

Exploring the Effects of Social Media Platforms on Pre-service Teachers' Academic Achievement

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Abstract Research has shown that in today's world, Social Media Platforms (SMPs) have become an almost indispensable part of our daily life with majority of users who are mostly students in institutions of higher learning relying on them to interact and communicate with one another. Through SMPs, these users are able to create and share messages, personal information, ideas, audio and video content. In education, SMPs are tools that can positively or negatively impact on students' academic achievement. In this study, we explored pre-service teachers' engagements on SMPs and the possible effects it has on their academic achievement. Using an online social media usage Test Scale consisting of 14 items, data was obtained from 241 pre-service teachers in selected Ghanaian teacher training institutions. The data was analyzed quantitatively, and the results were presented in tables and graphs for straightforward interpretation and understanding. The study revealed that pre-service teachers used the Internet for varied reasons and prevalent among them was entertainment. It also showed that most students used WhatsApp more than any other SMP. The study also revealed that pre-service teachers were addicted to SMPs to the extent that they always felt bored when they are not online and go online at the slightest opportunity.

Keywords: social media platforms, social media, Pre-Service teachers, WhatsApp, internet addiction

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1. Introduction

According to [1] SMPs are ways of communicating electronically where users generate and share information using different multimedia including text, pictures, videos and audio. As a result of using social media, many aspects of human lives have witnessed dramatic transformation. After the emergence of Web 2.0 technology, SMPs have seen a massive increase in features such as relational networking, online identity creation and user-generated content. According to [2] social media is a group of practices, services and internet websites that come together to support sharing, participation, community building and collaboration. Therefore Web 2.0 as a technology, played an important role in revolving social media which represents the foundation for User-Generated Content (UGC). This is viewed as totality of ways through which people use social media [3]. Social media became popular in 2005 and can therefore be used to describe different kinds of media content which is created by end-users and available to the general public. As there are various terms and definitions for social media, Social Media Platforms (SMPs) as used in this study is any site or application that helps a user to create profiles (which could be private or public) and to use any form of media

to view, post and interact with others. The media may include pictures, text, live streaming, video and links [4]. Some of the SMPs include Twitter, Facebook, WhatsApp, Instagram, YouTube, LinkedIn and Tumblr.

SMPs have become common in past years, and provided a new form of interaction and communication for the younger generation, especially students. According to [6], there are over 4.6 billion social media users across the globe as of January 2022 which is about 58.4 percent of the world population. Among all those platforms, Facebook is the most popular SMP with over 2.9 billion monthly active users, followed by YouTube and WhatsApp with about 2.6 billion and 2.0 billion users respectively. These numbers are expected to rise since Facebook users will continue to increase in numbers. In Ghana, there are around 8.8 million active SMP users, representing about 27% of the total population, which is almost half of the internet users (17 million users) in the country [7]. Ghanaian social media users spend around 4 hours on social media every day [7]. According to the same report, WhatsApp and Facebook are the first two most used and most preferred SMPs. More than 67% of SMP users in Ghana are between the ages of 18 and 34 years, which covers the majority of students in teacher training institutions [7].

SMPs as communication tools provide opportunities for people to create new relationships, share information and

stay in-touch with friends and family. Communication using social media websites has gained more popularity and is on the rise. This has impacted our social interactions in multiple ways as people try to adapt to the technological advancements. The way users of the web used to talk and interact with one another has seen a dramatic change and continues to change each day. The face-to-face socialization which has been with us for a long time is gradually giving way to virtual socialization as a result of the web. SMPs have impacted our social interactions by changing the way we interact face-to-face and the way we send and receive information [8].

Pre-Service teachers in Ghana are not left out of this phenomenal improvement in socialization and communication. There is an overwhelming rise in the number of people who use social media among the youth and it has especially become more popular among students over the past few years [5]. Due to its increased popularity, teachers and educational policymakers question whether students' performance will not be affected by the amount of time they spend on these sites. [9] believes that the use of technology such as the internet is one of the most critical factors that can positively or negatively influence students' educational performance. Many teachers and parents are becoming very worried because students are spending more time on SMPs, especially WhatsApp [5]. Despite the worry, social media usage by students continue to increase on daily basis. The aim of this study is therefore to explore the impact of social media on the academic performance of Pre-Service teachers in Ghana.

2. Literature Review

SMPs rely on web or Internet based technologies for online interactive discourse which is a transformation of the traditional one-way communication. Social media makes it possible for one or more persons to create and exchange information [10]. Both teachers and students use social media to present lessons and also to present assignments, e.g., Skype, Twitter, Edmodo, Google+, Wikispaces classroom, Blackboard, Twiducate, Classroom 2.0, etc. Particularly, students use social media to find answers to questions they might have had in relation to their courses. Thus, the use of SMPs now covers every aspect of our lives.

Pre-Service teachers nowadays are exposed to all types of technologies in many aspects of their lives. This is because they are subscribed to many platforms such as Instagram, Twitter, MySpace, Facebook and many others in almost everything they do [11]. Particularly in the University of New Hampshire, students use many SMPs but YouTube and Facebook are among the highest platforms being used. LinkedIn, Twitter, Blogs and MySpace had significantly lower number of student users. The highest number of LinkedIn and Twitter users came from the business school whilst students from Liberal Arts recorded the highest number of MySpace users [12].

According to [13], 90% of college students regularly use cell phones, tablets, e-readers, laptops and desktops to send text messages, blog, share content and learn online daily. Consequently, most users have good communication skills with SMPs over the computer. The students can get

in touch with family and friends by sending and receiving information using SMPs and they also spend more time viewing information posted by others. The virtual one-on-one interaction provided by the computer simplifies communication and allows for family and friends to conveniently keep in touch and also to learn about social issues and events.

[14] conducted a survey to determine the number of hours college students spent on social media. It was discovered that in a day, 45% of the students spent between six to eight hours in checking their SMPs whereas 23% spent more than eight hours in a day. It was also revealed that 20% of the students spent two to four hours in checking their SMPs while only 12% did not spend up to two hours. The results also showed that at the Johnson and Wales University, social media is of high interest to students. Adolescents in particular spend more time accessing their SMPs. They use social media to engage in activities such as watching movies, chatting, sending and receiving information related to their academic work, downloading and uploading of assignments, among others.

[15] in a study, examined the use of Edmodo (a social networking tool) in teaching and learning. 22 undergraduate students were sampled for the study and a survey was conducted to determine how digitized they were. Out of the sample, 94.7% used smartphones and in a day, 47.4% spent one to two hours on the Internet. 31.6% spent two to four hours while just 5.3% read the newspapers. The sample used Yahoo, Google and SMPs such as YouTube, Facebook, Tumblr and Twitter. The study also tried to find out the relevance of Internet in the classroom. 36.8% were of the view that it was very relevant to use Internet in the class while 31.6% thought it was highly relevant. 26.3% thought the relevance of the Internet was moderate and 5.3% did not see the relevance of the Internet at all. The study also showed that 31.6% of the respondents reported that between 10% to 25% of their teachers use the internet in their teaching while another 31.6% indicated that between 50% to 80% of teachers used the Internet in teaching. The following were responses to the survey;

42.1% were of the view that in getting a job done, social media was extremely helpful.

47.4% thought social media was very helpful.

10.5% thought social media as moderately helpful.

None of the students saw social media as not helpful.

20% of the students agreed strongly that their teachers make good use of technology to achieve their teaching and learning objectives.

According to [13], students who had online friends are mostly colleagues they meet in college. This meant that there is a sense of belonging in the academic community which is made possible because of social media. SMPs are vehicles for academic progress through teacher-to-student and student-to-student interactions. The social network platforms used for educational tutoring and academic purposes were YouTube, WhatsApp and Facebook.

[5] conducted a survey which revealed that many researchers' studies on students' use of SMPs indicated an adverse effect of using SMPs on the academic performance of students. According to [16], a research was conducted in June 2010 by Nielsen Media Research

and it was revealed that out of the time spent on internet by students, 25% of the time is spent on social media. They added that another research conducted by The American Educational Research Association revealed that students who use SMPs spent less time on studies and therefore score low marks.

3. Methodology

Online surveys and paper surveys were used to collect data for the study and the data were analyzed quantitatively. This approach was adopted because the study intended to collect information from students on their level of SMP usage and its impact on their academic performance. To make sure that the questionnaire was valid and reliable, the questionnaire was adapted from [17] study as its validity and reliability were already tested. The population of the study comprised all Bachelor of Education students in four selected Colleges of Education in Ghana.

The simple random sampling technique selected 241 students who responded to the Internet Usage Test Scale of 14 items. Each item was rated on a Likert Scale of Always (Al), Often (Of), Frequently (Fr), Occasionally (Oc) and Not at all (No) with the following assigned values; Al = 5, Of = 4, Fr = 3, Oc = 2, No = 1. The Mean (M) and Standard Deviation (SD) for each item were calculated. The mean cut-off-point and Standard Deviation were calculated as 3.0 and 1.58 respectively. Statistical Package for Social Scientists (SPSS) version 20 was used to analyze the data.

4. Results and Discussions

Section B of the questionnaire was made up of four questions aimed at finding out the SMPs pre-service teachers subscribed to, which of them they used regularly and why they subscribed to those websites.

The options provided for students to choose from included Skype, Facebook, Twitter, Instagram, WhatsApp and Others. This was a multivalued question and respondents were expected to tick as many as applicable. The result is presented in Table 1.

Table 1. Media Sites Respondents Subscribed to

		Responses		Percent of Cases
		No. of ticks	Percent	
Media Subscribed to	Skype	4	0.7%	1.7%
	Facebook	182	33.8%	75.5%
	Twitter	38	7.1%	15.8%
	Instagram	65	12.1%	27.0%
	WhatsApp	238	44.2%	98.8%
	Others	12	2.2%	5.0%
Total		539	100.0%	223.7%

To find out which SMPs the students subscribed to, question 1a was asked. From the data collected in Table 1,

most pre-service teachers use WhatsApp, representing 98.8%, followed by Facebook, which has 75.5%. The rest are Instagram (27.0%), Twitter (15.8%), and other sites such as Tango, Imo (5%) and Skype (1.7%). This meant that majority of the college students used WhatsApp and Facebook. These results slightly contradict the research findings of [15], which found that the students use Facebook and YouTube at the University of New Hampshire more than any other SMP. It might probably be because WhatsApp was not widely used like now. And also, the additional and immediate interactive feature of WhatsApp over Facebook.

Table 2. Media Sites Used Regularly by Respondents

		Responses		Percent of Cases
		No. of ticks	Percent	
Applications used Regularly	Skype	2	0.6%	0.8%
	Facebook	74	23.9%	30.7%
	Twitter	3	1.0%	1.2%
	Instagram	4	1.3%	1.7%
	WhatsApp	227	73.2%	94.2%
Total		310	100.0%	128.6%

Just 0.8% of the students use Skype regularly, while 94.2% regularly use WhatsApp. Also, 30.7% use Facebook, while 1.7% and 1.2% use Instagram and Twitter, respectively. This indicated that a higher percentage of pre-service teachers in Ghanaian Teacher Training Institutions used WhatsApp more regularly than any other SMP.

Table 3. Reason for Subscribing to a Social Media Website

		Responses		Percent of Cases
		No. of ticks	Percent	
Reason for using social media	Entertainment	204	27.2%	84.4%
	Meeting with people	91	12.1%	37.8%
	Maintain relationships	145	19.4%	60.2%
	Social events	116	15.5%	48.1%
	Create media content and share opinions	117	15.6%	48.5%
	Learning	75	10.0%	31.1%
	Others	1	0.1%	0.4%
Total		749	100.0%	310.8%

There are many reasons why preservice teachers subscribe to SMPs. 84.4% use it for entertainment, 60.2% to maintain relationships, 48.5% to create media content and share opinions, 48.1% for social events, 37.8% use it to meet with people, while 31.1% use social media to learn. 0.4% use it to do other things apart from the reasons mentioned. It is evident from the results that most of the students use social media for entertainment and 31.1% use it to learn. This is likely to have an effect on their academic achievement. According to [5], studies on students' use of the SMPs revealed that SMPs had a negative effect on students' academic performance.

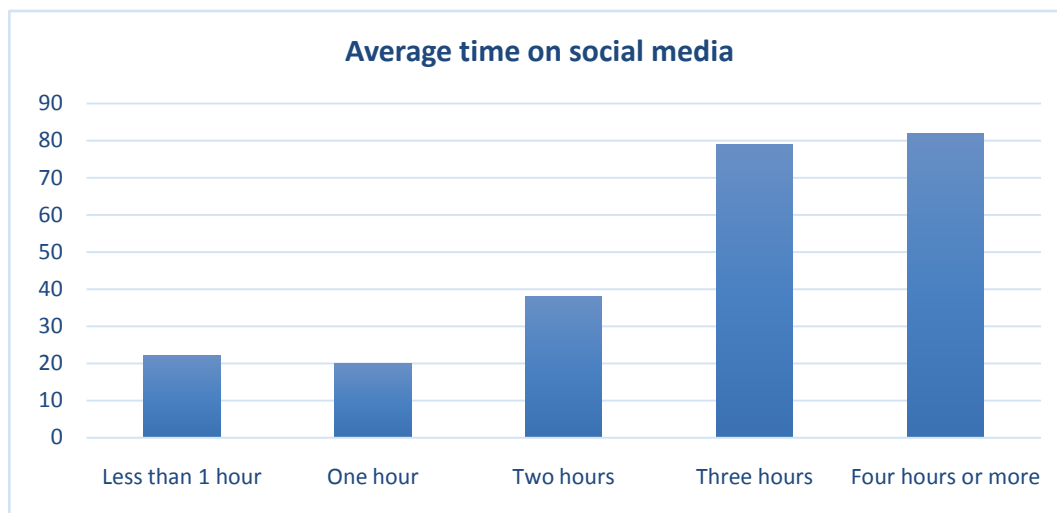


Figure 1. Time spent on social media

Results from Figure 1 indicated that majority of the students spent more time on social media. Eighty-two respondents representing 34% of the total number of respondents indicated that they spent four hours or more on social media daily. Seventy-nine respondents representing 32.8% spend an average of three hours on social media daily, 38 (15.8%) spent an average of two hours daily, 22 (9.1%) use less than one hour and 20 (8.3%) use an average of one hour on social media daily. These results showed that majority of pre-service teachers spent more time (four hours or more) on social media daily. This result confirmed the research findings of [5], whose study revealed that, the number of hours spent by students online continue to increase. It also confirmed the research findings of [13], who found that 90% of college students regularly visit SMPs.

4.1. Social Media Usage

Section C of the questionnaire was designed to find out the level of social media usage of College of Education students and the impact on their academic performance.

Table 4. Social Media Usage

S/N	Statement	Al	Of	Fr	Oc	No	Mean	Conclusion
1	How often do you find that you stay online longer than you intended?	87	54	48	34	18	3.66	More [*]
2	How often do you neglect your studies to spend more time online?	99	43	54	29	16	3.75	More
3	How often do you form new relationships with fellow online users?	101	47	43	38	12	3.78	More
4	How often do others in your life complain to you about the amount of time you spend online?	90	57	38	30	26	3.64	More
5	How often do your grades or school work suffer because of the amount of time you spend online?	19	12	54	60	96	2.16	Less ^{**}
6	How often do you check your social media account(s) before something else that you need to do?	97	78	47	9	10	4.01	More
7	How often do you find yourself anticipating when you will go online again?	110	81	20	16	14	4.07	More
8	How often do you fear that life without the Internet would be boring, empty, and joyless?	127	66	18	12	8	4.26	More
9	How often do you snap, yell, or act annoyed if someone bothers you while you are online?	91	71	66	8	3	4.00	More
10	How often do you lose sleep due to late-night log-ins?	89	80	47	16	9	3.93	More
11	How often do you feel preoccupied with the Internet when off-line, or fantasize about being online?	142	50	18	20	5	4.29	More
12	How often do you try to cut down the amount of time you spend online and fail?	85	88	49	9	9	3.96	More
13	How often do you try to hide how long you've been online?	91	87	35	19	9	3.96	More
14	How often do you choose to spend more time online over going out with others?	88	82	40	15	16	3.88	More

* ... (mean above the mean cut-off point for the study)

** ... (mean below the mean cut-off point for the study).

All responses in Table 4 had their mean cut-off-points above the mean cut-off-point of the study except one (questionnaire item 5). It had a mean cut-off-point of 2.16 which is below the mean cut-off point for the study, hence

the conclusion "less" on the table. These findings contrasted with [16] findings which revealed that SMP users study less and record low marks compared to their colleagues who do not use social media.

The responses to item 1 have a mean of 3.66 which is above the mean cut-off point for the study which is 3.0 hence the conclusion “more” on the table. This indicates that most pre-service teachers spend more time on social media than they intended.

The responses to item 2 have a mean of 3.75, which is above the mean cut-off point for the study, hence the conclusion “more” on the table. A study conducted by [18] also revealed that most students spend their out of school time on SMPs.

The responses to item 3 have a mean of 3.78 above the mean cut-off point for the study, hence the conclusion “more” on the table. Similar research conducted by [19] indicated that students who use social media were more connected emotionally with their peers because they felt they had people they could talk to whenever they needed help with problems.

The responses to item 4 have a mean of 3.64 which is above the mean cut-off point for the study, hence the conclusion “more” on the table.

The responses to item 6 have a mean of 4.01 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. This finding corroborates the findings of [14] which revealed that most students spend more time checking their social media accounts than any other thing.

The responses to item 7 have a mean of 4.07 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. This indicates that students, especially teacher-trainees, are always eager to go online. Therefore, students are often found logged on to social media sites.

The responses to item 8 have a mean of 4.26 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. That is, students feel that life without the internet will be boring and joyless. This may be the reason why most students spend most of their time on social media.

The responses to item 9 have a mean of 4.0 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. This indicates that social media addiction can lead to isolation from friends, family and other physical and social activities.

The responses to item 10 have a mean of 3.93 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. This finding is in line with the findings of [18] whose research findings show that a student ever failed to answer an exam question simply because he stayed late the night on Facebook and could not concentrate in class when the teacher was explaining the concept.

The responses to item 11 have a mean of 4.29 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. Related research conducted by [13] concluded that it is difficult for some students to study or do anything for one hour without logging on to any SMP. Being on social media has become a habit of most students.

The responses to item 12 have a mean of 3.96 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. A similar study conducted by [20] concluded that social media is a destruction to the lives of many college students and that they would like to reduce the amount of time they spend on social media.

The responses to item 13 have a mean of 3.96 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. This indicates that most students do not want their colleagues or parents to know how much time they spend on social media for fear of being blamed, scolded or mocked.

The responses to item 14 have a mean of 3.88 which is above the mean cut-off point for the study, hence the conclusion “more” on the table. According to [21] shy and withdrawn students prefer to spend time with friends on SMPs rather than physically going out with them.

5. Conclusion

The findings of this study showed that a more significant percentage of pre-service teachers subscribed to and use WhatsApp as an SMP than any other platform. They use WhatsApp for their social interactions, entertainment and learning (as some tutors engage them through that platform). The findings also revealed that majority of the students spent about four hours or more on the internet daily and they sometimes try to hide it from others. Students agreed that even though they spent more time on social media, it does not affect their performance in class.

Pre-service teachers are addicted to social media to the extent that they sometimes stay online longer than expected and the people around them complain about the amount of time they spent on social media. Students are always eager to go back online with the slightest opportunity, which translates into the amount of time they spent online. It was also revealed that most students get annoyed when people engage them while online and they find life boring without the internet.

It is clear from the study that social media has now become very prevalent among pre-service teachers. Due to infrastructural deficit in education, pre-service teachers in Ghanaian Colleges of Education, who are mandated to train teachers for the basic schools spend only half of a semester on campus. The other half is spent at home while their tutors engage with them online. Therefore, it has become imperative that every student owns a gadget that can take him online. With the onset of COVID-19 and the subsequent closure of schools and colleges in 2020, teaching and learning were done online at the Teacher Training Institutions in Ghana. However, one of the challenges identified was the limited access to computers and other devices. In its quest to ensure that no student was left behind, the government of Ghana partnered Transforming Teacher Education and Learning (T-TEL) to provide smartphones at subsidized prices to preservice teachers who could not afford them. This is why almost every college student now has a smartphone that they can use to log on to their SMPs.

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