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Usage of Social Media Tools in Teaching and Learning and Its Influence on Students Engagement, Knowledge Sharing and Academic Performance

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Abstract: This study aims to identify the social media usage and its influence on student engagement, knowledge sharing and academic performance. The gaining acceptance of social media platform's in education as one of teaching and learning aids has derived much interest among researchers especially towards academic achievement. Limited studies have been focusing on the educators' readiness, adoption or rejection in integrating social media tools into their courses, besides the perceived effectiveness of social media toward students' learning. For quantitative method, data were collected using online survey. The respondents were conveniently sampled among UTHM students from all technical and non-technical faculties to examine the level of their engagement and knowledge sharing using social media platform. For qualitative approach, semi structured interview session was conducted among UTHM academician that use any types of online learning platforms in teaching to examine their instructional design strategies and related issues pertaining to online learning. The results found that social media usage in learning positively influence on student engagement, knowledge sharing and also academic performance. For instructional design strategies, the instructors basically chose scenario based and demonstration-practice method in teaching. This study is used to seek the potential benefits of social media in university and help Centre for Academic Development and Training (CAD) to utilize any suitable online learning platform that can attract students participate in class besides improves academic performance of the students.

Keywords: Social media, Academic performance, Student engagement, Knowledge sharing, Instructional strategies

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1. Introduction

The evolvement of education system is much concerned by Malaysian. Malaysia education ministry has started to implement on-line education or e-learning since 1998 due to the urgent needs of ICT infrastructure embedded in teaching and learning (Pelan Strategik Interim, 2012). This new platform encourages all educators and students towards using technology Web-based teaching and learning. Hence, the widespread usage of social media among students is a common. The students would like to get use of this platform to communicate easily and effectively with less technical knowledge needed to use the social media. The effort made by higher education institution is implement online learning in order to improve students' performance. A proposed research model indicated the factors affecting students' performance suggested by Heyam (2014). The factors included communication, entertainment, collaboration, socialization and coordination.

Facebook is a great tool to lead a better performance with its contribution to these factors. Also, academic performance of student can be improved in many ways which is included collaborative learning among students they are as follows with interactivity with peers, interactivity with the lecturer and engagement (Waleed & Othman, 2013). Hence, social media tools are important tools to be utilized to improve academic performance of students.

1.1 Social Media Usage for Teaching and Learning

Social media is recognized as a popular social communication channel among university students, especially with the development of high-powered smartphone technology. In line with the increase in social media account holders among teenagers in Malaysia, there is an increasing interest for researchers to study the effects of the use of social media as a tool for teaching in higher education institutions as learning environments enhanced by technology. In addition, the advancement of social media software, which has been improved from various aspects such as security, has opened new spaces and opportunities for university students to achieve more information by simply interacting virtually without having to face to face. Thus, the geographical gap can be overcome while increasing students' chances of achieving better academic performance and influencing education in terms of pedagogical goals (Khe, 2011).

As the social media platform's gained acceptance by university students, there is an interest in how Facebook is related to academic performance (Abdulahi *et al.,* 2014). There is additional evidence to justify the increasing usage of online social media towards academic performance (Al-Rahmi *et al.*, 2015) especially for undergraduates in public institution of higher education. In Malaysia, the usage of social media in particular has shown significant growth in the last few years. Helou & Oye (2012) stated that nine out of the top 20 websites in Malaysia are social networking sites and the top five are Yahoo, Facebook, Google, YouTube and Blogger. Currently, the most visited social media website in Malaysia is Facebook. There are 10.4 million Facebook users, of which 3.5 million are young users between 18 and 24. Report shows more than 33% of Facebook users are the teenagers. University and college students hold the highest percentage of active Facebook users, extensively sharing information on Facebook (Abdulahi *et al.*, 2014), and used it as a tool of relaxation and entertainment in between their studies during the university and college days. With the high percentage of teenagers, higher educational institution should take the opportunity to accelerate the learning process by embedding social media tools or technologies in teaching and learning. Social media platform could encourage learning process whether outside the classroom or in formal classroom. Social media allow students to join in a boundless world to connect with friends, share information, enjoy entertainment, and obtain news (Ngai *et al.*, 2015). They can reach other at anytime and anywhere once they get connected online (Onuoha *et al.*,

2011). This will be one of the reasons that motivate educators and students to use social media as a tool for collaborative learning.

Some colleges and universities especially for western universities have utilized podcasts, video blogs, and webcasts to share the work of students, faculty, visiting scholars, and alumni with the broader world (Davis *et al.*, 2012). Although the function of social media in education is considered to be a double-edged sword, research on the use of social media, such as Facebook, in higher education has gained attention through an increasing number of studies showing the positive effects of social media like Facebook in providing an environment that supports active learning of university students. Despite that, Facebook was the main platform used for conducting online discussions and preparation to help students in successfully completing their continuous evaluations, which took the form of an individual report as well as a group presentation, at a private institution of higher education in Malaysia (Rasiah, 2014). Educators who wish to engage students in an open discussion and expression of ideas in and out of the classroom should consider social media as a potential educational tool (Neier & Zayer, 2015). Academic performance will somehow be affected by the active participation of students in social media for academic activities. If obtaining good grades is an important aim, how to merge undergraduates' social and academic lives and integrate their social communication tool with classroom learning tool should be a critical factor in achieving that aim. Despite the excitements surrounding the potential of Facebook in higher education, researchers have waved the yellow caution flag on the over-privileging the site for actual pedagogical purposes. Some researchers who are not positive about Facebook use reported that the negative feelings were a recognition that the use of Facebook for English language learning simply had not helped improve students' English language (Tess 2013).

However, previous study related to students' adoption of social media is still under explored in Malaysia context (Salvation & Adzharuddin, 2014). Additionally, study done by Lim *et al.* (2014) revealed that limited studies have been focusing on the educators' readiness, adoption or rejection in integrating social networks into their courses, the perceived effectiveness of social media and results of their learning. Limited empirical studies on the relationship between social media usage and students' academic performance as regards to the level of engagement with social media and knowledge sharing for educational activities purposes have motivate the researcher. Social media is an effective pedagogical tool to improve academic performance of students is a question that needs to be answered (Al-Rahmi *et al.*, 2015). Hence, this study attempts to address this gap and provide useful insight for future researchers by addressing three objectives; (i) to identify common academic purpose activities of undergraduates in UTHM by using online social media, (ii) to investigate the influence of social media usage on the student's academic performance, knowledge sharing and student engagement and (iii) to explain the instructional strategies being adopted normally by academician at UTHM to enhance social media in teaching and learning.

Indirectly the study promoted the online learning environment in the university by realizing the benefits of using social media as the tools in teaching and learning and improve the real time interact with the students. Social media do provide the platform for them to discuss educational topics. Research done by Rasiah (2014) provided clear evidence of the effectiveness of using social media via Facebook to improve team-based learning outside the classroom, covering face-to-face lessons. This study motivates educator to increase its adoption. Therefore, the educators will fully realize the benefits of using social media to improve the learning experience (Sánchez *et al.*, 2014).

2. Literature Review

2.1 Student's Academic Performance

Academic performance can be measured by academic and non-academic measures such as extra curriculum. Higher education desired to build up student with good academic achievement, general education knowledge, and the skills such as critical thinking, moral development, community social skills and psychological maturation. Academic performance is defined as how students deal with their studies and how they cope with or accomplish different tasks given to them by their instructor. Junco (2015) indicated that academic performance is generally measured by cumulative GPA, which is connected to class and subject matter achievement. The table of measurement as attached in appendix. Appendix A shows the measurement of academic performance by using social media.

2.2 Social Media in Education

Manca and Ranieri (2013) stated that Facebook had been treated as a unique, or at least as one, learning management system (LMS) tools, or as a platform for educational purposes to lead the people need for a better understanding of Facebook usage in education. There is a potentially powerful idea that integrates social media in educational and instructional contexts simply because students spend a lot of time on these online networking activities (Mazman & Usluel, 2010). For instance, Bosch *et al.* (2009) found out educator was easier and quicker to communicate with people whom she saw daily on Facebook compare to in class teaching.

Rasiah (2014) research has investigated the student's participation by sharing the ideas, solutions and post articles or videos through Facebook. Those activities were welcomed by the students, as they have begun in response for their own learning in a community-centered learning environment. Also, class time can be effective when student requests had already been dealt with via Facebook (Bosch *et al.*, 2009). Furthermore, Salvation and Adzharuddin (2014) mentioned lecturers share teaching materials with their students via social networks and allow students to discuss about the project by creating groups that can support active interaction between their peers and lecturers from other universities via social media, hence boosting learning and teaching process and the improvement of academic performance. Neier and Zayer (2015) revealed that faculty should strategically incorporate social networking in the classroom and in a manner that aligns with course aims of increased integration and interactivity as well as informative discussion. Thus, this study hypothesized "there is a relationship between social media and academic performance".

2.3 Social Media and Student Engagement

Northey *et al.* (2015) highlighted that educators continuous concern for student engagement due to its positive association with deep learning and educational outcomes. The early theory of student engagement was postulated by Astin's (1984), Astin's developed theory of student engagement based on five principles: (1) engagement refers to the investment of physical and psychological energy; (2) engagement happens along a continuum (some students are more engaged than others and individual students are engaged in different activities at differing levels); (3) engagement has both quantitative and qualitative features; (4) the amount of student learning and development associated with an educational program is directly related to the quality and quantity of student commitment in that program; and (5) the effectiveness of any educational practice is directly related to the ability of that practice to increase student engagement.

Nowadays, engagement can be defined as the amount of time and effort that students spend on educational activities that are related to college academic work (Kuh, 2009). In addition, Student engagement was measured in three ways: a 19- item scale based on the National Survey of Student Engagement, time spent preparing for class, and time spent in co-curricular activities (Junco, 2012a). Heiberger and Harper (2008) highlighted positive correlation between the use of social networking sites and the engagement of college students. Pascarella and Terenzini (2005) claimed that academic performance was positively influenced by student engagement. Students get better grades because of

high level of engagement and possibly to persist through to graduation. Table 5 is presented to measure student engagement in social media as the table attached in appendix A. Thus, this study hypothesized "there is a relationship between social media and student engagement.

2.4 Social Media and Knowledge Sharing

Social media provides an opportunity which students can make ideas discovery and opinions outside a traditional classroom setting. Most students are familiar with social media and explore its potential to enhance learning without realizing. Social media give the student a platform to show their identity by showing their own profile, share information with their friends who can view each other's profiles and leave comments on each other pages (Wang *et al.*, 2013).

Neier and Zayer (2015) emphasized that the students are actually recognized the value of using social media network for class announcements and for the formation of teams for group projects. Besides, social media can help to facilitate learning by sharing the ideas and opinions through posting at their group wall and feedback given. In general, students mentioned that their peers helped them to identify and find resources on the internet and shared various materials within the group. This included an understanding of the content of the shared suitable resources to be incorporated into the project or assessment. Students needed to critically analyse their resources through active discussion among their virtual group mates in order to come to an agreement. In sum, students use social media tools to gain and change information to one another, expand their social capital, and gain a greater sense of belonging to academic and professional communities. Hence, this study hypothesized the relationship between social media and knowledge sharing is existed. Table 1 showed the measurement of knowledge sharing by using social media in Appendix I.

2.5 Instructional Design for Online Learning

(a) Learning Strategies

Online discussion can be enhanced with the use of planned questions. The planned questions can help students to think deeply about course content. The taxonomy of comprehension can be applied to boost this process of deeper understanding to the course content. A remarkable taxonomy of comprehension is attributed to Benjamin Bloom (1956). Bloom's Taxonomy was relevant to all types of learning even though it was primarily created for academic education. Bloom identified six levels of thinking (lower order level to higher order level): (a) knowledge, (b) comprehension, (c) application, (d) analysis, (e) synthesis, and (f) evaluation as shown in Figure 1.

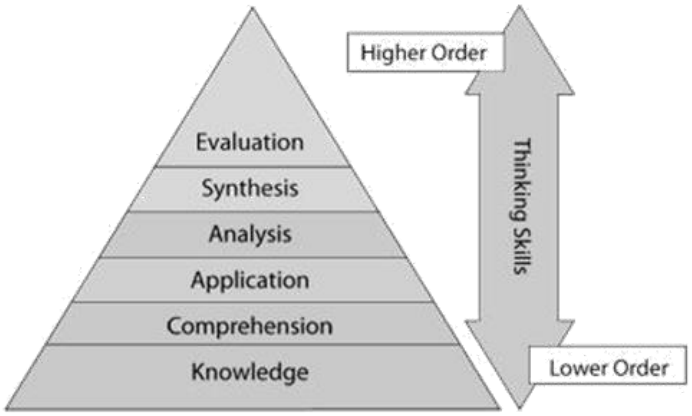

Figure 1: The six levels of the cognitive domain of Bloom's original Taxonomy (Bloom's Taxonomy, 1956)

The knowledge level, at the bottom of the hierarchy, is defined as absorbing or memorizing previously learned material. Example of activity to be trained or evidence to be measured is multiple-

choice test or recall a process, rules, definitions and quote. Learners show comprehension of understanding the meaning, re-state it in their own words, interpret, extrapolate and translate information. Comprehension can be assessed through some activities such as explanation from a given scenario, suggest treatment, reaction or solution to given problem, create examples or metaphors and quiz. At the application level, a learner should be able to apply concepts and principles to new situations and put laws and theories into practical situations. For instance, learners able to solve mathematical problems, construct graphs and charts, demonstrate the correct usage of a method or procedure.

Moving to higher levels of the taxonomy, the required skill is analysis. Learners have to break down material into its component parts so that its organizational structure may be understood; analysis of the relationships between parts, and recognition of the organizational principles involved. Examples of activities to be trained are survey, report, graph, checklist and chart. Following analysis is the level of synthesis, which means creative behaviour of learners create newly constructed, and many times, unique products. Learners able to develop a plan, propose an idea, design a product, or organize information. This skill can be assessed through paper, speech, short story and project plan. Evaluation involves making judgments about value based on definite internal and external criteria. When instructors reflect on a teaching session and use learner feedback and assessment results to judge the value of the session, they engage in evaluation.

(b) Instructional Design Strategies

Instructional design model is a set of guidelines that aids instructional designer's approach, structure, and design a course based on sound instructional design principles. There are many instructional design models for online learning such as ADDIE model, Gagne's Nine-Step model, Dick & Carey model and SAM. However, instructional design model is different with instructional design strategy. Instructional design strategy is a high-level method of how a subject to be taught to an audience in a learning environment. The instructional design strategy starts with established clear course outcome, determining the actions that must be taken to fulfill these outcome, a variety of resources are utilized, techniques and devices to attain these goals (India, 2000). Popular instructional design strategies are as follows:

- Guided learning- instructor accompanies and guide learners through an online course but allow them to make their own decisions. One type of training is software training. This training is to address introduction of the new system, explain its benefits and take learner through the system.
- Scenario- based learning- puts learners in situations where they learn by doing tasks or making decisions. One type of this learning is code of conduct training. This training help learners analyze situation, decide if there has been a breach of the policy or rule, and take suitable action.
- LEAD (Learning through Exploration and Discovery) - provides learners the flexibility to discover and absorb knowledge by interacting with the learning environment. For example, site training is to help learners find their way through a new location (especially factories, warehouses, hazardous areas).
- Case studies- provides a setting and a context for learning, and assists learners immediately apply the knowledge gained; this leads to getting the desired results, be it taking decisions or improving conditions. For instance, process training help learners understand the weaknesses in the current system and make modification or design a new system.
- Storytelling- provides information through a story narrative which places content in a realistic context and illustrates actions and decisions of one or more characters.

- Game-based learning- the use of game elements to boost effective knowledge transfer, build an emotional connection, elicit responses from learners, cultivate competition, and help keep knowledge longer.
- Stimulations- give learners a safe environment that mirrors the actual system to help them practice using the system/product without any reflection.

Each instructional design strategy can develop certain level of thinking of Bloom's taxonomy. Table 1 shows each instructional design strategy map with the Bloom's taxonomy.

Table 1: Instructional design strategies map with the Bloom's taxonomy

Strategy	Level of Bloom's Taxonomy
Guided learning	• Knowledge • Comprehension • Application
Scenario-based learning	• Application • Synthesis • Evaluation
LEAD (Learning through exploration and discovery)	• Knowledge • Comprehension
Case studies	• Application • Evaluation • Synthesis
Storytelling	• Knowledge • Comprehension • Application
Game-based learning	• Knowledge • Comprehension • Application
Stimulations	• Knowledge • Application

Each instructional design strategy can develop certain level of thinking of Bloom's taxonomy. Table 1 shows each instructional design strategy map with the Bloom's taxonomy.

- Audience. Differentiation in university level is the students with different level of study.
- Subject/ course. Certain subjects require a lot of practice (e.g. Mathematics), while there are others that require other skills such as listening (e.g. Music), or observation and validation (e.g. Science).
- Learning environment. Learning can take place anywhere. Also, learning can take place collaboratively or alone (self-learning).
- Constraints/ parameters. Some of the important parameters include time, cost and technical specification.

2.6 Research Frameworks and Hypotheses

(a) Conceptual Framework

Figure 2 showed the relationship between independent and dependent variable in this study. There are three independent variables and one dependent variable. Independent variables are social media in learning, student engagement and knowledge sharing while the dependent variable is academic performance.

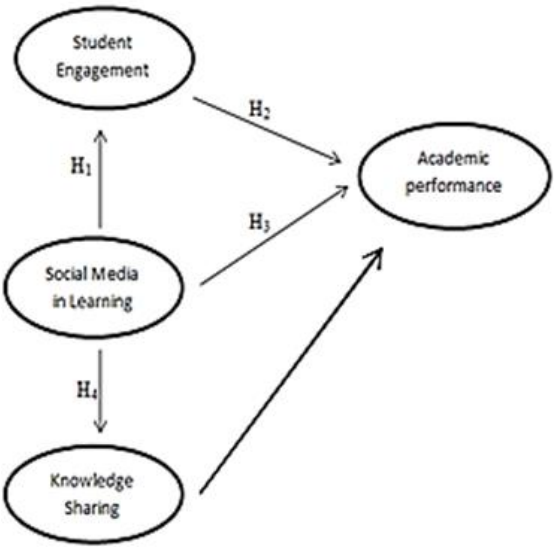

Figure 2: Relationship between social media in learning, student engagement, knowledge sharing and academic performance

Based from the framework illustrated in Figure 2, the hypotheses developed are:

H1: There is a relationship between social media usage in learning and student engagement.

H2: There is a relationship between student engagement and academic performance

H3: There is a relationship between social media in learning and academic performance.

H4: There is a relationship between social media in learning and knowledge sharing.

H5: There is a relationship between online knowledge sharing and academic performance.

3. Methodology

3.1 Research Design

This study took place at technical universities in Malaysia. The university is known to have a focus on innovative uses of technology in teaching and learning. This study employed mixed method approach because lack of mixed method approach applied in previous studies. Quantitative method is applied to investigate first and second objectives while qualitative methods employed to explore the third research questions through semi structured interview. For quantitative method, the survey was conducted by disseminating online survey to the targeted respondents. The survey is conducted to get the information about students' background and their perception of using online learning platform in learning, especially influence on the student engagement, knowledge sharing and academic performance.

Besides quantitative research design, the current study also focuses on the semi-structured interview with three participants. Who used Facebook for teaching and learning in classroom. The participants have voluntarily participated in the interviews, and they were able to answer the few questions asked during the interview. The participants have voluntarily participated in the interviews, and they were able to answer the few questions asked during the interview regarding their instructional design strategies and concerns and to encourage them to raise other issues they felt relevant to the research.

The interviews were audio-recorded and further transcribed into English. The data from the interviews were content-analyzed using thematic analysis.

3.2 Data Collection

(a) Online Survey

For quantitative approach, online survey employed in this study consists of closed-ended questions and an opened-ended question to collect data from the targeted respondent. The respondents were among the undergraduate student from first year to fourth year. The online survey consists of four sections which divided into section A, B, C and D. Section A is respondent's background information. Respondents were asked to report their age, gender, race, year of study, faculty, course and GPA, while section B required respondents to give information of their social media experience. The questionnaire was designed using a five-point Likert scales ranging from 1=never to 5=extremely frequent. Section C is separated into two parts. The first part is the student agreement level of student engagement and the second part is at what level of knowledge sharing. The last section, section D is to collect the data which are the agreed level of their academic performance. There was an open-ended question asked in the last part of section D. The question is asked about the suggestion of respondents on the way to fully-utilized social media in order to help in the improvement of a student's academic performance. Respondents need to give their opinion on that question without limitations of words. Analysis of descriptive and inferential has been carried out by using Statistical Package for Social Science (SPSS) software. Refer Appendix I for the survey.

(b) Qualitative Data Collection

A qualitative research method, semi-structured interview was adopted. Semi-structured interviews enable researchers to understand how social media technologies such as Facebook is integrated by educators into their teaching because the participants were asked about their expectations and experiences of using the technology as well as the pedagogical choices made when integrating the technology into teaching. The interview includes two sections, section A and B. In section A, researcher seeks to get lecturers' experience in teaching and knowledge in using online learning platform for academic purposes. Section B is regarded instructional strategies and comments on using an online learning platform in teaching and learning. Appendix for interview questions was attached in this study. All face to face interviews were audio-recorded, transcribed, and checked for accuracy by the researcher. The transcripts were analyzed and coded, and statements were categorized into themes to answer the research questions.

3.3 Population and Sampling

Universiti Tun Hussein Onn Malaysia (UTHM) was selected as the location where the survey was distributed. The population of this study consists of undergraduate students from all faculties of the university. During the time of this research, the total populations of undergraduate UTHM students were11,941. Also, lecturers who used online learning platform were selected to answer the third research objective.

Simple random sampling procedures were used for the survey. For qualitative method, the sampling technique is purposive sampling. According to Robert *et al.* (1970), for a population of 10,000, total number of samples need to be taken is 370. Target participants of the interview are 3 lecturers who using online learning platforms in teaching and learning.

4. Data Analysis and Results

4.1 Descriptive Analysis

For quantitative approach, descriptive analysis was used to analyze and interpret the first and second research question. Descriptive analysis has been carried out by using Statistical Package for Social Science (SPSS) application version 22.0.

The age group shows that majority of the students are in between 21 and 22 years old, which are 45.18%, followed by the age between 19- and 20-years old students, which are 29.21%. On the contrary, the minority was 25 years and above, they were 2.26%. In addition, most of the respondents have good academic achievement whereby students with 3.01 to 3.50 of CGPA which is 38.1%. The minority of respondents was in the 1.51 to 2.00 of the average CGPA which is 0.46%.

Majority of the respondents (98.9%) were users of social media. Half of the respondents (52.79%) felt it would be convenient for them by using social media and more than half of respondents (77.29%) would not agree their privacy invaded. The frequency of using social media of the majority is 2 to 5 times a day (31.13%) and followed by 23.81% of the respondents use 6 to 10 times a day. Most of the students using social media because they do not want to left behind the technology and get connected with social networking (83.57%) and media sharing (53.83%). The other reasons would have bookmark sites (16.20%), social news (26.42%), micro blogging (31.01%), blogging (22.30%) as well as location and geolocation services (26.48%).

4.2 Reliability Analysis

Cronbach's Alpha is a tool for assessing reliability scale which is used for this study. The closer Cronbach's Alpha co-efficient is to 1.00 the greater the internal consistency of the items in the scale. This reliability test is accepted based on standard acceptable value reliability coefficients is 0.7 and above as suggested by (George & Mallery, 2003). The alpha coefficient for the four items is between 0.83 and 0.89, it should be noted that these high values for Cronbach's alpha indicate good internal consistency of the items in the scale. The highest value is 'Online Knowledge Sharing" variable (0.89) indicates good reliability in the Cronbach's alpha. None of the items were deleted.

4.3 Normality Test

Table 2 showed the normality of data by using Kolmogorov-Smirnov test. Normality test is to test whether the collected data is at normal distribution or non-normal distribution. The data are non-normally distributed as the P value is less than 0.05. According to the table above, the value of Kolmogorov-Smirnov is selected because it is used to test samples that are above 2000. The result showed that p value less than 0.05 ($q<0.05$), rejects the H0 because the test is significant. The highest value of Kolmogorov-Smirnov (K-S) for independent variable, online knowledge sharing is 0.086 and the P value is 0.00 while the highest value of Kolmogorov-Smirnov for dependent variable, academic performance is 0.093 and the P value is 0.00. Since the P value is less than 0.05. Thus, the data are coming from non-normally distribution.

Table 2: Kolmogorov-Smirnova test

Item	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Student Engagement	0.086	1122	0.000

Social Media Usage in Learning	0.091	1122	0.000
Online Knowledge Sharing	0.093	1122	0.000
Academic Performance	0.093	1122	0.000

4.4 Inferential Analysis

Table 3 at below showed the Spearman's correlation coefficient test. According to Guildford's (1973) Rule of Thumb, the result shows that social media usage in learning positively influence student engagement and correlation coefficient, r is 0.462., the null hypothesis is rejected as the significant value (or p-value) is 0.000 (2-tailed) which lower than 0.05. Thus, hypothesis H1 is supported. It shows that student engagement has a low positive impact on academic performance with r, 0.466. There is a relationship between student engagement and students' performance. Therefore, the H2 is supported. The Spearman's correlation, r in social media usage in learning is 0.465 which shows moderate positive relationship with academic performance of students. Therefore, H3 is statistically supported by data. The Spearman's correlation, r in social media usage in learning is 0.682 which shows moderate positive relationship with online knowledge sharing. Therefore, the analysis is sufficient to support the H4. Online knowledge sharing is a moderate positive relationship with academic performance of students with r is 0.543. The analysis is sufficient to support the H5. Knowledge sharing through social media shows the highest influence towards academic performance.

Table 3: Spearman's correlation coefficient

		SE	SMUL	OKS	AP
SE	Correlation coefficient	1.00	0.642**	0.576**	0.466**
	Sig. (2-tailed)		0.000	0.000	0.000
SMUL	Correlation coefficient	0.642**	1.000	0.682**	0.465**
	Sig. (2-tailed)	0.000		0.000	0.000
OKS	Correlation coefficient	0.576**	0.682**	1.000	0.543**
	Sig. (2-tailed)	0.000	0.000		

Note: SE – student engagement
SMUL – social media usage in learning
OKS – online knowledge sharing
AP – academic performance

4.5 Findings on Qualitative Data

Interviews have been conducted to ascertain lecturers' view of the instructional design of online learning tools. The table 4 obtained from face to face interview with 3 lecturers from different faculty in UTHM.

Table 4: Background of respondents

Respondent	A	B	C
Faculty	FPTV	FPTP	FPTP
Department	Department of Professional Education	Department of Management and Technology	Real Estate Management
Teaching experience	11 years	15 years	13 years
Experience in using online teaching	-	-	11 years
Type of online learning platform	Edmodo	Schoology	Edmodo

Hour(s) spent per day for online teaching	It's depends	3 to 4 hours weekly	-

4.6 Qualitative Analysis

For analysis of instructional design strategy, factors to be considered in the course design are the requirement of organization and learners' factors. Respondent stated that learning objective of course design is depending on the lesson plan (RPP) of subject.

"In fact, CED had force to upload some RPP and lecture notes" (Respondent A)

"Maybe I'm focusing on the students. How the students like" (Respondent B)

Respondent A applied combination of instructional strategies which is collaborative and application strategies. The student enforced to collaborate with each other, throwing ideas and discussion. The respondent hopes this method can produce good outcomes. Respondent B used collaborative method. Chen and Bryer (2012) also mentioned discussions and collaboration were the most common strategies that used by instructors.

"It could be collaborative. It could be application method...give some ideas great ideas to the other students as well to produce a good and integrities." (Respondent A)

When looked at the delivery format used in the method which respondents applied it, all of the respondents chose to use quiz, video and notes in power point format to deliver the teaching. Instructors had successfully combined social media by using videos and case study materials as part of their instruction in classes (Chen & Bryer, 2012).

"Sometimes it also includes some video. I posted some of the articles via online. Of course, I posted up all my lecture notes online and I have to create the pop quizzes also via online" (Respondent A)

"Most of the inputs are videos and we have slide as well, PPT (slide presentation), discussion" (Respondent B)

"The delivery format I used I upload my notes in PowerPoint format and then for the video…" (Respondent C)

All the respondents commented demonstration-practice is the most appropriate instructional design strategy to present lesson content. Two of the respondents had used scenario-based approach also to present a lesson in online learning platform.

"Sometimes scenario-based and sometimes maybe demonstration-practice. Demonstration may be included for illustration. Scenario-based maybe for discussion on the topic that would be cover in the lecture." (Respondent A)

"Demonstration-practice." (Respondent B)

"Actually, based on the subject that I teach, I think scenario-based approach and demonstration-practice method are the best." (Respondent C)

For the part of evaluation of instructional design strategy, when the respondents being asked the effectiveness of instructional design, they have a different perspective of this online learning method.

"...only a few gives me the feedbacks because it's not a rewarding exercise" (Respondent A)

"It depends on the students. It depends on the capability of the students to absorb the knowledge..." (Respondent B)

"The online media is only to support teaching." (Respondent C)

All the respondents had different opinions to the barriers and challenges hinder students from using an online learning platform. Respondent A thinks that the reward system is one of the challenges because not sure students will access it and active in participation without reward enforcement. Another respondent thinks that students' perception which do not like to study online and the infrastructure of online learning is not ready at this university. Respondent C give comment on the barrier can be accessibility of learning management system and it is formal for students.

"Reward system. Some of the student feel needs a reward if you try to ask them to do some tasks." (Respondent A)

I think students do not like to study online. They love to socialize online… One is perception of student and the other one is on the infrastructure that we don't have yet." (Respondent B)

"Edmodo is quite difficult for them… because they see Edmodo something related to the class… how their accessibility to the media that's one thing" (Respondent C)

5. Discussion

5.1 Quantitative Analysis

Research question 1: What are the common academic purpose activities of undergraduates in UTHM by using online social networks?

In terms of frequency usage, the table shows that most of the respondents would like to share information (714 respondents/ 41.46%), followed by 708 respondents (41.11%) frequently communicate with others. In addition, the students are extremely frequent searching for information by social media, which is 35.60% and followed by 31.65% of respondents is extremely frequent on communication with others. The highest percentage of social media activities that student frequently used is share information, 41.46%. Therefore, the most common academic purpose activity of students is share information online.

Research question 2: What are the impacts of social media usage on student engagement, knowledge sharing and the student's academic performance?

This study attempts to obtain students' responses on how social media influence their academic performance. The analysis has shown a positive relationship (rs=0. 642) between social media usage for academic purpose and student engagement. This result supported by several scholars like Junco, Heiberger, & Loken, (2011); Graham, (2014); Mbodila, Isong, & Muhandji, (2014) who conclude that certain social media tools positively related to student engagement. There is a positive effect on student engagement toward academic performance with rs= 0.466. Al-Rahmi, Othman, &Mi Yusuf, (2015) also highlighted that student engagement has an increased impact on academic performance. The result showed that social media use in educationally way leads to better academic outcomes. Mahamat-Helou & Ab. Rahim, (2011); Ainin, et al, (2015) highlighted that positive relationship between social media usage with academic grade. Wang, Lin, Yu, & Wu, (2013) concludes that Facebook use in instructional method facilitates students in attaining better grades and higher engagement. There is a positive moderate association (rs= 0.682) between social media usage in learning and online knowledge sharing. Thus, the result shows that online knowledge sharing has a positive impact (rs= 0.543) on academic performance.

5.2 Qualitative Analysis

Research question 3: What instructional strategies do lecturers of UTHM use to integrate online learning platform in blended learning?

The instructors used scenario based and demonstration-practice method to deliver teaching. Demonstration-practice method help students recognize and comprehend information then applied the knowledge to solve problem. Demonstration-practice method can develop lower order level of Blooms' Taxonomy. By using scenario-based exercise, students can develop application, synthesis and evaluation skills of Bloom's Taxonomy. The students can apply the theory and put into practice for what they had learned in ways to develop the critical thinking of the students.

Instructors preferred to use short video or link of video as a delivery format to perform teaching in blended learning. They can put short videos or YouTube link online in ways that spark conversation and discussion about classroom topics (Neier & Zayer, 2015). Neier and Zayer, (2015) indicate respondents who are social media user acknowledge YouTube has the greatest potential to enhance learning in the classroom. Educators can incorporate YouTube into their courses in ways that spark conversations and debate about classroom topics. When the instructional design of online learning is evaluated, one respondent mentioned that blended learning cannot be changed into full online learning because students need re-assurance and continuing support from lecturers (Poon, 2012). The barriers or obstacles to hinder students from participating actively in online learning are the reward system and accessibility of online learning platform. Also, students more prefer socialization than learning when online.

6. Conclusion

The results show that social media usage in learning has positive impact on student engagement, knowledge sharing and towards academic outcomes. These results are congruent with others that found out that using social media can increase student participation and engagement (Graham, 2014). Besides, Facebook (Mbodila *et al.*, 2014; Wang *et al.*, 2013) in certain ways could also lead to better grades. Similarly, Twitter usage was found to has positive relationship in teaching and learning in certain ways that leads to better academic performance. Thus, this study provides an empirical evidence that complements past research on the uses and impacts of social media towards academic performance among higher education students. The participants further recognize and value the benefits of using social media in teaching and learning in higher education classroom; hence, this study supports the earlier claim of the pedagogical rationale for using social media technology in classroom education. This study concludes that using social media such as Facebook provide positive effects on teaching and learning practices in Malaysian higher education.

Indeed, social media is a necessary educational tool for students. Although many students frequently access social media, they are also encouraged to participate and engage more actively in the learning management system platforms. It is also a potential tool to help student academically. Students can receive additional teaching materials through online learning to enhance their understanding of courses. In reality, the university started adopting the blended learning since few years ago as blended learning technique offers more flexible learning for students, boosts student learning experience, and even improve student achievement (Poon, 2012). In the classroom, educators are encouraged to use active and collaborative learning strategies to optimize the classroom time by enhancing students'

understanding of how to apply the knowledge they are learning. Meanwhile, weekly writing assignment and discussion posting can be applied to keep active participation of students when they leave the classroom environment.

In the classroom, using a wide range of both active and collaborative learning strategies can maximize the limited classroom time to increase the students' understanding of how to apply what they learned. In the online environment, weekly assignments and discussion postings are strategies that can be used to maintain active involvement of students when they leave the classroom environment, as well as to reinforce the application component of the course. Although the internet can act as a tool of knowledge creation and sharing, yet students still need the educators for certain cases. Hence, social media or technologies should be blended together with the traditional way of teaching and learning. The great potential of the technology and the skills of the educators should be blended together to provide holistic and great learning experience to students at all levels.

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Appendix A

Table 1: Table of measurement

Variable	Item Measurement	Indicators	Adapted Sources	Level of Measurement	Scale	Data Analysis
Dependent	**Academic grade** -GPA scores of the university students those uses feedback from the lecturers to make continuous adjustments and adaptations in order to maintain their predetermined standard.	**Please indicate the agreement level of academic performance with the following statements:** • Obtain students' overall grade point averages. • The usage of SNSs is useful in higher educational institutions, because they are an effective communication application. • The usage of SNSs is useful in higher educational institutions, because they are an effective communication application. • Group discussions can be arranged with my classmates using SNSs. • An appointment can be fixed with my lecturer. • Social networking site is helpful in my studies because I can receive announcements from lecturers and faculty. • Social networking site is helpful in my studies because I can receive announcements from lecturers and faculty. • The SNSs help in my studies because I can discuss my assignments with friends. • Using SNSs improves my interaction with classmates and lecturers. • I use SNSs to facilitate academic activities and coordinate with friends. • I am confident I have adequate academic skills and abilities. • I feel competent conducting my course assignment.	(Mahamat Helou & Ab.Rahim 2011) (Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015)	Ordinal scale	5-point Likert scale	Correlation analysis
Independent	**Student Engagement:**	**Please indicate the agreement level of student engagement with the following statements**:	(Jenny Wang, Lin,	Ordinal scale	5-point	Correlation analysis

	Represent both the time and energy students spend in educationally purposeful activities.	• The amount of time spent on co-curricular activities. • Frequency of Facebook use, • Keeping them interactive • being entertained • Keeping informed	Yu, & Wu, 2013) (Neier & Zayer, 2015)		Likert scale	
Independent	**Social Media:** Social media or networking as a term refers to networked tools or technologies that stress the social facets of the web like a medium of communication, collaboration an inventive expression.	**Please indicate the agreement level of social media usage in learning using with the following statements:** • Follow each other and reply to others student. • Work in groups together to share ideas. • Initiate and develop a project. • Participate in a discussion. • The frequency with participated in various activities on Facebook. • Students' Facebook usage profile. • Students' attitudes toward Facebook. • The effects of using Facebook.	(Jenny Wang *et al.*, 2013) (Junco, 2012b) (Khe Foon Hew, 2011)	Ordinal scale	5-point Likert scale	Correlation analysis
Independent	**Knowledge sharing:** Is the process of exchanging and acquiring knowledge that is needed through informal and formal channels and through technical facilities.	**Please indicate the agreement level of online knowledge sharing using the following statement:** • Facilitates an expression of ideas. • Aids in receiving feedback from classmates • I can share / exchange information with other students using social media. • Comments from teaching staff and/ or students on social media are useful. • Comments from teaching staff and/ or students helped me decide whether or not to use social media as an aid to my learning at university. • Whether or not to use social media as an aid to my learning at university. • I like to share my learning experiences on social media.	(Neier & Zayer, 2015) (Mostafa, 2015)	Ordinal scale	5-point Likert scale	Correlation analysis