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Comparison between students' and instructors' perceived use and effectiveness of online social technologies

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Abstract

With the massive growth in internet user numbers, the use of social technologies has also grown over the past decade and it has changed the way people conduct their business and studies. Today, online social technologies have become part of education which are mainly used to improve learning experiences and facilitate communication between students and instructors. Therefore, instructors consider integrating social technologies such as Facebook and synchronous communication channels in their educational activities based on the fact that students spend lots of time on such social technologies. However, perceived use of social technologies of students and instructors as well as their aims of using them might be different. This study compares students' and instructors' perceived use and effectiveness of online social technologies to fully comprehend the viability of online social technologies in universities. Independent-sample t-test is applied to data collected from 370 students and 106 instructors to find the similarities and differences in perceptions and effectiveness between students and instructors.

Keywords: Online social technologies, social media, higher education, student perceptions, instructor perceptions.

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1. Introduction

Use of social media in education has increased rapidly over the years with the age range of users also increasing (Esteve, Haythornthwaite, Paulin & Gilbert, 2017). University instructors have also increased their use of social media in their teaching (Esteve et al., 2017). The use of social media in education has been cited as being for teaching, learning, as well as personal and professional use. The current users of social media are also said to be active and as such require convenience, choice and other factors in their learning which can be provided by social media (Selwyn, 2011).

The use of social media in education has been welcomed by some students and some instructors as it is seen as a way to improve the way instructors interact with their students. Some studies argue that it even improves the engagement of students through enhanced learning environments (Sobaih, Moustafa, Ghandforoush & Khan, 2016). Social media in education is also being used in critical fields such as medicine (Sterling, Leung, Wright & Bishop, 2017). Some assertions have also been made on social media in education being a way to improve student results as well as help institutions attain their objectives. Elements such as student support, improved self-confidence, social learning as well as improved communication between students and instructors, have been noted as being synonymous with the active use of social media in education. However some students and instructors believe integrating social media into higher education is not the best route to take as it can be seen as a hindrance to effective learning (Gulbahar, Rapp, Kilis & Sitnikova, 2017; Sobaih et al., 2016).

Therefore this study aims to analyse the perception of both students and instructors at a university by comparing their perceived use and effectiveness of various online social technologies in higher education.

2. Literature Review

The potential and benefits of social media in education have been outlined in many studies. The potential is mainly in improving interaction, increasing the level of satisfaction as well as improving the students learning, (Gulbahar et al., 2017; Sobaih et al., 2016). If social media in education is used to fulfil the potential it carries, the end result is the creation of a connected, satisfied, motivated, engaged and conversational community of students (Gulbahar et al., 2017). This is even truer in scenarios where the social media used is appealing to both the instructors and students (Sobaih et al., 2016). Another argument states that the adoption of social media in education has possibilities associated with it, such as multiple and various platforms that can improve the education of students (Gulbahar et al., 2017). Although it was not the aim at its inception, social media in education is now a way to provide education that builds a collaborative community of students. These communities allow students to bridge communication and collaborative channels with their peers as well as with those in and around their circles. The success of these communities is however dependent on the social media being used for the right purpose which is sharing knowledge as well as providing a platform that is student-centred. This can be achieved via instructor initiated programs such as seminars, work groups, as well as tutorial groups. Social media in higher education basically allows students to conduct their learning at the same time or at different times due to the nature of social media (Purvis, Rodger, Beckingham & Hallam, 2016). New ways of communication, collaboration and inquiry are also some of the benefits associated with social media in higher education, due to the availability and increased usage of social media and the way in which it provides a formal and informal way of education. This way deviates from the norm of traditional education for the digital natives also known as millennials who grew up with technology (Greenhow & Lewin, 2016; Peruta & Shields, 2016). Digital natives are also one of the key factors of integrating social media into education due to the fact that they were born into the technologies afforded to society and these days implies that they bring about a different challenge to educators. To the digital natives technology based learning will always be preferred to traditional as they feel more at ease using the technologies they were born to among them social media. Applications such as twitter are appealing especially to the digital natives as they can communicate out of the class which provides instant feedback and reactions (Kaplan & Haenlein,

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2016). Social media in education is now also being integrated into massive open online courses (MOOCs) in the form of "connectivist MOOCs" ("cMOOCs"). The social media in this aspect is pivotal as it allows the creation of content that peers can collaborate, enhance and comment on (Kaplan & Haenlein, 2016). However some drawbacks of social media have been outlined such as some find social media to be a distraction as well as having a negative impact on student grades (Greenhow & Lewin, 2016). Furthermore (Purvis et al., 2016) indicates that social media can be deemed as taking up time as well as a distraction that may affect their academic standing (Davis III, Deil-Amen, Rios-Aguilar & Canche, 2012; Sobaih et al., 2016)

The fact that students have access not only to learning materials when they log onto social media, instructors tend to be sceptical on whether or not students are genuinely engaged in learning materials or only because they can also follow the latest trends on their "news feed". As such if a class using social media is not well planned it makes it difficult and tedious to manage the activities of students and ensure that they remain on-task (Purvis et al., 2016). Other drawbacks were also cited such as resources including instructor skillset as well as elements such as teacher confidence as well as lack of knowledge on the part of the instructor especially on how to integrate social media into education (Gulbahar et al., 2017). Most of the concerns of integrating social media into education are mainly from an instructor perspective (Sobaih et al., 2016) state that concerns such as privacy, maintaining focus on learning activities, ensuring the integrity of submissions, the digital divide between instructors and students are some of the main concerns associated with social media in education. The age of the instructor also seems to play a part as older instructors were found to use social media less than their counterparts, the younger instructors. A "digital dissonance" is also said to exist, due to the fact that although most university students have access to social media some find it not relevant for studies as they find no link between the social media and education since they are mainly used for socialising and their academic endeavours (Sobaih et al., 2016). Also mostly due to the nature of the digital natives, articles such as (Smith, Morgan & Monks, 2017) report that students find it painful to be left out of social media particularly the younger students such as first year students being more sensitive to this exclusion.

3. Similar Studies

A study by Roblyer, McDaniel, Webb, Herman and Witty (2010) aim at answering four research questions "*How does college faculty adoption and uses of SNS compare to that of college students*", "*Do college students and faculty communicate as much as or more using Facebook than they do with technologies traditionally used in colleges (e.g. email)?*", "*What proportion of students and faculty who use social networking sites use them for communication on instructional matters?*" , "*How do student and faculty perspectives compare on using Facebook to support classwork*". The study used a questionnaire and had the following; n=62 for faculty and n=120 for students. The study used Mann-Whitney U tests, Wilcoxon Signed Ranks test and Pearson Chi square tests for the four questions respectively. For the first question the results indicated that students and the faculty members had a significant difference on the likeliness of having a Facebook account ($z = -4.548, p < .01$). Results also show that there was not much of a significant difference on how often they checked their Facebook accounts ($z = -.566, p > .05$). For the second question the results indicated that a difference between students and the number of faculty exists with regards to the frequency of use of email and social media with students checking both their emails and social media at the same frequency ($z = -.915, p = .36$) and faculty members tended to check their emails more often than social media. For the third question the results showed that both students and faculty members did not use Facebook for instructional purposes, students however tended to socialize more on Facebook than faculty members and were more likely to use social media to connect with old friends. ($\chi^2 = 26.495, p = .00$) and ($\chi^2 = 4.729, p = .02$). The fourth question results indicated that students agreed more to social media being convenient for education ($\chi^2 = 26.495, p = .00$). In general the study found that there are some differences in the perception of social media in education with students found to be more accepting of social media in education (Roblyer et al., 2010).

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Cooke (2015) aims at analysing the views of students when it comes to the implementation of social media in higher education as well as the impact of some social media sites on the goal orientation and motivation of students. The following hypotheses were derived by the study: "1. *the inclusion of social media will have affected student motivation and achievement goals*, 2. *competition amongst students is less important than personal achievement*, 3. *students have found the inclusion of social media useful in their learning*, 4. *students feel more involved in the learning and teaching process due to the inclusion of social media*, 5. *students feel more motivated to participate in discussions due to the information provided by social media*, 6. *student's believe that social media has improved their learning experience.*" The study used a mixed methods approach, with a survey being used to obtain responses from students. In addition to the responses from the survey a focus group was also formed to overcome the limitation of the close ended questions used in the study. Results show that most of the respondents use social media for educational reasons however close to half of the respondents did not find social media in higher education to have any impact on their motivation or achievement goals. Three of the 6 hypotheses were supported by the second, third and sixth. The first, fourth and fifth hypothesis were rejected. The analysis indicates that social media in higher education can be seen as a fundamental tool that provides a platform where students can interact and learn in a dynamic manner as it provides an environment for easy sharing of ideas. The study also found that social media could be appropriate for learning when implemented properly by instructors and well utilised by students (Cooke, 2015).

A study by Al-Bahrani, Patel and Sheridan (2017) analyses the perceptions of faculty members of different institutions who work in the economics department of their institutions, on how they regard the use of social media in the environment of their economics classes. The study used a survey that was sent via email to people with academic backgrounds. The information obtained was with regard to the pedagogical training, demographics, respondents' institutions as well as their view of social media. It was found that instructors who teach economics mostly used social media for personal use rather than for educational contexts. Participants in the survey were then asked about their use of social media in teaching and learning. The findings of this indicated that half of the faculty members found privacy for both them and their students to be of concern. Also half of the lecturers found that social media did not diminish their time in any way. Giving the view that social media could be another way in which to communicate with students. However some find it to be a distraction to students rather than a way to help students in their learning. It is also reported that instructors in the economics field were reluctant to use social media due to wanting to be in more control of educational content and personal information (Al-Bahrani et al., 2017).

4. Methodology

This study aims to compare the perceptions of students and instructors. The data used in this study is collected from 106 lecturers and 370 students through a questionnaire which is adopted from Beqiri (2014). In order to compare answers of respondents t-test on percentages is applied with StatPac statistics calculator (Walonick, 2010). This tool has been used in studies like Broach, Yong, Manuell and Nichols (2017) for analysis of percentages.

The following Table 1 illustrates the percentage values giving the perceptions of students and instructors with regards to the use of social media for four particular activities: course-related activities developed for students, course related activities such as supporting students for homework/group projects, extracurricular activities (student groups, non-course-related), personal or other activities.

Table 1. Percentages of perception

Technologies	Activities							
	A) Course-related activities developed for students		B) Course related activities such as supporting students for homework / group projects		C) Extracurricular activities (student groups, non-course-related)		D) Personal or other activities	
	Instructors	Students	Instructors	Students	Instructors	Students	Instructors	Students
Email	43%	28%	41%	24%	5%	16%	11%	32%
Instant messaging (MSN, ICQ, Yahoo messenger, Gtalk)	16%	12%	23%	18%	21%	27%	40%	43%
Skype	5%	13%	11%	14%	21%	16%	63%	57%
Course Management System (Eclass, Moodle)	40%	60%	56%	20%	3%	11%	1%	9%
Discussion forums	27%	12%	25%	54%	29%	20%	19%	14%
Blogs (blogger, Word Press.)	12%	12%	22%	20%	17%	38%	49%	30%
Wikis (Media Wiki, Pbwiki, Pmwiki, Twiki, ...)	10%	12%	21%	24%	22%	33%	47%	31%
Media Sharing (Flickr, YouTube, iTunes, Instagram)	8%	8%	27%	18%	18%	30%	47%	44%
Facebook	9%	8%	12%	17%	8%	31%	71%	44%
Twitter	12%	7%	7%	12%	7%	29%	74%	52%
Other social networking site	7%	9%	13%	12%	7%	23%	73%	56%
LinkedIn	12%	10%	7%	15%	12%	20%	69%	55%
Other professional networking site	8%	8%	16%	18%	18%	20%	58%	54%
Second Life	10%	6%	10%	14%	13%	17%	67%	63%
Other virtual world	7%	7%	13%	12%	13%	16%	67%	65%

5. Data Analysis

Table 2 illustrates the results of the two sample t-test between percentages of the values shown in the table are the results of the two- tailed probability.

Table 2. Results of t-test

Technologies	Activities			
	A) Course-related activities developed for students	B) Course related activities such as supporting students for homework / group projects	C) Extracurricular activities (student groups, non-course-related)	D) Personal or other activities
Email	.0035	.0006	.0037	.0000
Instant messaging (MSN, ICQ, Yahoo messenger, Gtalk)	.2791	.2490	.2130	.5818
Skype	.0218	.4235	.2288	.2698
Course Management System (Eclass, Moodle)	.0003	.0000	.0124	.0052
Discussion forums	.0002	.0000	.0492	.2057
Blogs (blogger, Word Press.)	1.000	.6528	.0001	.0003
Wikis (Media Wiki, Pbwiki, Pmwiki, Twiki, ...)	.5704	.5200	.0307	.0024
Media Sharing (Flickr, YouTube, iTunes, Instagram)	1.000	.0417	.0149	.5841
Facebook	.7412	.2150	.0000	.0000
Twitter	.0971	.1457	.0000	.0001
Other social networking site	.5166	.7818	.0003	.0018
LinkedIn	.5531	.0325	.0605	.0103
Other professional networking site	1.000	.6334	.6474	.4660
Second Life	.1524	.2826	.3238	.4501
Other virtual world	1.000	.7818	.4501	.7028

The bold values in Table 2 indicate the results that are statistically significant where $p < 0.05$. With regards to email, the results indicate that a difference between instructors and students use of email for the four activities (A, B, C and D) has statistically significant difference. For instant messaging the results indicate that there is no statistically significant difference between instructors and students use of instant messaging for the four activities. Regarding the use of Skype for activity A by students and instructors a significant difference is noted, whereas the other three activities B, C and D did not show a significant difference between instructor and student use.

The use of Content Management Systems has a statistically significant difference with regards to instructor and student use for all the four activities. The use of discussion forums for the four activities shows a statistically significant difference for the first three activities A, B and C and activity D have no statistically significant difference with regards to its use by students and instructors. In terms of instructor and student use of Google waves, activity A and activity C showed a statistically significant difference, with activities B and D showing that there is no statistically significant difference for their use.

The use of blogs by students and instructors for activities A and B indicate no statistically significant difference in the use for these two activities, whereas activities C and D show a statistically significant difference for their use by students and instructors. The use of wikis shows the same findings to those of the blogs with activities A and B have no statistically significant difference and activities C and D

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showing a statistically significant difference for their use by students and instructors. The results for media sharing usage by students and instructors for the four activities indicate a statistically significant difference for activities B and C and no statistically significant difference for activities A and D.

The results for the use of Facebook, Twitter and other social networking sites for the four activities found the following; a statistically significant difference exists for activities C and D, with no statistically significant difference for activities B and C. With regards to instructor and student use of LinkedIn, activities A and C show no statistically significant difference however with activities B and D show that it is statistically significant. Instructors and students use of other professional networking sites, second life and other virtual world had no statistically significant difference with regards to Instructor and student use for all the four activities.

6. Results and Discussion

The results indicate that most of the significant differences between students and instructors are related to activities C and D. Differences in relation to the use of email for the four activities, do reflect the use of email in the university as instructors mainly use email for their own tasks and activities rather than course related activities, whereas students mainly use their email to open up social media accounts and other platforms that require email addresses to log in. Skype is generally used by instructors in the university to communicate with students who are abroad when they are supposed to defend their work such as thesis as such the significant difference only exists for activity A. Instructors use the course management system to upload their lecture slides, make class related announcements and create upload portals for assignments and projects, whereas students use it for downloading and viewing content as well as uploading their assignments. Most discussion forums are used by students for communicating about their projects with instructors only initiating the forum discussion platform. Blogs and wikis are mostly used by students to find further information which is not class related, however instructors normally shun these platforms due to their perceived unreliable nature. Media sharing platforms are mainly used for activity B by students to get further understanding of topics that are not clear to them and may be understood better with visual representations whereas instructors may use them for more personal activities. The use of Facebook, Twitter and other social networking sites are mainly used for socialising by students whereas instructors may use them for other elements such as research. LinkedIn is mostly used as a professional site for job seekers and industry professionals therefore most instructors would use it for that purpose rather than activity B and whereas students may use it to follow industry professionals on topics related to their courses, instructors may also use the more professional platform to maintain communication with their colleagues indicated by the significance in activity D.

7. Conclusion and Recommendations

The findings of this study indicate that some differences in the use of social media in higher education by students and instructors exist which is in line with some of the findings of (Roblyer et al., 2010). As such this study can be used by instructors who may want to integrate social media into their classes to see how students use social media and thus provide a well-planned social media integration into class and a lack of a well-planned integration was cited as one of the hindrances of social media integration as mentioned by (Purvis et al., 2016). University management may also use it to promote the use of social media in a productive manner for the university in general. This study recommends that the aforementioned technologies be integrated into a course so the impact of these technologies may be analysed to give further credibility to the use of social media in higher education.

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