 4.12, 95% CI [3.87, 4.37]) gave significantly higher awareness than the 100-200 network friends group (M = 3.63, 95% CI [3.40, 3.86]), p = .007 and the over 300 network friends group gave significantly higher awareness than the 100-200 network friends group (M = 3.63, 95% CI [3.40, 3.86]), p = .004.

6) There were differences between awareness mean score of controlling the person or group who can access to the content or information on SNS among pre-service teachers who had different number of network friends at a level of significance of .05, F (5, 366) = 2.518, p = .029. LSD post-hoc comparisons of the six groups indicate that the 50-99 network friends group (M = 4.21, 95% CI [3.98, 4.44]) gave significantly higher awareness than the 10-49 network friends group (M = 3.67, 95% CI [3.40, 3.94]), p = .006 and the 100-200 network friends group (M = 3.63, 95% CI [3.40, 3.86]), p = .031; the over 300 network friends (M = 4.08, 95% CI [3.96, 4.20]) gave significantly higher awareness than the 10-49 network friends group (M = 3.67, 95% CI [3.40, 3.94]), p = .009 and the 100-200 network friends group (M = 3.86, 95% CI [3.67, 4.05]), p = .048.

Table 2: Summary of one-way ANOVA analysis

Items	Year of study		SNSs experience of time use		Number of network friends		Number of closed groups	
	F	Sig	F	Sig	F	Sig	F	Sig
Level of written language related to the group	.281	.839	1.209	.304	.845	.518	.458	.766
Written style that showed your identity	.641	.589	.504	.773	1.362	.238	.877	.478
Content of posted texts	1.247	.292	.850	.515	1.042	.393	.442	.778
Content of posted pictures	.366	.777	.859	.509	2.555	.027*	1.059	.377
Ownership of pictures and copyright	.955	.414	1.799	.112	4.378	.001**	.794	.530
Ask friends before posting pictures containing their faces	2.869	.036*	1.502	.188	2.358	.040*	.246	.912
Use tag via text or picture to the target group	.323	.809	1.294	.266	1.193	.312	.388	.817
Control the person or group who can access to all content or information on SNSs	1.150	.329	2.268	.047*	2.518	.029*	.391	.815

Note *p < .05, **p< .01

Content analysis from open-ended question: What is the most undesirable impact from SNSs you have found?

In response to this question, 48.80% of respondents (n = 184) in this study replied the open-ended question. The three most negative impacts appeared to this question. First, a majority of respondents (n = 49) reported they spend too much time on SNSs/waste time. Second, some found inappropriate texts/showing insulting other users and also some cyber bullying situations (n = 33). Third, some information is disclosed and shown on users' profile/ Personal space was invaded (n = 26). The second and third undesirable impacts implied that SNSs users have little or less media literacy to have proper cyber behave and not all of them learn to protect their private information by correcting and updating digital networks secure based on the SNSs providers. Table 3 showed all the top five negative impact found from this survey and all of it displayed significant issues related to the digital citizenship.

Table 3: The most five negative impacts from SNSs

Negative impact issues	Frequency (Percentage)	Selected answers
Spend too much time on SNSs/waste time	49 (26.63%)	• It seems I addicted to Facebook, sometimes playing games or read the update status of friends too long. So I went to bed very late. • I enjoy surfing on SNSs and playing games, sometimes it wasted time.
Lots of inappropriate languages and contents	33 (17.93%)	• Some friends in my connection used the rude words and sarcasms. • People express their opinions unsuitable on the public figures. • Some porn videos or pictures are showing, I don't like to see it.
Some information is disclosed and shown on users' profile/Personal space was invaded	26 (14.13%)	• I got the requests from the unknown friends; it means that they can enter to my SNS page very easy. • I cannot control friends to tag photos containing my faces. Some pictures were the candid photo and I look so ugly.
Loose self-controlled to study/reading	18 (9.78%)	• I enjoy playing games and often effect my reading time. • Lose concentration/got short concentration for studying.
Get annoyed by online advertising; advertising tag on SNS.	6 (3.26%)	• Lots of advertising tag on my wall, very annoying. • Annoyed by deceptive advertising spam. Always got tag for advertising.
Get closer relationship with online friends, but get social distance from people in life.	6 (3.26%)	• Spending too much time online, I have arguing with girlfriend. • Less talk face-to-face to people in life.

DISCUSSION AND CONCLUSION

Social network means more touchable and exemplify the set of belonging society of individual. Communication behaviors on internet become some parts of daily life communication and when one enters to the cyber world, sign in, and interact with people using online communication tools. Some related issues about etiquettes, right, and responsibility are significant engaged. Results from quantitative data showed that pre-service teachers who use SNSs for a long time enough and have the more number of network friends concerned some more issues of SNSs communication behaviors than others. Besides, the qualitative data revealed the negative impacts on using SNSs such as they lose their self-controlled when surfing the SNSs, they found inappropriate languages/picture/video from their friends' messages, and some personal information are disclosed.

Pre-service teachers should have more crystallize on effective and appropriate usage of SNSs. To be a digital citizen who has digital citizenship, pre-service teachers themselves should learn how to deal with the cyber bullying situations, develop the understanding about the advantages and disadvantages from SNSs to protect their private information based on each SNSs setting. Cyber behave and proper internet use is related to one's cyber identity. In the near future, when pre-service teachers become in-service teacher they may use SNSs as a communication tool connecting with their students and to develop digital citizenship to their students too. Variability of SNSs such as social networking tools (i.e. Facebook, Linkedin, etc.), online video (i.e. YouTube), microblog (i.e. Twitter, Plurk), podcasting (audio and video), social bookmarking (i.e. Delicious, Digg) will become the beneficial and valuable tools for the next generation of teachers. However, during training and educating for pre-service teachers, they must learn critically how to choose and use those varieties of SNSs. Therefore, there is a need to prepare pre-service teachers during their study at TEIs to get ready for being the qualified digital citizen. This research finding suggests to TEIs to revise the Educational Technology course for pre-service teachers to add some more modules about digital citizenship or integrate into the process of teaching and learning about technology rather than teaching about how to use the application programs only. And not only one core course brings to the learning outcome; teacher education curriculum should integrate technology into their teaching and learning and all faculty should cooperatively been aware for digital citizenship especially digital etiquette, communication, responsibility, and rights to pre-service teachers.

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