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THE ASSESSMENTS OF INTERNET-BASED TECHNOLOGY USE BY UNIVERSITY ACADEMIC MEMBERS

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Abstract

Social networking applications (SNAs), as technologies that rely on internet infrastructure, are widely used as platforms for user interaction, content creation and social communication. However, in recent years, SNAs have been used in the context of teaching and learning, and this aspect, as well as others, has attracted research attention. Limited research has investigated the motivations and barriers to teaching with SNAs in higher education, and so this study sought to examine the purposes, motivations and barriers associated with SNA use in education among academic members at Albaha University, Saudi Arabia. A quantitative research design involving a sample of academic members from various faculties at Albaha University (n=105) was implemented to illuminate current SNA usage patterns, usage purposes and perceptions of SNAs in education. The results indicated that 86.7 per cent of the academic members had used SNAs for educational purposes. Academic members were positively influenced by the use of these platforms in teaching and learning; they suggested that these emerging technologies play a vital role in student outcomes. The main motivating factor for SNA usage related to the opportunities they afford for seamless and rapid communication with students, while the principal barrier to SNA usage was the possibility of dissemination of unreliable information via SNAs.

Keywords

social networking applications, Web 2.0 applications, technology-enhanced learning, e-learning, computer-based education, higher education, academic members

1. INTRODUCTION

As internet-based technologies with some of the highest levels of usership, social networking applications (SNAs) are among the most popular digital platforms available today (Maria Kisugu, 2020). Initially, socialisation was the only activity that users could engage in on SNAs, but with the development of their functionality, law (Lakhani, 2013), business (Khorsheed, Othman, & Sadq, 2020) and other activities are currently facilitated using these platforms. In recent years, the use of SNAs in teaching and learning has grown in popularity, and educators around the world are integrating their use into their curricula and teaching activities(Yemer & Wassie, 2020)(Hamid, Waycott, Kurnia, & Chang, 2015). Consequently, researchers in the field of higher education research have developed an interest in this topic, and the number of different applications of SNAs in teaching has risen (Dragseth, 2020)(Stefania Manca, 2020)(Stefania Manca & Ranieri, 2016b)(Seaman & Tinti-Kane, 2013).

A number of researchers have highlighted the beneficial impacts of SNA usage in terms of higher education(Aydin, 2014)(Chen, Hwang, Wu, Huang, & Hsueh, 2011). Advantages arising from the use of this technology include improved student-teacher interactions, higher learning motivation, and favourable student perceptions and attitudes towards curricula. In the case of students in university, SNA usage for educational purposes is widely considered beneficial, and these platforms are perceived as having a largely positive influence on their education (Ahmad , 2020; Rasheed et al., 2020)(Lim & Richardson, 2016).

Potential negative perceptions of SNA usage in education among members of the academic faculty have been noted in the literature (Akçayır & Akçayır, 2016). An especially noteworthy factor that represents a barrier to SNA usage among academic personnel is their general unwillingness to incorporate them into their education activities (Greenhow & Askari, 2017)(Veletsianos & Kimmons, 2012). To illuminate the function of SNAs in higher education, and to understand the attitudes of faculty members towards the exploitation of these technologies, it is essential to examine the issue from faculty members.

Given that the current body of literature surrounding academic members' experiences in using SNAs for teaching in the field of higher education is restricted, and since technology continues to pervade all aspects of contemporary life, this study seeks to address this gap in the literature. The study looks to examine the purposes, motivations and barriers associated with SNA use in education among academic members at Albaha University, Saudi Arabia. A quantitative research design involving a sample of academic members from various faculties at Albaha University was implemented to illuminate current SNA usage patterns, usage purposes and attitudes towards SNAs for education.

To pursue the abovementioned aim, the following research questions were established:

- What is the experience of academic members of Albaha University in terms of SNAs usage, and what are the SNAs that they use in online participation?
- For what purposes do academic members at Albaha University use SNAs?
- To what extent do Albaha University academic members agree that SNAs are useful in the educational process?
- What are the motivations for Albaha University academic members to use SNAs?
- What difficulties do Albaha University academic members experience in the use of SNAs?

The paper is structured as follows. Section 1 illustrates the study and discusses its importance in education, followed by the research questions. Section 2 presents the literature review. Section 3 specifics the research methodology, which includes a detailed account of the data collection process. Section 4 demonstrates the analysis of the research data. Section 5 indicates the research results, while section 6 provides in-depth discussion of the research results. Section 7 concludes the research.

2. LITERATURE REVIEW

With the unprecedented advancement of information and communications technology, and especially the rise of the internet, SNAs (Maria Kisugu, 2020) such as Facebook have emerged as the world's most widely used online platforms (C. L. Coyle and H. Vaughn, 2008). According to the literature that SNAs represent a valuable supplement for e-learning systems (Yemer & Wassie, 2020)(Downes, 2005). It is possible for educators to enhance e-learning experiences using SNAs, and students can leverage these online platforms to augment and enhance their learning experiences (Jonnavithula & Tretiakov, 2012).

Although digital natives, who represent the recent cohort of students, are skilful in the practice of technology for educational purposes (McKinney, Dyck, & Luber, 2009)(Waghid, 2016), and although university students are typically accepting of SNA usage as a supplement to class activities (Roblyer, McDaniel, Webb, Herman, & Witty, 2010), the evidence suggests that faculty members, many of whom are digital immigrants, have lower levels of acceptance (Ajjan & Hartshorne, 2008)(Crook, 2012). One study found that, even for faculty members who can access technologies at home and on campus, the technologies tended to be used only for personal rather than for academic purposes (Stefania Manca & Ranieri, 2016b). Another study reported that certain faculty members, despite acknowledging the value of SNA use in enhancing teaching and learning, did not use or intend to use the technologies in the classroom (Ajjan & Hartshorne, 2008). Consistent with this, the literature indicates that faculty members who leverage SNAs for professional purposes tend to reject or resist the use of these platforms in the classroom (Veletsianos & Kimmons, 2012).

A range of factors that may affect SNA adoption in teaching have been discussed in the literature. For example, motivations for SNA usage include the desire to engage in experimentation with novel tools (Stefania Manca & Ranieri, 2016a), as well as recognition of opportunities for streamlined communication (Sobaih, Moustafa, Ghandforoush, & Khan, 2016). Additionally, research evidence suggests that faculty members' previous experience with digital technologies, including SNAs, may play a role (Scott, 2013). For example, one study reported that experience with blended learning or e-learning is a factor that correlates closely with faculty decisions to incorporate SNAs in their curricula (Stefania Manca & Ranieri, 2016b). At the same time, it has been noted in the literature that a significant number of academic staff who are fascinated by SNAs exhibit clear intents to leverage the platforms for teaching and learning purposes (Esteve Del Valle, Gruzd, Haythornthwaite, Paulin, & Gilbert, 2017). In the study undertaken by (Cao, Ajjan, & Hong, 2013), it was reported that outside influence, apparent effectiveness and technology consistency were direct motivating factors that caused faculty members to engage in SNA usage for education. In (Rogers-Estable, n.d.), intrinsic factors were identified as less significant inhibitors than extrinsic factors in terms of their influence on academic faculty decisions to integrate SNAs in classrooms. out of control, privacy and minimal organisational assistance for technology use were cited by (Sobaih et al., 2016) as relevant factors.

The impact of demographic variables, including scientific discipline, gender and age, has been studied in the literature, and these variables have been found to correlate with faculty members' decisions to engage in SNA usage for educational purposes (Stefania Manca & Ranieri, 2016b)(Scott, 2013). In almost all of the studies that have examined this topic, the age of a faculty member is a relevant consideration (Turvey, 2012). Among early-stage researchers and academics, SNA usage typically extends across personal, professional and teaching life at a much higher rate compared to their older counterparts (Greenhow & Gleason, 2014)(Stefania Manca & Ranieri, 2016b). For faculty members with a specialism in social sciences, the levels of SNA usage are generally higher than those of faculty members who specialise in natural disciplines (Moran et al., 2012). Therefore, the availability of resources and content via SNAs may have an impact on faculty members' decisions on whether to incorporate SNAs in their educational practice.

3. RESEARCH METHODOLOGY

A quantitative research design was used for data collection and analysis in this research. A questionnaire, disseminated electronically to each of the research participants (n=105), was used as the data collection instrument to address the research questions given in section 1. In this research, all of the participants were academic members of various faculties and departments at Albaha University, Saudi Arabia. Of the 105 faculty members who agreed to participate, 50.5 per cent were male and 49.5 per cent were female. The participating faculty members consisted mainly of assistant professors

(66.7%), associate professors (17.1%), lecturers (7.6%), professors (4.8%) and teaching assistants (3.8%); 73 per cent of the respondents were aged 41–60 years.

The questionnaire used in this research involved five sections and each section includes a list of multiple choices questions. The first section gathered data on participants' demographic features, including age, gender, academic rank, department, faculty and teaching experience. The second section of the questionnaire, a five-item section, examined SNA usage among the faculty members, and some of the questions of this second section are as follows: -

Q1: Which of the following social networking applications do you use?

- Facebook.
- Twitter.
- WhatsApp.
- YouTube.
- Telegram.
- Snapchat.
- Instagram.
- Others.

Q2: How long have you been using social networking applications?

- Less than 1 year.
- 1 - 2 years.
- 3 - 4 years.
- More than 5 years.

Q3: What is the purpose of your use of social networking applications?

- Communication.
- Education.
- Entertainment.

In terms of the third section, an eight-item section, investigated whether the participants benefited from SNA use in the educational process with students. The fourth section, which contained four items, examined the faculty members' motivations for using SNAs, while the fifth section, a four-item section, sought to gather data on problems associated with SNAs from the participants' perspectives.

On this particular theme of Albaha University academic members' benefits from SNAs, the following questions were included:

Q1: Using social networking applications with students is one of the tools that facilitates the continuation of the learning process.
Q2: I use social networking apps to communicate with and help students outside the classroom.
Q3: Social networking apps are useful resources for teaching and learning.
Q4: The use of social networking applications makes the educational process more effective and productive.
Q5: Social networking apps allow professors to build an academic dialogue and discussion with students.
Q6: I use social networking apps to communicate with colleagues to get work done.
Q7: I think social networking apps help students to develop their technology and communication skills.
Q8: I believe that students who use social networking applications for the purpose of education help improve their academic performance more so than not using them or using them for purposes outside education.

The fourth section, which contained four items, examined faculty members' motivations for using SNAs. On this specific theme of Albaha University academic members' motivations for using SNAs, the following questions were included:

Q1: I use social networking apps as they provide an opportunity to communicate quickly with students.
Q2: I use social networking apps only for the purpose of communicating with friends and relatives.
Q3: I use social networking apps for easy data sharing.
Q4: I use social networking apps to follow news and events.

The fifth section, a four-item section, sought to gather data on problems associated with SNAs from the participants' perspectives. On this precise theme of Albaha University academic members' difficulties with using SNAs, the following questions were included:

Q1: Social networking apps are a waste of time.
Q2: Using social networking applications with students is annoying.
Q3: Social networking apps distract from basic business priorities.
Q4: Social networking applications contain information without reliable sources.

4. DATA ANALYSIS

Data were analysed using SPSS version 21, and both inferential and descriptive statistics were used. Using these statistical methods, the means, standard deviations, frequencies and percentages associated with the questionnaire results were examined, thereby effectively revealing aspects of SNA use by the academic faculty at Albaha University. Cross-tabulation was conducted to investigate the links between two or more variables, and three-way analysis of variance (ANOVA) was employed to identify whether interaction effects existed between three independent variables on a continuous dependent variable. Moreover, on this research study, it was focused on SNAs usage by Albaha University academic members such as their experience of SNAs usage, their purposes of SNAs usage, and their motivations to use SNAs. Further details about the results of this research study are illustrated in the following section.

5. RESEARCH RESULTS

The design of this research was organised in such a way that the research results address the research questions. The research results pertain to the responses of the research participants to the questionnaire, paired with the inferential and descriptive analysis of the obtained data.

5.1 Snas Used by Albaha University Academic Members in Online Participation

The results in Table I show the SNAs that faculty members most favoured and commonly use. WhatsApp was the most popular platform (93.3%), where the rates of male and female are approximately 43.8 per cent and 49.5% per cent, respectively. Facebook was the second most used platform, with approximately 52.4 per cent faculty members stating that they use it. Interestingly, about 24.8 per cent of those users were male, while about 27.6 per cent were female. In third place was YouTube, the rates for males being 21.0 per cent, and 22.9 per cent for females. Instagram only received 14.3 per cent of the total votes, the rate of male use being 4.8 per cent, and female 9.5 per cent. The specified frequencies are outlined below in Table 1.

Table 1: The use of Snas By Albaha University academic members

Applications	%	Gender		Total
		Male	Female	
Facebook	N	26	29	55
	% within gender	49.1%	55.8%	
	% of total	24.8%	27.6%	52.4%
Twitter	N	21	23	44
	% within gender	39.6%	44.2%	
	% of total	20.0%	21.9%	41.9%
WhatsApp	N	46	52	98
	% within gender	86.8%	100.0%	
	% of total	43.8%	49.5%	93.3%
YouTube	N	22	24	46
	% within gender	41.5%	46.2%	
	% of total	21.0%	22.9%	43.8%
Telegram	N	9	14	23
	% within gender	17.0%	26.9%	
	% of total	8.6%	13.3%	21.9%
Instagram	N	5	10	15
	% within gender	9.4%	19.2%	
	% of total	4.8%	9.5%	14.3%
Snapchat	N	6	13	19
	% within gender	11.3%	25.0%	
	% of total	5.7%	12.4%	18.1%
Others	N	2	0	2
	% within gender	3.8%	0.0%	
	% of total	1.9%	0.0%	1.9%
Total	N	53	52	105
	% of total	50.5%	49.5%	100.0%

5.2 Albaha University Academic Members' Experience of SNA Use

Figure1 presents the details of Albaha University academic members' experience of using SNAs. Of faculty members, 85.8 per cent had been using social networking applications for more than five years, of which 41.0 per cent were male and 44.8 per cent female; 11.5 per cent of faculty members had been using social networking applications for three to four years, of which 6.7 per cent were male and 4.8 per cent female. Finally, 1.0 per cent of faculty members had been using social networking applications for less than one year.

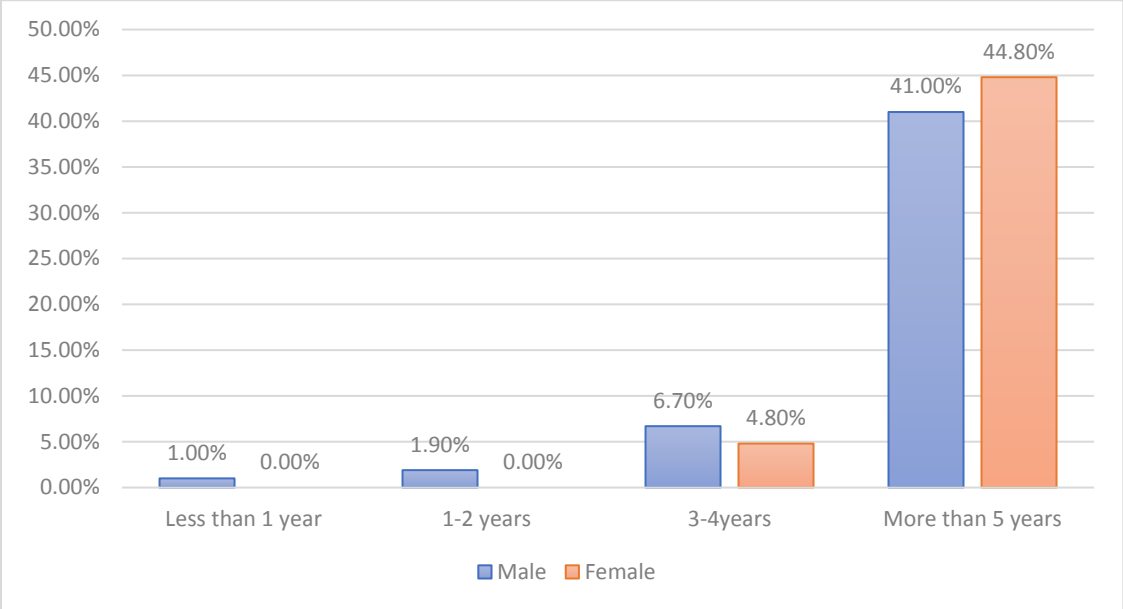

Fig.1: Albaha University academic members' experience of SNAs use

5.3 Albaha University Academic Members' Purposes for SNA Usage

The results in Table 2 illustrate that faculty members are more likely to use social networking applications for communication purposes (95.2%), with rates of male and female users being approximately equal: 48.6 per cent for males and 46.7 per cent for females. In second place was educational purposes (86.7%), male rates being approximately 41.9 per cent and female rates 44.8 per cent. Entertainment was the least selected purpose (53.3%), rates of male and female use being 22.9 per cent and 61.5 per cent, respectively.

Table 2: The purpose of Albaha University academic members using social networking applications

Purpose of use	%	Gender		Total
		Male	Female	
Communication	N	51	49	100
	% within gender	96.2%	94.2%	
	% of total	48.6%	46.7%	95.2%
Education	N	44	47	91
	% within gender	83.0%	90.4%	
	% of total	41.9%	44.8%	86.7%
Entertainment	N	24	32	56
	% within gender	45.3%	61.5%	
	% of total	22.9%	30.5%	53.3%
Total	N	53	52	105
	% of total	50.5%	49.5%	100.0%

5.4 Albaha University Academic Members' Benefits of Using SNAs in the Educational Process with Students

Table 3 provides descriptive statistics for the academic members' benefits theme, from which we find that the selected statement with the highest average was 1: "Using social networking applications with students is one of the tools that facilitates continuation of the learning process". Most of the respondents strongly agreed with this statement, with a mean of 4.55 and SD of 0.650. This response was followed by statement 6: "I use social networking apps to communicate with colleagues to get work done" (M=4.51, SD=0.735). The least selected responses were 4: "The use of social networking applications makes the educational process more effective and productive" (M=4.18, SD=0.928) and 5: "Social networking apps allow professors

to build academic dialogue and discussion with students" (M=4.18, SD=0.856). The objective of this theme was to recognise the impact of social networking applications on learning and education. The weighted average of this specific theme was 4.365 (SD=0.7722). It can therefore be inferred from the results that faculty members are positively affected by the use of social networking applications.

Table 3: Descriptive statistics of Albaha University academic members' benefits from SNAs

Statement number	Statement	Mean	SD	Level
1	Using social networking applications with students is one of the tools that facilitates continuation of the learning process	4.55	.650	Strongly agree
2	I use social networking apps to communicate and help students outside the classroom	4.41	.805	Strongly agree
3	Social networking apps are useful resources for teaching and learning	4.34	.732	Strongly agree
4	The use of social networking applications makes the educational process more effective and productive	4.18	.928	Agree
5	Social networking apps allow professors to build academic dialogue and discussion with students	4.19	.856	Agree
6	I use social networking apps to communicate with colleagues to get work done	4.51	.735	Strongly agree
7	I think social networking apps help students develop their technology and communication skills	4.41	.756	Strongly agree
8	I believe that students who use social networking applications for the purpose of education help improve their academic performance more so than not using them or using them for purposes outside education	4.33	.716	Strongly agree
Weighted mean		4.365		
SD		0.7722		

5.5 Albaha University Academic Members' Motivations to Use SNAs

Table 4 clarifies the descriptive statistics for the academic members' motivations theme, from which we find that the uppermost average choice of statement was 1: "I use social networking apps as they provide an opportunity to communicate quickly with students" (M=4.53, SD=0.636). This choice was followed by statement 3: "I use social networking apps for easy data sharing" (M=4.28, SD=0.686). Statement 4 was chosen next most frequently: "I use social networking apps to follow news and events" (M=4.27, SD=0.654). The least chosen statement was 2: "I use social networking apps for the purpose of communicating with friends and relatives only" (M=3.17, SD=1.289). The weighted average of this particular theme was 4.062 (SD=0.8162). The results indicate that the features of social networking applications motivate faculty members to use them.

Table 4: Descriptive statistics of Albaha University academic members' motivations for SNA use

Statement number	Statement	Mean	SD	Level
1	I use social networking apps as they provide an opportunity to communicate quickly with students	4.53	.636	Strongly agree
2	I use social networking apps for the purpose of communicating with friends and relatives only	3.17	1.289	Agree
3	I use social networking apps for easy data sharing	4.28	.686	Agree
4	I use social networking apps to follow news and events	4.27	.654	Strongly agree
Weighted mean		4.062		
SD		0.8162		

5.6 Albaha University Academic Members' Difficulties with SNA Usage

Table 5 presents the descriptive statistics for the academic members' difficulties theme, where we find that the highest average of response selection with the lowest SD was statement 4: "Social networking applications contain information without reliable sources" (M=3.72, SD=0.872). This statement was followed by statement 3: "Social networking apps distract from basic business priorities" (M=2.86, SD=0.975). The next most chosen response was statement 2: "Using social networking applications with students is annoying" (M=2.73, SD=0.973).

The least chosen response was statement 1: "Social networking apps are a waste of time" (M=2.61, SD=0.904). The weighted average of this last theme was 2.98 (SD=0.931).

Table 5: Descriptive statistics of Albaha University academic members' difficulties with the use of SNAs

Statement number	Statement	Mean	SD	Level
1	Social networking apps are a waste of time	2.61	0.904	Agree
2	Using social networking applications with students is annoying	2.73	0.973	Agree
3	Social networking apps distract from basic business priorities	2.86	0.975	Agree
4	Social networking applications contain information without reliable sources	3.72	0.872	Agree
Weighted mean		2.98		
SD		0.931		

5.7 Three-Way ANOVA: Impact of Gender, Age and Academic Rank of Albaha University Academic Members on Difficulties Using SNA

Table 6 shows the value of F for the variables gender, age and academic rank as .951, 1.856 and 5.575, respectively, which are statistically significant. Thus, there are statistically significant differences in barriers to social networking applications from the perspectives of faculty members. This was according to the value of F=5.575 as statistically significant because of the value of Sig in Academic Rank was less than 0.05.

Table 6: Three-way ANOVA: impact of gender, age, and academic rank on difficulties with SNAs

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig
Gender	1	1	.463	.951	.332
Age	3	3	.903	1.856	.143
Academic Rank	4	4	2.714	5.575	.000
Gender, Age, Academic Rank	2	2	1.261	2.591	.081
Error	42.841	88	0.487		
Total	991.500	105			

6. RESULTS DISCUSSION

The results of this research study are based on themes. The results of the first theme, SNAs used by Albaha University academic members in online participation (Table 1) indicate that WhatsApp was the most popular platform (93.3%) among other favourable SNAs that faculty members use. With regard to the second theme, Albaha University academic members' experience of SNA use, Figure1 showed that 85.8 per cent of faculty members had been using social networking applications for more than five years, indicating that Albaha University academic members had good awareness of using SNAS.

Regarding the third theme, purposes for which Albaha University academic members use SNAs (Table 2), faculty members were more likely to use social networking applications for communication purposes (95.2%) and educational purposes (86.7%). This indicated that Albaha University has considered the importance and usefulness of SNAs in education and communication with their students. In terms of the theme of Albaha University academic members' benefits from the use of SNAs in the educational process with students, it is seen in Table 3 that the highest number of Albaha University academic members' responses favoured the statement that using social networking applications with students is one of the tools that facilitate continuation of the learning process. This clearly showed that Albaha University academic members viewed SNAs as advantageous applications in university education. The weighted average of this specific theme was 4.365 (SD=0.7722), from which it can be inferred that faculty members gained a lot of advantages from using social networking applications in the educational process.

With respect to Albaha University academic members' motivations for using SNAs, it is shown in Table 4 that the highest number of Albaha University academic members' responses favoured the use of social networking apps as an opportunity to communicate quickly with students (M=4.53, SD=0.636). The weighted average of this particular theme was 4.062 (SD=0.8162), indicating that the features of social networking applications motivate faculty members to use them. The last theme was Albaha University academic members' difficulties with SNA usage, where it was found (Table 5) that the highest number of responses favoured social networking applications containing information without reliable sources (M=3.72, SD=0.872). The weighted average of this last theme was 2.98 (SD=0.931), which indicates that most respondents moderately agreed with this theme of academic members' difficulties with SNA usage. More importantly, it was found in this research that there are statistically significant differences in barriers to the use of social networking applications from the perspectives of faculty members.

7. CONCLUSION

This research investigated academic members' (n=105) usage of SNAs for teaching in the context of higher education, examining motivating factors, barriers and perceptions. An online questionnaire was used for data collection, data were analysed using SPSS version 21, and the results demonstrated that most of the participants were SNA users who viewed SNA use in education as convenient. Based on the motivating factors associated with SNA use in this sample, SNAs were perceived as a useful tool for education and communication with students. From this, it is possible to infer that members of the academic faculty have a high level of awareness regarding the use of SNAs in their courses and use them with their students. In further research, it would be valuable to offer richer data on how educators can use SNAs effectively and how the identified barriers to SNA usage can be overcome.

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